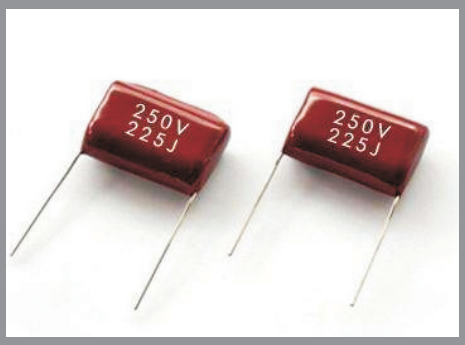
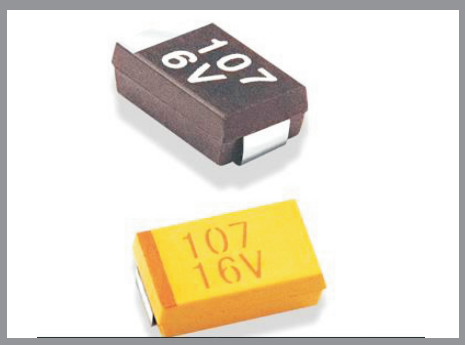
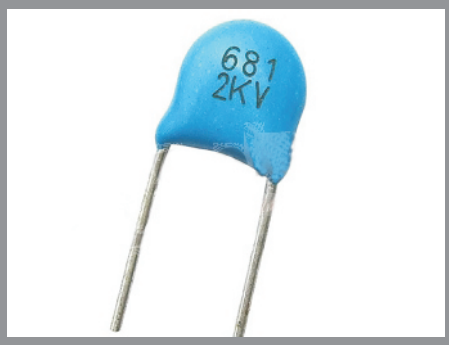
KLS
PASSIVE

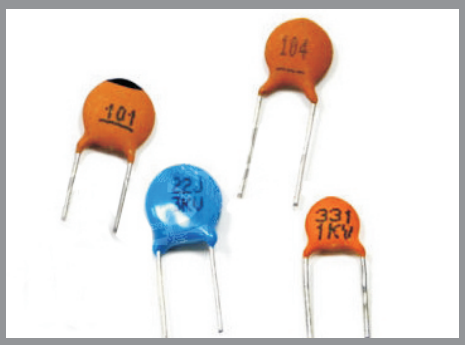
Tantalum Capacitors
Aluminum Electronic Capacitors
Film Capacitor Ceramic Capacitor

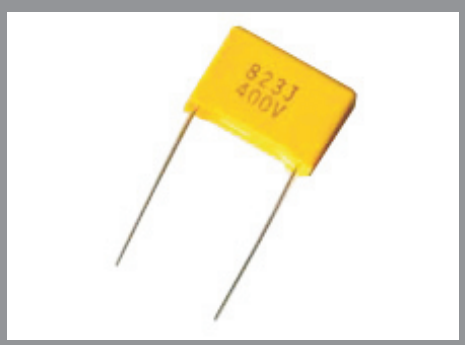
KLS ELECTRONIC CO., LTD.

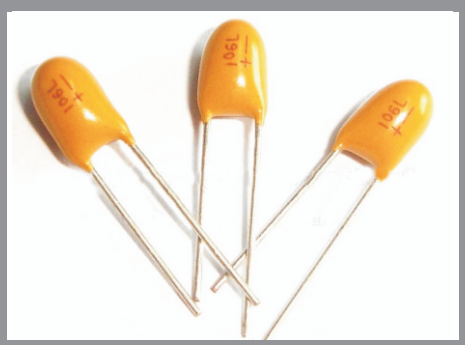


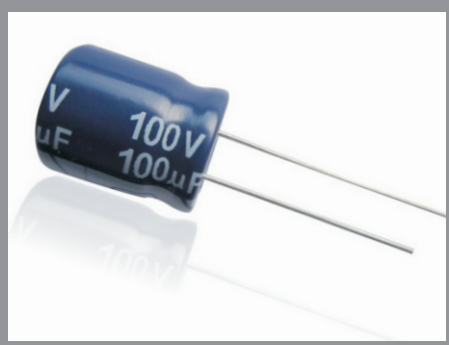












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KLS10-KA

Series Conductive polymer type(Standard type)------SMD type

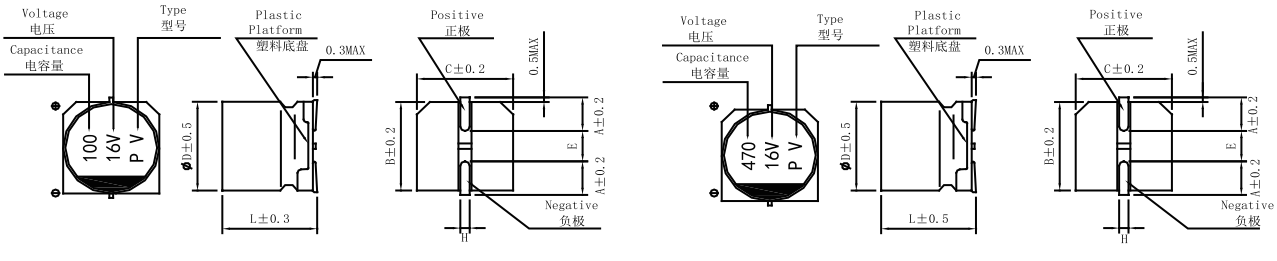
特点 Features

- 适用于表面贴装。Use for surface munted type.
- 适用于无铅回流焊。 The product can support lead free -reflow .
- ROHS指令已对应完毕。Adapted to the ROHS directive.

主要技术性能 Specifications

项目 Items	特性 Characteristics	
工作温度范围 Operating Temperature Range	-55℃ ~+105℃	
额定电压范围 Rated Voltage Range	2.5V ~25V	
标称电容量范围 Nominal Capacitance Range	3.3 ~ 2200μF	
标称电容量允许偏差 Nominal Capacitance Tolerance	±20%（20℃，120Hz）	
漏电流 Leakage Current	≤表1规定值 Less than or equal to the value of table1 2分钟 at 20℃, after 2 minutes	
损耗角正切（tgδ） Dissipation Factor (Max)	20℃, 120Hz 直径 / tgδ: Φ4~Φ5: 0.10; Φ6.3~Φ10: 0.08	
ESR	≤表1规定值 Less than or equal to the value of table1	
高低温特性比 Characteristics of impedance ratio at high temp. and low temp.	要求在100KHZ 20℃ Based the value at 100KHZ. +20℃	-55℃ Z/Z20℃ 0.75 to 1.25 +105℃ Z/Z20℃ 0.75 to 1.25
耐久性 Load Life	+105℃施加额定电压2000小时后，电容器应满足以下要求： After2000 hours' application of rated voltage at 105℃, the capacitor shall meet the following requirement:	
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)
	损耗角正切 Dissipation Factor	≤150%初始规定值 Not more than 150% of the initial specified value
	阻抗 Equivalent Series Resistance	≤150%初始规定值 Not more than 150% of the initial specified value
	漏电流 Leakage Current	≤初始规定值 Not more than the initial specified value
稳态湿热 Damp heat(Steady state)	60℃, 90~95% RH, 不加电压1000小时 60℃, 90~95% RH, 1000 hours, No-applied voltage.	
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)
	损耗角正切 Dissipation Factor	≤150%初始规定值 Not more than 150% of the initial specified value
	阻抗 Equivalent Series Resistance	≤150%初始规定值 Not more than 150% of the initial specified value
	漏电流 Leakage Current	≤初始规定值 Not more than the initial specified value
耐焊接热 Resistance to Soldering Heat	（VPS）(260℃ X 10s)	
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value (16V以上: within ±15% of the initial value)
	损耗角正切 Dissipation Factor	≤初始规定值 Not more than the initial specified value
	阻抗 Equivalent Series Resistance	≤初始规定值 Not more than the initial specified value
	漏电流 Leakage Current	≤初始规定值 Not more than the initial specified value

尺寸图 Dimensions



尺寸表 Size List

	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 9.5	8× 7.7	8× 9.5	8× 10.5	8×12.5	10 × 10.5	10 × 12.5
A	1.8	2.1	2.4	2.4	2.9	2.9	2.9	2.9	3.2	3.2
B	4.3	5.3	6.6	6.6	8.3	8.3	8.3	8.3	10.3	10.3
C	4.3	5.3	6.6	6.6	8.3	8.3	8.3	8.3	10.3	10.3
E	1.0	1.3	2.2	2.2	3.1	3.1	3.1	3.1	4.5	4.5
L	6	6	6	9.5	7.7	9.5	10.5	12.5	10.5	12.5
H	0.5 ~ 0.8				0.8~1.1					

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)	Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)
4×5.4	16	3.3	110	660	300	6.3×5.4	2.5	330	28	2800	300
	10	4.7	110	670	300		2.5	390	28	2800	300
	10	6.8	110	670	300	6.3×9.5	16	220	17	3100	704
	10	10	110	700	300		16	270	17	3100	864
	10	15	110	740	300		6.3	470	15	3100	592
	6.3	22	110	740	300		6.3	560	15	3100	706
	4	33	110	740	300		4	470	15	3900	376
5×5.4	20	10	110	1100	300		4	560	15	3900	448
	16	15	110	1100	300		2.5	470	15	3900	300
	16	22	110	1100	300		2.5	560	15	3900	300
	10	33	110	1200	300		2.5	820	15	3900	410
	6.3	47	110	1200	300		2.5	1000	15	3900	500
	4	39	110	1100	300	8×7.7	25	10	35	2700	300
	4	68	110	1400	300		20	33	35	2700	300
6.3×5.4	25	6.8	35	1400	300		20	47	35	2700	300
	25	27	35	2100	300		16	56	21	3100	300
	25	33	35	2100	300		16	82	21	3100	300
	20	22	35	2200	300		16	270	21	3100	864
	20	27	35	2200	300		10	120	21	3100	300
	16	39	35	1400	300		10	150	21	3100	300
	16	47	35	2100	300		6.3	220	15	3100	300
	16	68	35	2100	300		4	150	15	3100	300
	16	82	35	2100	300		4	330	15	3900	300
	16	100	35	2100	320		4	470	15	3900	376
	10	47	28	1400	300		4	560	15	3900	448
	10	56	28	1400	300		2.5	470	15	3900	300
	10	120	28	2100	300		2.5	560	15	3900	300
	6.3	82	28	1400	300		2.5	820	15	3900	410
	6.3	100	28	1500	300		2.5	1000	15	3900	500
	6.3	120	28	2500	300	8×9.5	16	270	15	4700	864
	6.3	220	28	2700	300		16	330	15	4700	1056
	4	150	28	1700	300		6.3	470	15	4700	592
	4	220	28	2100	300		6.3	560	15	5100	706
	4	330	28	2800	300		6.3	820	15	5100	1033
	2.5	220	28	2800	300		4	470	15	5300	376

Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)	Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)
8×7	16	56	18	3100	200	8×12	16	390	14	4700	1248
	16	82	18	3100	262		10	330	14	4700	660
	16	270	18	3100	864		10	390	14	4700	780
	10	120	18	3100	240		10	470	14	4700	940
	10	150	18	3100	300		6.3	820	12	5400	1033
	6.3	220	12	3100	277		6.3	1000	12	5400	1260
	4	150	12	3100	200		2.5	820	12	5400	410
	4	330	12	3900	264		2.5	1000	12	5400	500
	4	470	12	3900	376		2.5	1200	12	5400	600
	4	560	12	3900	448		2.5	1500	12	5400	750
	2.5	470	12	3900	235	10×10	25	56	30	3100	280
	2.5	560	12	3900	280		25	100	30	3100	500
	2.5	820	12	3900	410		25	150	30	3900	750
	2.5	1000	12	3900	500		20	150	30	3900	600
8×9	16	270	12	4700	864		20	220	30	3900	880
	16	330	12	4700	1056		20	270	30	3900	1080
	6.3	470	12	4700	592		20	330	30	3900	1320
	6.3	560	12	5100	706		20	390	30	3900	1560
	6.3	820	12	5100	1033		16	330	14	4700	1056
	4	470	12	5300	376		16	390	14	4700	1248
	4	560	12	5400	448		16	470	14	4700	1504
	4	820	12	5400	656		10	470	14	4700	940
	4	1000	12	5400	800		10	560	14	5400	1120
	2.5	470	12	5400	235		6.3	820	12	5400	1033
	2.5	560	12	5400	280		4	1000	12	5400	800
	2.5	820	12	5400	410		4	1200	12	5400	960
	2.5	1000	12	5400	500		2.5	1000	12	5400	500
	2.5	1200	12	5400	600		2.5	1200	12	5400	600
8×10	25	33	30	2700	200		2.5	1500	12	5400	750
	20	100	30	3100	400	10×12	25	150	30	3100	750
	16	180	14	4700	576		25	220	30	3100	1100
	16	220	14	4700	704		20	150	30	3100	600
	16	270	14	4700	864		20	220	30	3100	880
	16	330	14	4700	1056		20	270	30	3100	1080
	10	330	14	4700	660		20	330	30	3100	1320
	6.3	470	12	5100	592		20	390	30	3100	1560
	6.3	560	12	5400	706		20	470	30	3100	1880
	6.3	820	12	5400	1033		16	330	14	4700	1056
	4	560	12	5400	448		16	390	14	4700	1248
	4	680	12	5400	544		16	470	14	4700	1504
	4	820	12	5400	656		16	560	14	4700	1792
	4	1000	12	5400	800		10	560	14	4700	1120
	2.5	680	12	5400	340		10	680	14	4700	1360
	2.5	820	12	5400	410		6.3	820	12	5400	1033
	2.5	1000	12	5400	500		6.3	1000	12	5400	1260
	2.5	1200	12	5400	600		4	1000	12	5400	800
8×12	25	100	30	3100	500		4	1200	12	5400	960
	20	100	30	3100	400		4	1500	12	5400	1200
	20	150	30	3100	600		2.5	1000	12	5400	500
	16	220	14	4700	704		2.5	1200	12	5400	600
	16	270	14	4700	864		2.5	1500	12	5400	750
	16	330	14	4700	1056		2.5	2200	12	5400	1100

KLS10-KB

Series Conductive polymer type(Low ESR type)------SMD type

特点 Features

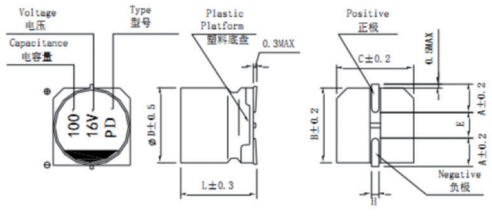
- 适用于表面贴装。Use for surface munted type.
- 适用于无铅回流焊。 The product can support lead free -reflow .
- ROHS指令已对应完毕。Adapted to the ROHS directive.

主要技术性能 Specifications

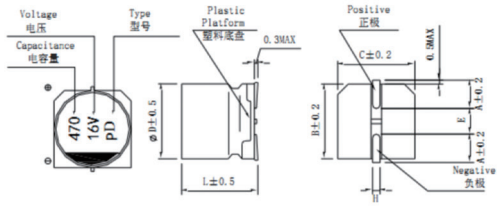
项目 Items	特性 Characteristics		
工作温度范围 Operating Temperature Range	-55℃ ~+105℃		
额定电压范围 Rated Voltage Range	2.5V ~25V		
标称电容量范围 Nominal Capacitance Range	3.3 ~ 2200μF		
标称电容量允许偏差 Nominal Capacitance Tolerance	±20% (20℃ , 120Hz)		
漏电流 Leakage Current	≤表1规定值 Less than or equal to the value of table1 2分钟 at 20℃, after 2 minutes		
损耗角正切 (tgδ) Dissipation Factor (Max)	20℃, 120Hz	直径 / tgδ: Φ4~Φ5: 0.10; Φ6.3~Φ10: 0.08	
ESR	≤表1规定值 Less than or equal to the value of table1		
高低温特性比 Characteristics of impedance ratio at high temp. and low temp	要求在100KHZ 20℃ Based the value at 100KHZ. +20℃	-55℃ Z/Z20℃ 0.75 to 1.25 +105℃ Z/Z20℃ 0.75 to 1.25	
耐久性 Load Life	+105℃施加额定电压2000小时后，电容器应满足以下要求： After2000 hours' application of rated voltage at 105℃, the capacitor shall meet the following requirement:		
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)	
	损耗角正切 Dissipation Factor	≤150%初始规定值 Not more than 150% of the initial specified value	
	阻抗 Equivalent Series Resistance	≤150%初始规定值 Not more than 150% of the initial specified value	
	漏电流 Leakage Current	≤初始规定值 Not more than the initial specified value	
稳态湿热 Damp heat(Steady state)	60℃, 90~95% RH, 不加电压1000小时 60℃ , 90~95% RH, 1000 hours, No-applied voltage.		
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)	
	损耗角正切 Dissipation Factor	≤ 150%初始规定值 Not more than 150% of the initial specified value	
	阻抗 Equivalent Series Resistance	≤ 150%初始规定值 Not more than 150% of the initial specified value	
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value	
耐焊接热 Resistance to Soldering Heat	(VPS) (260℃ X 10s)		
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value (16V以上: within ±15% of the initial value)	
	损耗角正切 Dissipation Factor	≤ 初始规定值 Not more than the initial specified value	
	阻抗 Equivalent Series Resistance	≤ 初始规定值 Not more than the initial specified value	
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value	

尺寸图 Dimensions

(Φ4 ~ Φ6.3)



(Φ8 ~ Φ10)



尺寸表 Size List

	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 9.5	8× 7.7	8× 9.5	8× 10.5	8×12.5	10 × 10.5	10 × 12.5
A	1.8	2.1	2.4	2.4	2.9	2.9	2.9	2.9	3.2	3.2
B	4.3	5.3	6.6	6.6	8.3	8.3	8.3	8.3	10.3	10.3
C	4.3	5.3	6.6	6.6	8.3	8.3	8.3	8.3	10.3	10.3
E	1.0	1.3	2.2	2.2	3.1	3.1	3.1	3.1	4.5	4.5
L	6	6	6	9.5	7.7	9.5	10.5	12.5	10.5	12.5
H	0.5 ~ 0.8				0.8~1.1					

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)	Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)
4×5.4	16	3.3	85	1020	300	6.3×5.4	2.5	330	18	3300	300
	10	4.7	85	1020	300		2.5	390	18	3300	300
	10	6.8	85	1020	300	6.3×9.5	16	220	13	4700	704
	10	10	85	1020	300		16	270	13	4700	864
	10	15	85	1020	300		6.3	470	10	4700	592
	6.3	22	85	1020	300		6.3	560	10	4700	706
	4	33	85	1020	300		4	470	10	5400	376
5×5.4	20	10	85	1440	300		4	560	10	5400	448
	16	15	85	1440	300		2.5	470	10	5400	300
	16	22	85	1440	300		2.5	560	10	5400	300
	10	33	85	1500	300		2.5	820	10	5400	410
	6.3	47	85	1500	300		2.5	1000	10	5400	500
	4	39	85	1500	300	8×7.7	25	10	28	3100	300
	4	68	85	1800	300		20	33	28	3100	300
6.3×5.4	25	6.8	28	1800	300		20	47	28	3100	300
	25	27	28	2400	300		16	56	15	4700	300
	25	33	28	2400	300		16	82	15	4700	300
	20	22	28	2500	300		16	270	15	4700	864
	20	27	28	2500	300		10	120	15	4700	300
	16	39	28	1820	300		10	150	15	4700	300
	16	47	28	2400	300		6.3	220	10	4700	300
	16	68	28	2400	300		4	150	10	4700	300
	16	82	28	2400	300		4	330	10	5400	300
	16	100	28	2400	320		4	470	10 10	5400	376
	10	47	18	1800	300		4	560	10	5400	448
	10	56	18	1800	300		2.5	470	10	5400	300
	10	120	18	2400	300		2.5	560	10	5400	300
	6.3	82	18	1800	300		2.5	820	10	5400	410
	6.3	100	18	1950	300		2.5	1000	10	5400	500
	6.3	120	18	2780	300	8×9.5	16	270	13	5100	864
	6.3	220	18	3100	300		16	330	13	5100	1056
	4	150	18	1950	300		6.3	470	10	5400	592
	4	220	18	2390	300		6.3	560	10	5700	706
	4	330	18	3300	300		6.3	820	10	5700	1033
	2.5	220	18	3300	300		4	470	10	5900	376

Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)	Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)
8×9.5	4	560	10	6100	448	10×10.5	25	56	28	3800	300
	4	820	10	6100	656		25	100	28	3900	500
	4	1000	10	6100	800		25	150	28	4320	750
	2.5	470	10	6100	300		20	150	28	4700	600
	2.5	560	10	6100	300		20	220	28	4700	880
	2.5	820	10	6100	410		20	270	28	4700	1080
	2.5	1000		6100	500		20	330	28	4700	1320
	2.5	1200	10	6100	600		20	390	28	4700	1560
8×10.5	25	33	28	2980	300		16	330	13	4720	1056
	20	100	28	3320	400		16	390	13	5400	1248
	16	180	13	5100	576		16	470	13	5400	1504
	16	220	13	5100	704		10	470	13	5400	940
	16	270	13	5100	864		10	560	13	5400	1120
	16	330	13	5100	1056		6.3	820	10	6100	1033
	10	330	13	5100	660		4	1000	10	6100	800
	6.3	470	10	5700	592		4	1200	10	6100	960
	6.3	560	10	6100	706		2.5	1000	10	6100	500
	6.3	820	10	6100	1033		2.5	1200	10	6100	600
	4	560	10	6100	448		2.5	1500	10	6100	750
	4	680	10	6100	544	10×12.5	25	150	28	3900	750
	4	820	10	6100	656		25	220	28	3900	1100
	4	1000	10	6100	800		20	150	28	3900	600
	2.5	680	10	6100	340		20	220	28	3900	880
	2.5	820	10	6100	410		20	270	28	3900	1080
	2.5	1000	10	6100	500		20	330	28	3900	1320
	2.5	1200	10	6100	600		20	390	28	3900	1560
8×12.5	25	100	28	3900	500		20	470	2	3900	1880
	20	100	28	3900	400		16	330	13	5400	1056
	20	150	28	3900	600		16	390	13	5400	1248
	16	220	13	5100	704		16	470	13	5400	1504
	16	270	13	5100	864		16	560	13	5400	1792
	16	330	13	5100	1056		10	560	13	5400	1120
	16	390	13	5100	1248		10	680	13	5400	1360
	10	330	13	5400	660		6.3	820	10	6100	1033
	10	390	13	5400	780		6.3	1000	10	6100	1260
	10	470	13	5400	940		4	1000	10	6100	800
	6.3	820	10	6100	1033		4	1200	10	6100	960
	6.3	1000	10	6100	1260		4	1500	10	6100	1200
	2.5	820	10	6100	410		2.5	1000	10	6100	500
	2.5	1000	10	6100	500		2.5	1200	10	6100	600
	2.5	1200	10	6100	600		2.5	1500	10	6100	750
	2.5	1500	10	6100	750		2.5	2200	10	6100	1100

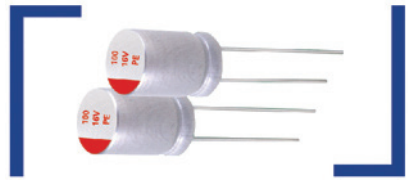
ESR(100KHZ to 300KHZ)

KLS10-KC

Series Conductive polymer type(Standard type)------Radial lead type

特点 Features

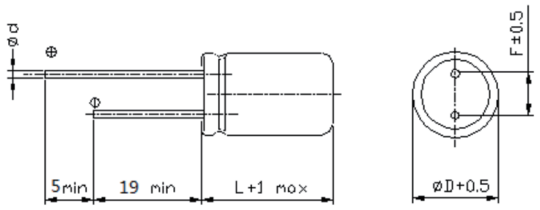
- 可适于无铅焊
  Lead free-fiow is supported
- ROHS指令已对应完毕。Adapted to the ROHS directive。



主要技术性能 Specifications

项目 Items	特性 Characteristics	
工作温度范围 Operating Temperature Range	-55℃ ~+105℃	
额定电压范围 Rated Voltage Range	2.5V ~25V	
标称电容量范围 Nominal Capacitance Range	3.3 ~ 2200μF	
标称电容量允许偏差 Nominal Capacitance Tolerance	±20%（20℃，120Hz）	
漏电流 Leakage Current	≤表1规定值 Less than or equal to the value of table1 2分钟 at 20℃, after 2 minutes	
损耗角正切（tgδ） Dissipation Factor (Max)	20℃, 120Hz	直径 / tgδ: Φ4~Φ5: 0.10; Φ6.3~Φ10: 0.08
ESR	≤表1规定值 Less than or equal to the value of table1	
高低温特性比 Characteristics of impedance ratio at high temp. and low temp	要求在100KHZ 20℃ Based the value at 100KHZ. +20℃	-55℃ Z/Z20℃ 0.75 to 1.25 +105℃ Z/Z20℃ 0.75 to 1.25
耐久性 Load Life	+105℃施加额定电压2000小时后，电容器应满足以下要求： After 2000 hours' application of rated voltage at 105℃, the capacitor shall meet the following requirement:	
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)
	损耗角正切 Dissipation Factor	≤ 150%初始规定值 Not more than 150% of the initial specified value
	阻抗 Equivalent Series Resistance	≤ 150%初始规定值 Not more than 150% of the initial specified value
	漏电流 Leakage Current	≤初始规定值 Not more than the initial specified value
稳态湿热 Damp heat(Steady state)	60℃, 90~95% RH, 不加电压1000小时 60℃, 90~95% RH, 1000 hours, No-applied voltage.	
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)
	损耗角正切 Dissipation Factor	≤150%初始规定值 Not more than 150% of the initial specified value
	阻抗 Equivalent Series Resistance	≤150%初始规定值 Not more than 150% of the initial specified value
	漏电流 Leakage Current	≤初始规定值 Not more than the initial specified value
耐焊接热 Resistance to Soldering Heat	（VPS）(260℃ X 10s)	
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value (16V以上: within ±15% of the initial value)
	损耗角正切 Dissipation Factor	≤初始规定值 Not more than the initial specified value
	阻抗 Equivalent Series Resistance	≤初始规定值 Not more than the initial specified value
	漏电流 Leakage Current	≤初始规定值 Not more than the initial specified value

尺寸图 Dimensions



尺寸表 Size List

单位Unit:mm

D	4	5	6	8	10
F	1.5	2.0	2.5	3.5	5
d	0.45	0.5	0.6	0.6	0.6

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)	Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)
4×5.4	16	3.3	100	660	200	6.3×5.4	25	27	30	2100	200
	10	4.7	100	670	200		25	33	30	2100	200
	10	6.8	100	670	200		20	22	30	2200	200
	10	10	100	700	200		20	27	30	2200	200
	10	15	100	740	200		16	39	30	1400	200
	6.3	22	100	740	200		16	47	30	2100	200
	4	33	100	740	200		16	68	30	2100	200
5×5.4	20	10	100	1100	200		16	82	30	2100	262
	16	15	100	1100	200		16	100	30	2100	320
	16	22	100	1100	200		10	47	24	1400	200
	10	33	100	1200	200		10	56	24	1400	200
	6.3	47	100	1200	200		10	120	24	2100	240
	4	39	100	1100	200		6.3	82	24	1400	200
	4	68	100	1400	200		6.3	100	24	1500	200
5×7	6.3	220	16	3100	277		6.3	120	24	2500	200
	6.3	270	16	3100	340		6.3	220	24	2700	277
	10	100	16	3100	200		4	150	24	1700	200
	10	150	16	3100	300		4	220	24	2100	200
	16	100	16	2700	320		4	330	24	2800	264
5×8	6.3	330	16	3100	415		2.5	220	24	2800	200
	10	220	16	3100	440		2.5	330	24	2800	200
5×9	2.5	560	16	3100	280		2.5	390	24	2800	200
	6.3	390	16	3100	491	6.3×9	16	220	14	3100	704
	6.3	470	16	3100	592		16	270	14	3100	864
	10	220	16	2700	440		6.3	470	12	3100	592
	10	270	16	2700	540		6.3	560	12	3100	706
	16	150	16	2700	480		4	470	12	3900	376
5.45×9	6.3	560	16	3700	705		4	560	12	3900	448
	7.5	470	16	3700	705		2.5	470	12	3900	235
	7.5	500	16	3700	750		2.5	560	12	3900	280
	7.5	560	16	3700	840		2.5	820	12	3900	410
	10	330	16	3700	660		2.5	1000	12	3900	500
	12	330	16	3700	792	8×7	25	10	30	2700	200
	16	220	16	3700	704		20	33	30	2700	200
6.3×5.4	25	6.8	30	1400	200		20	47	30	2700	200

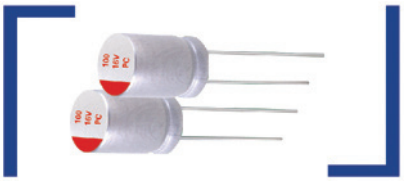
Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)	Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)
8×9	6.3	820	12	5100	1033	10×10	25	56	30	3100	280
	4	470	12	5300	376		25	100	30	3100	500
	4	560	12	5400	448		25	150	30	3900	750
	4	820	12	5400	656		20	150	30	3900	600
	4	1000	12	5400	800		20	220	30	3900	880
	2.5	470	12	5400	235		20	270	30	3900	1080
	2.5	560	12	5400	280		20	330	30	3900	1320
	2.5	820	12	5400	410		20	390	30	3900	1560
	2.5	1000	12	5400	500		16	330	14	4700	1056
	2.5	1200	12	5400	600		16	390	14	4700	1248
8×10	25	33	30	2700	200		16	470	14	4700	1504
	20	100	30	3100	400		10	470	14	4700	940
	16	180	14	4700	576		10	560	14	5400	1120
	16	220	14	4700	704		6.3	820	12	5400	1033
	16	270	14	4700	864		4	1000	12	5400	800
	16	330	14	4700	1056		4	1200	12	5400	960
	10	330	14	4700	660		2.5	1000	12	5400	500
	6.3	470	12	5100	592		2.5	1200	12	5400	600
	6.3	560	12	5400	706	10×12	2.5	1500	12	5400	750
	6.3	820	12	5400	1033		25	150	30	3100	750
	4	560	12	5400	448		25	220	30	3100	1100
	4	680	12	5400	544		20	150	30	3100	600
	4	820	12	5400	656		20	220	30	3100	880
	4	1000	12	5400	800		20	270	30	3100	1080
	2.5	680	12	5400	340		20	330	30	3100	1320
	2.5	820	12	5400	410		20	390	30	3100	1560
	2.5	1000	12	5400	500		20	470	30	3100	1880
	2.5	1200	12	5400	600		16	330	14	4700	1056
8×12	25	100	30	3100	500		16	390	14	4700	1248
	20	100	30	3100	400		16	470	14	4700	1504
	20	150	30	3100	600		16	560	14	4700	1792
	16	220	14	4700	704		10	560	14	4700	1120
	16	270	14	4700	864		10	680	14	4700	1360
	16	330	14	4700	1056		6.3	820	12	5400	1033
	16	390	14	4700	1248		6.3	1000	12	5400	1260
	10	330	14	4700	660		4	1000	12	5400	800
	10	390	14	4700	780		4	1200	12	5400	960
	10	470	14	4700	940		4	1500	12	5400	1200
	6.3	820	12	5400	1033		2.5	1000	12	5400	500
	6.3	1000	12	5400	1260		2.5	1200	12	5400	600
	2.5	820	12	5400	410		2.5	1500	12	5400	750
	2.5	1000	12	5400	500		2.5	2200	12	5400	1100
	2.5	1200	12	5400	600						
	2.5	1500	12	5400	750						

ESR(100KHZ to 300KHZ)

KLS10-KD

Conductive polymer type(Low ESR type)------Radial type

特点 Features

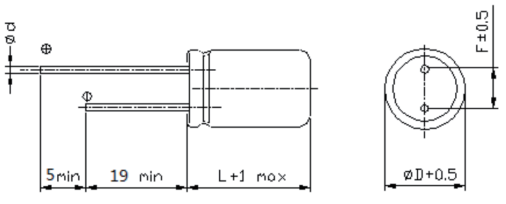


- 径向引线型，以PE为基础的高分子导电型 。
  This is a lead type using conductive polymer based on PE
- 可适于无铅焊
  Lead free-fiow is supported
- ROHS指令已对应完毕。Adapted to the ROHS directive。

主要技术性能 Specifications

项目 Items	特性 Characteristics			
工作温度范围 Operating Temperature Range	-55℃ ~+105℃			
额定电压范围 Rated Voltage Range	2.5V ~2 5V			
标称电容量范围 Nominal Capacitance Range	3.3 ~ 2200μF			
标称电容量允许偏差 Nominal Capacitance Tolerance	±20%（20℃，120Hz）			
漏电流 Leakage Current	≤表1规定值 Less than or equal to the value of table1 2分钟 at 20℃, after 2 minutes			
损耗角正切（tgδ） Dissipation Factor (Max)	20℃, 120Hz	直径	Φ4~Φ5	Φ6.3~Φ10
		tgδ	0.10	0.08
ESR	≤表1规定值 Less than or equal to the value of table1			
高低温特性比 Characteristics of impedance ratio at high temp. and low temp	要求在100KHZ 20℃ Based the value at 100KHZ. +20℃	-55℃	Z/Z20℃	0.75 to 1.25
		+105℃	Z/Z20℃	0.75 to 1.25
耐久性 Load Life	+105℃施加额定电压5000小时后，电容器应满足以下要求(Φ4&Φ5或制品高度在6mm以下的产品寿命：2000小时)： After 5000 hours' application of rated voltage at 105℃, the capacitor shall meet the following requirement: (Load life time of Φ4 & Φ5 or the height not more than 6mm：2000 hours)			
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)		
	损耗角正切 Dissipation Factor	≤150%初始规定值 Not more than 150% of the initial specified value		
	阻抗 Equivalent Series Resistance	≤150%初始规定值 Not more than 150% of the initial specified value		
	漏电流 Leakage Current	≤初始规定值 Not more than the initial specified value		
稳态湿热 Damp heat(Steady state)	60℃, 90~95% RH, 不加电压1000小时 60℃, 90~95% RH, 1000 hours, No-applied voltage.			
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)		
	损耗角正切 Dissipation Factor	≤150%初始规定值 Not more than 150% of the initial specified value		
	阻抗 Equivalent Series Resistance	≤150%初始规定值 Not more than 150% of the initial specified value		
	漏电流 Leakage Current	≤初始规定值 Not more than the initial specified value		
耐焊接热 Resistance to Soldering Heat	(VPS) (260℃ X 10s)			
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value (16V以上: within ±15% of the initial value)		
	损耗角正切 Dissipation Factor	≤初始规定值 Not more than the initial specified value		
	阻抗 Equivalent Series Resistance	≤初始规定值 Not more than the initial specified value		
	漏电流 Leakage Current	≤初始规定值 Not more than the initial specified value		

尺寸图 Dimensions



尺寸表 Size List

单位Unit:mm

D	4	5	6	8	10
F	1.5	2.0	2.5	3.5	5
d	0.45	0.5	0.6	0.6	0.6

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)	Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)
4×5.4	16	3.3	75	1020	100	6.3×5.4	16	68	24	2400	218
	10	4.7	75	1020	100		16	82	24	2400	262
	10	6.8	75	1020	100		16	100	24	2400	320
	10	10	75	1020	100		10	47	15	1800	100
	10	15	75	1020	100		10	56	15	1800	112
	6.3	22	75	1020	100		10	120	15	2400	240
	4	33	75	1020	100		6.3	82	15	1800	103
5×5.4	20	10	75	1440	100		6.3	100	15	1950	126
	16	15	75	1440	100		6.3	120	15	2780	151
	16	22	75	1440	100		6.3	220	15	3100	277
	10	33	75	1500	100		4	150	15	1950	120
	6.3	47	75	1500	100		4	220	15	2390	176
	4	39	75	1500	100		4	330	15	3300	264
	4	68	75	1800	100		2.5	220	15	3300	110
5×7	6.3	220	15	3300	277		2.5	330	15	3300	165
	6.3	270	15	3300	340		2.5	390	15	3300	195
	10	100	15	3300	200	6.3×9	16	220	10	4700	704
	10	150	15	3300	300		16	270	10	4700	864
	16	100	15	3100	320		6.3	470	7	4700	592
5×8	6.3	330	15	3300	415		6.3	560	7	4700	706
	10	220	15	3300	440		4	470	7	5400	376
5×9	2.5	560	15	3300	280		4	560	7	5400	448
	6.3	390	15	3300	491		2.5	470	7	5400	235
	6.3	470	15	3300	592		2.5	560	7	5400	280
	10	220	15	3100	440		2.5	820	7	5400	410
	10	270	15	3100	540		2.5	1000	7	5400	500
	16	150	15	3100	480	8×7	25	10	24	3100	100
5.45×9	6.3	560	15	3900	705		20	33	24	3100	132
	7.5	470	15	3900	705		20	47	24	3100	188
	7.5	500	15	3900	750		16	56	12	4700	179
	7.5	560	15	3900	840		16	82	12	4700	262
	10	330	15	3900	660		16	270	12	4700	864
	12	330	15	3900	792		10	120	12	4700	240
	16	220	15	3900	704		10	150	12	4700	300
6.3×5.4	25	6.8	24	1800	100		6.3	220	7	4700	277
	25	27	24	2400	135		4	150	7	4700	120
	25	33	24	2400	165		4	330	7	5400	264
	20	22	24	2500	100		4	470	7	5400	376
	20	27	24	2500	108		4	560	7	5400	448
	16	39	24	1820	125		2.5	470	7	5400	235
	16	47	24	2400	150		2.5	560	7	5400	280

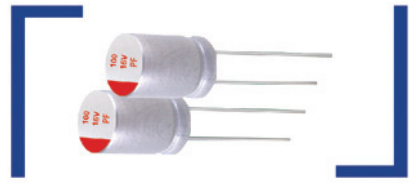
Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)	Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)
8×7	2.5	820	7	5400	410	8×12	2.5	820	7	6100	410
	2.5	1000	7	5400	500		2.5	1000	7	6100	500
8×9	16	270	10	5100	864		2.5	1200	7	6100	600
	16	330	10	5100	1056		2.5	1500	7	6100	750
	6.3	470	7	5400	592	10×10	25	56	24	3800	280
	6.3	560	7	5700	706		25	100	24	3900	500
	6.3	820	7	5700	1033		25	150	24	4320	750
	4	470	7	5900	376		20	150	24	4700	600
	4	560	7	6100	448		20	220	24	4700	880
	4	820	7	6100	656		20	270	24	4700	1080
	4	1000	7	6100	800		20	330	24	4700	1320
	2.5	470	7	6100	235		20	390	24	4700	1560
	2.5	560	7	6100	280		16	330	10	4720	1056
	2.5	820	7	6100	410		16	390	10	5400	1248
	2.5	1000	7	6100	500		16	470	10	5400	1504
	2.5	1200	7	6100	600		10	470	10	5400	940
8×10	25	33	24	2980	165		10	560	10	5400	1120
	20	100	24	3320	400		6.3	820	7	6100	1033
	16	180	10	5140	576		4	1000	7	6100	800
	16	220	10	5100	704		4	1200	7	6100	960
	16	270	10	5100	864		2.5	1000	7	6100	500
	16	330	10	5100	1056		2.5	1200	7	6100	600
	10	330	10	5100	660		2.5	1500	7	6100	750
	6.3	470	7	5700	592	10×12	25	150	24	3900	750
	6.3	560	7	6100	706		25	220	24	3900	1100
	6.3	820	7	6100	1033		20	150	24	3900	600
	4	560	7	6100	448		20	220	24	3900	880
	4	680	7	6100	544		20	270	24	3900	1080
	4	820	7	6100	656		20	330	24	3900	1320
	4	1000	7	6100	800		20	390	24	3900	1560
	2.5	680	7	6100	340		20	470	24	3900	1880
	2.5	820	7	6100	410		16	330	10	5400	1056
	2.5	1000	7	6100	500		16	390	10	5400	1248
	2.5	1200	7	6100	600		16	470	10	5400	1504
8×12	25	100	24	3900	500		16	560	10	5400	1792
	20	100	24	3900	400		10	560	10	5400	1120
	20	150	24	3900	600		10	680	10	5400	1360
	16	220	10	5100	704		6.3	820	7	6100	1033
	16	270	10	5100	864		6.3	1000	7	6100	1260
	16	330	10	5100	1056		4	1000	7	6100	800
	16	390	10	5100	1248		4	1200	7	6100	960
	10	330	10	5400	660		4	1500	7	6100	1200
	10	390	10	5400	780		2.5	1000	7	6100	500
	10	470	10	5400	940		2.5	1200	7	6100	600
	6.3	820	7	6100	1033		2.5	1500	7	6100	750
	6.3	1000	7	6100	1260		2.5	2200	7	6100	1100

ESR(100KHZ to 300KHZ)

KLS10-KE

Series Conductive polymer type(Long life type)lead type

特点 Features

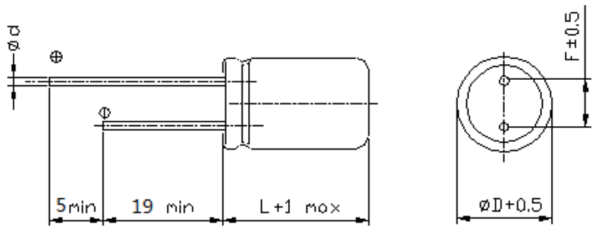


- 径向引线型，以PC为基础的高分子导电型 。
  This is a lead type using conductive polymer based on PE
- 可适于无铅焊
  Lead free-fiow is supported
- ROHS指令已对应完毕。Adapted to the ROHS directive。

主要技术性能 Specifications

项目 Items	特性 Characteristics	
工作温度范围 Operating Temperature Range	-55℃ ~+105℃	
额定电压范围 Rated Voltage Range	2.5V ~25V	
标称电容量范围 Nominal Capacitance Range	3.3 ~ 2200μF	
标称电容量允许偏差 Nominal Capacitance Tolerance	±20%（20℃，120Hz）	
漏电流 Leakage Current	≤表1规定值 Less than or equal to the value of table1 2分钟 at 20℃, after 2 minutes	
损耗角正切（tgδ） Dissipation Factor (Max)	20℃, 120Hz 直径 Φ6.3~Φ10 tgδ 0.08	
ESR	≤表1规定值 Less than or equal to the value of table1	
高低温特性比 Characteristics of impedance ratio at high temp. and low temp	要求在100KHZ 20℃ Based the value at 100KHZ. +20℃	-55℃ Z/Z20℃ 0.75 to 1.25 +105℃ Z/Z20℃ 0.75 to 1.25
耐久性 Load Life	+105℃施加额定电压5000小时后，电容器应满足以下要求 After 5000 hours' application of rated voltage at 105℃, the capacitor shall meet the following requirement:	
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)
	损耗角正切 Dissipation Factor	≤ 150%初始规定值 Not more than 150% of the initial specified value
	阻抗 Equivalent Series Resistance	≤ 150%初始规定值 Not more than 150% of the initial specified value
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value
稳态湿热 Damp heat(Steady state)	60℃, 90~95% RH, 不加电压1000小时 60℃, 90~95% RH, 1000 hours, No-applied voltage.	
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)
	损耗角正切 Dissipation Factor	≤ 150%初始规定值 Not more than 150% of the initial specified value
	阻抗 Equivalent Series Resistance	≤ 150%初始规定值 Not more than 150% of the initial specified value
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value
耐焊接热 Resistance to Soldering Heat	（VPS）(260℃ X 10s)	
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value (16V以上: within ±15% of the initial value)
	损耗角正切 Dissipation Factor	≤ 初始规定值 Not more than the initial specified value
	阻抗 Equivalent Series Resistance	≤ 初始规定值 Not more than the initial specified value
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value

尺寸图 Dimensions



尺寸表 Size List

单位Unit:mm

D	6	8	10
F	2.5	3.5	5
d	0.6	0.6	0.6

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)	Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)
6.3×9	2.5	470	7	5400	235	8×12	16	330	10	5100	1056
	2.5	560	7	5400	280		16	390	10	5100	1248
	2.5	820	7	5400	410		25	100	24	3900	500
	2.5	1000	7	5400	500		25	220	25	4100	1100
	4	470	7	5400	376	10×12	2.5	1000	7	6100	500
	4	560	7	5400	448		2.5	1200	7	6100	600
	6.3	470	7	4700	592		2.5	1500	7	6100	750
	6.3	560	7	4700	706		2.5	2200	7	6100	1100
	16	220	10	4700	704		4	1000	7	6100	800
	25	47	25	2100	235		4	1200	7	6100	960
8×9	2.5	560	7	6100	280		4	1500	7	6100	1200
	2.5	820	7	6100	410		6.3	820	7	6100	1033
	2.5	1000	7	6100	500		6.3	1000	7	6100	1260
	2.5	1200	7	6100	600		10	560	10	5400	1120
	4	470	7	5900	376		10	680	10	5400	1360
	4	560	7	6100	448		16	330	10	5400	1056
	4	820	7	6100	656		16	390	10	5400	1248
	4	1000	7	6100	800		16	470	10	5400	1504
	6.3	560	7	5700	706		16	560	10	5400	1792
	6.3	820	7	5700	1033		20	150	25	3900	600
	16	270	10	5100	864		20	220	25	3900	880
	16	330	10	5100	1056		20	270	25	3900	1080
8×12	2.5	1000	7	6100	500		20	330	25	3900	1320
	2.5	1200	7	6100	600		20	390	25	3900	1560
	6.3	820	7	6100	1033		20	470	25	3900	1880
	6.3	1000	7	6100	1260		25	150	25	3900	750
	10	390	10	5400	780		25	220	25	3900	1100
	16	270	10	5100	864						

ESR(100KHZ to 300KHZ)

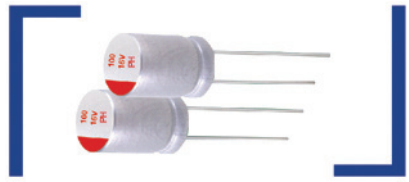
如客户需要的规格尺寸可协调设计定制

KLS10-KF

Series Conductive polymer type(Higt working voltage type)------Radial lead type

特点 Features

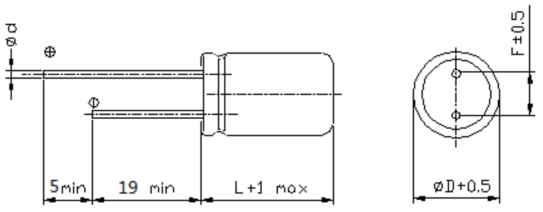
- 径向引线型 。
  This is a lead type
- 可适于无铅焊
  Lead free-fiow is supported
- ROHS指令已对应完毕。Adapted to the ROHS directive



主要技术性能 Specifications

项目 Items	特性 Characteristics	
工作温度范围 Operating Temperature Range	-55℃ ~+105℃	
额定电压范围 Rated Voltage Range	35V ~100V	
标称电容量范围 Nominal Capacitance Range	10~330μF	
标称电容量允许偏差 Nominal Capacitance Tolerance	±20%（20℃，120Hz）	
漏电流 Leakage Current	≤表1规定值 Less than or equal to the value of table1 2分钟 at 20℃, after 2 minutes	
损耗角正切（tgδ） Dissipation Factor (Max)	20℃, 120Hz 直径 / tgδ: Φ5: 0.12; Φ6.3~Φ10: 0.10	
ESR	≤表1规定值 Less than or equal to the value of table1	
高低温特性比 Characteristics of impedance ratio at high temp. and low temp	要求在100KHZ 20℃ Based the value at 100KHZ. +20℃ -55℃ Z/Z20℃ 0.75 to 1.25 +105℃ Z/Z20℃ 0.75 to 1.25	
耐久性 Load Life	+105℃施加额定电压2000小时后，电容器应满足以下要求 After 2000 hours' application of rated voltage at 105℃, the capacitor shall meet the following requirement	
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)
	损耗角正切 Dissipation Factor	≤ 150%初始规定值 Not more than 150% of the initial specified value
	阻抗 Equivalent Series Resistance	≤ 150%初始规定值 Not more than 150% of the initial specified value
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value
稳态湿热 Damp heat(Steady state)	60℃, 90~95% RH, 不加电压1000小时 60℃, 90~95% RH, 1000 hours, No-applied voltage.	
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value (16V: within ±25% of the initial value)
	损耗角正切 Dissipation Factor	≤ 150%初始规定值 Not more than 150% of the initial specified value
	阻抗 Equivalent Series Resistance	≤ 150%初始规定值 Not more than 150% of the initial specified value
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value
耐焊接热 Resistance to Soldering Heat	（VPS）(260℃ X 10s)	
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value
	损耗角正切 Dissipation Factor	≤ 初始规定值 Not more than the initial specified value
	阻抗 Equivalent Series Resistance	≤ 初始规定值 Not more than the initial specified value
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value

尺寸图 Dimensions



尺寸表 Size List

单位Unit:mm

D	5	6	8	10
F	2.0	2.5	3.5	5
d	0.5	0.6	0.6	0.6

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)	Size Code	UR (V)	CR (μF)	ESR (mΩmax.)	Ripple 100KHZ (mArms)	Leakage current(μA) (max.)
5×9	35	27	35	1900	189	8×8	63	39	35	2000	491.4
		33	35	1900	231			47	35	2000	592.2
		39	35	1900	273			56	35	2000	705.6
	50	47	35	1900	329		100	15	35	1700	300
		15	35	1700	150			22	35	1700	440
		22	35	1700	220			27	35	1700	570
		27	35	1700	270	8×12	35	100	30	2900	700
6.3×8	35	56	30	1900	392			220	30	2900	1540
		68	30	1900	476		50	68	30	2700	680
	50	33	30	1700	330			100	30	2700	1000
		39	30	1700	390		63	56	30	2700	705.6
		47	30	1700	470			68	30	2700	856.8
	63	22	35	1700	277.2		100	27	30	2100	540
		27	35	1700	340.2			33	30	2100	660
		33	35	1700	415.8	10×12	35	150	30	3800	1050
6.3×9	35	82	30	1900	576			220	30	3800	1540
		100	30	1900	700			270	30	3800	1890
	50	58	30	1700	580			330	30	3800	2310
	63	33	35	1700	415.8		50	100	30	3100	1000
		39	35	1700	491.4			220	30	3100	2200
8×8	35	82	30	2600	574		63	68	30	2900	856.8
		100	30	2600	700			100	30	2900	1260
	50	47	30	2600	470		100	39	30	2100	780
		68	30	2600	680			47	30	2100	940
	63	33	35	2000	415.8			56	30	2100	1120

ESR(100KHZ to 300KHZ)

KLS10-MA

Series Chip Type Aluminum Electrolytic Capacitors

特点 Features

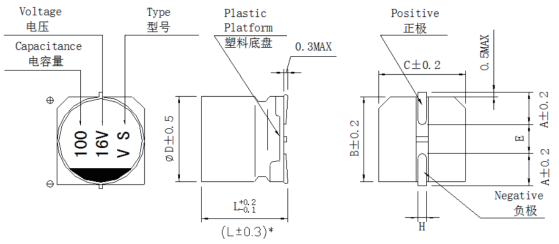
- 产品直径 Case diameter: Φ 4mm – Φ 10mm.
- 适用于再流焊。 Reflow soldering is available.
- 适用于高密度表面组装。Available for high density surface mounting.
- ROHS指令已对应完毕。Adapted to the ROHS directive.

主要技术性能 Specifications

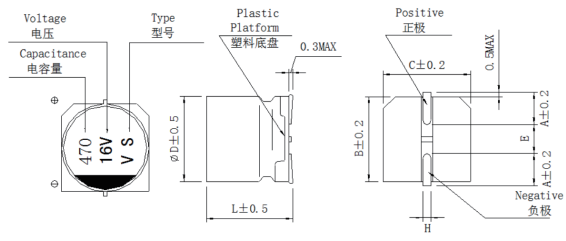
项目 Items	特性 Performance Characteristics								
工作温度范围 Operating Temperature Range	-40℃ ~ 85℃								
额定电压范围 Rated Voltage Range	6.3V ~ 100V								
标称电容量范围 Nominal Capacitance Range	0.1 ~ 1500μF								
标称电容量允许偏差 Nominal Capacitance Tolerance	±20%（20℃，120Hz）								
漏电流 Leakage Current	I≤0.01CRVR or 3(μA)，取较大者（2分钟） CR：标称电容量（μF） UR：额定电压（V） I≤0.01CRVR or 3(μA) Whichever is greater(at 20℃, After 2 minutes) CR: Nominal Capacitance (μF) UR: Rated voltages (V)								
损耗角正切（tgδ） Dissipation Factor (Max) 20℃, 120Hz	U_R (V)	6.3	10	16	25	35	50	63	100
	tgδ	0.28	0.24	0.20	0.16	0.14	0.12	0.12	0.10
耐久性 Load Life	+85℃施加额定电压2000小时后，电容器应满足以下要求： After 2000 hours' application of rated voltage at 85℃, the capacitor shall meet the following requirement:								
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value							
	损耗角正切 Dissipation Factor	≤ 200%初始规定值 Not more than 200% of the initial specified value							
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value							
高温贮存 Shelf Life	+85℃贮存1000小时后，电容器应满足以上耐久性要求 After storage for 1000 hours at +85℃, the capacitors shall meet the requirement of load life above								
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U_R (V)		6.3	10	16	25	35	50	63	100
	Z(-25℃)/Z(+20℃)	< Φ8	4	3	2	2	2	2	2	2
		≥ Φ8	5	4	3	2	2	2	2	2
	Z(-40℃)/Z(+20℃)	< Φ8	8	8	4	4	3	3	3	3
		≥ Φ8	10	8	6	4	3	3	3	3
耐焊接热 Resistance to Soldering Heat	在250℃的条件下，电容器在热板上保持30秒，然后从热板上取出电容器，让其在室温下恢复，电容器应满足以下要求： The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement.								
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value							
	损耗角正切 Dissipation Factor	≤初始规定值 Not more than the initial specified value							
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value							

外形图及尺寸表 Case Size Table

（Φ4～ Φ6.3）



（Φ8～ Φ10）



* Apply to 适用于 Φ6.3×7.7

(mm)

	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 7.7	8× 6.5	8× 10.5	10 × 10.5
A	1.8	2.1	2.4	2.4	2.9	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3
E	1.0	1.3	2.2	2.2	2.3	3.1	4.5
L	5.4	5.4	5.4	7.7	6 . 5	10.5	10.5
H	0.5 ~ 0.8					0.8 ~ 1.1	

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

V / μF	6.3		10		16		25		35		50		63		100	
	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA
0.1											4×5.4	3.2				
0.22											4×5.4	4.7				
0.33											4×5.4	5.7				
0.47											4×5.4	6.8				
1.0											4×5.4	10				
2.2											4×5.4	15				
3.3											4×5.4	18				
4.7							4×5.4	22	4×5.4	20	4×5.4 5×5.4	24 25			6.3×7.7	40
10					4×5.4	26	4×5.4 5×5.4	24 32	4×5.4 5×5.4	24 34	5×5.4 6.3×5.4	41 43	6.3×7.7	50	8×10.5	77
22	4×5.4	31	4×5.4 5×5.4	30 39	4×5.4 5×5.4	30 44	5×5.4 6.3×5.4	38 55	5×5.4 6.3×5.4	39 59	6.3×5.4	71	6.3×7.7	96	8×10.5	100
33	4×5. 4 5×5.4	31 44	4×5.4 5×5.4	34 48	5×5.4 6.3×5.4	44 63	5×5.4 6.3×5.4	46 67	6.3×5.4	65	6.3×7.7	94	8×10.5	117	10×10.5	130
47	4×5.4 5×5.4	40 52	5×5.4 6.3×5.4	47 67	5×5.4 6.3×5.4	52 75	6.3×5.4	70	6.3×7.7	94	6.3×7.7 8×10.5	105 140	10×10.5	140		
100	5×5.4 6.3×5.4	47 89	5×5.4 6.3×5.4	54 98	6.3×5.4	103	6.3×77	143	6.3×7.7 8×10.5	132 175	8×10.5 10×10.5	200 250				
220	6.3×5.4	91	6.3×7.7 8×6.5	173 250	6.3×7.7 8×10.5	162 280	8×10.5 10×10.5	230 310	8×10.5 10×10.5	200 310	10×10.5	320				
330	6.3×7.7	188	8×10.5	390	8×10.5	320	8×10.5 10×10.5	270 340	10×10.5	360						
470	8×10.5	380	8×10.5	390	8×10.5 10×10.5	350 420	10×10.5	380								
1000	8×10.5 10×10.5	370 700	10×10.5	580												
1500	10×10.5	750														

I~=Rated ripple current (mA) (85℃, 120Hz) I~=额定纹波电流（mA）（85℃，120Hz）

Add: NO. 8-1, RONGXIA RD. XIAPU SHANQIAN INDUSTRIAL ZONE BEILUN NINGBO ZHEJIANG.
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KLS10-MB

Series Chip Type Aluminum Electrolytic Capacitors

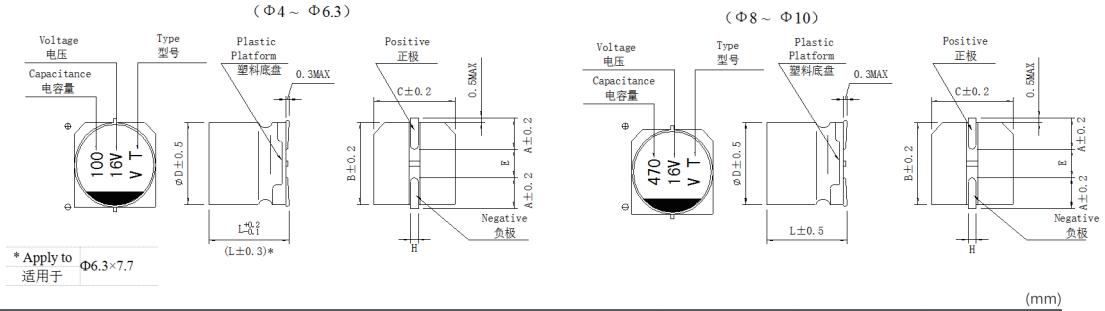
特点 Features

- 产品直径 Case diameter: Φ 4mm – Φ 10mm.
- 适用于再流焊。 Reflow soldering is available.
- 适用于高密度表面组装。Available for high density surface mounting.
- 工作温度范围宽（-40 ~ +105℃）Operating over wide temperature range.
- ROHS指令已对应完毕。Adapted to the ROHS directive.

主要技术性能 Specifications

项目 Items	特性 Performance Characteristics							
工作温度范围 Operating Temperature Range	-40℃ ~ +105℃							
额定电压范围 Rated Voltage Range	6.3V ~ 50V							
标称电容量范围 Nominal Capacitance Range	0.1 ~ 1500μF							
标称电容量允许偏差 Capacitance Tolerance	±20%（20℃，120Hz）							
漏电流 Leakage Current	I≤0.01CRVR or 3(μA)，取较大者（2分钟） CR：标称电容量（μF） UR：额定电压（V） I≤0.01CRVR or 3(μA) Whichever is greater(at 20℃,After 2 minutes) CR: Nominal Capacitance (μF) UR: Rated voltages (V)							
损耗角正切（tgδ） Dissipation Factor (Max) 20℃, 120Hz	U_R (V)	4	6.3	10	16	25	35	50
	tgδ	0.35	0.28	0.24	0.20	0.16	0.14	0.12
耐久性 Load Life	+105℃施加额定电压1000小时后，电容器应满足以下要求： After 1000 hours' application of rated voltage at 105℃, the capacitor shall meet the following requirement:							
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value						
	损耗角正切 Dissipation Factor	≤ 200%初始规定值 Not more than 200% of the initial specified value						
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value						
高温贮存 Shelf Life	+105℃贮存1000小时后，电容器应满足以上耐久性要求 After storage for 1000 hours at +105℃, the capacitors shall meet the requirement of load life above							
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U_R (V)	4	6.3	10	16	25	35	50
	Z(-25℃)/Z(+20℃)	7	4	3	2	2	2	2
	Z(-40℃)/Z(+20℃)	15	8	6	4	4	3	3
耐焊接热 Resistance to Soldering Heat	在250℃的条件下，电容器在热板上保持30秒，然后从热板上取出电容器，让其在室温下恢复，电容器应满足以下要求： The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement.							
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value						
	损耗角正切 Dissipation Factor	≤初始规定值 Not more than the initial specified value						
	漏电流 Leakage Current	≤初始规定值 Not more than the initial specified value						

外形图及尺寸表 Case Size Table



(mm)

	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 7.7	8 × 6.5	8 × 10.5	10 × 10.5
A	1.8	2.1	2.4	2.4	2.9	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3
E	1.0	1.3	2.2	2.2	2.3	3.1	4.5
L	5.4	5.4	5.4	7.7	6.5	10.5	10.5
H	0.5 ~ 0.8					0.8 ~ 1.1	

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

V / μF	6.3		10		16		25		35		50	
	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA
0.1											4×5.4	2.3
0.22											4×5.4	3.4
0.33											4×5.4	4.1
0.47											4×5.4	5
1.0											4×5.4	10
2.2											4×5.4	16
3.3									4×5.4	13	4×5.4	16
4.7							4×5.4	22	4×5.4	22	5×5.4	23
10					4×5.4	28	5×5.4	28	5×5.4	30	6.3×5.4	32
22	4×5.4	29	5×5.4	30	5×5.4	39	6.3×5.4	55	6.3×5.4	60	6.3×7.7	51
33	5×5.4	34	5×5.4	34	5×5.4	35	6.3×5.4	65	8×6.5	84	6.3×7.7	70
47	5×5.4	46	6.3×5.4	48	6.3×5.4	70	6.3×5.4	70	6.3×7.7	80	6.3×7.7	80
100	6.3×5.4	71	6.3×5.4	69	6.3×5.4	70	6.3×7.7	100	8×10.5	296	8×10.5	230
220	6.3×7.7	120	6.3×7.7	120	6.3×7.7	120	8×10.5	320	10×10.5	435	10×10.5	375
330	8×10.5	290	8×10.5	305	8×10.5	425	10×10.5	450	10×10.5	450		
470	8×10.5	330	8×10.5	340	8×10.5	340	10×10.5	490				
1000	8×10.5	340	10×10.5	410	10×10.5	450						
1500	10×10.5	475										

I~=Rated ripple current (mA) (105℃, 120Hz) I~=额定纹波电流（mA）（105℃，120Hz）

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	10K~100Hz
Coefficient 系数	0.70	1.00	1.17	1.36	1.50

KLS10-MC

Series Chip Type Aluminum Electrolytic Capacitors

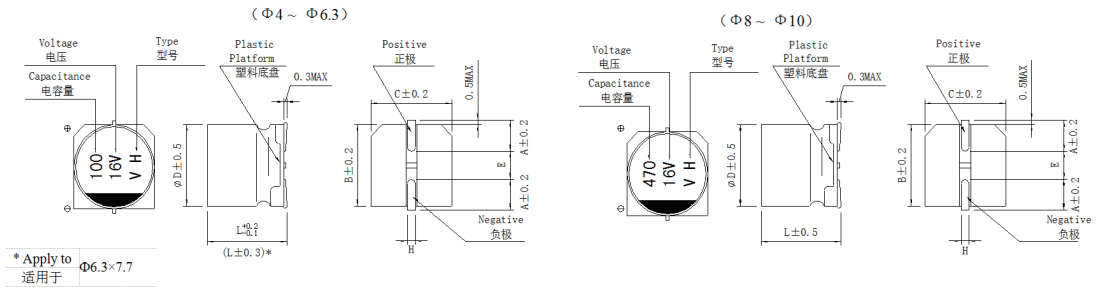
特点 Features

- 产品直径 Case diameter: ：Φ 4mm – Φ 10mm
- 适用于再流焊。 Reflow soldering is available.
- 适用于高密度表面组装。Available for high density surface mounting.
- ROHS指令已对应完毕。Adapted to the ROHS directive.

主要技术性能 Specifications

项目 Items	特性 Performance Characteristics											
工作温度范围 Operating Temperature Range	-55℃ ~+105℃(6.3-100V),-40℃ ~+105℃(160-400V)											
额定电压范围 Rated Voltage Range	6.3V ~ 400V											
标称电容量范围 Nominal Capacitance Range	1 ~ 1000μF											
标称电容量允许偏差 Capacitance Tolerance	±20%（20℃，120Hz）											
漏电流 Leakage Current	6.3to100V						160-400V					
	I≤0.01CRVR or 3(μA)，取较大者（2分钟） CR：标称电容量（μF） UR额定电压（V） I≤0.01CRVR or 3(μA) Whichever is greater(at 20℃, after 2 minutes)						I≤0.04 CRVR +100(μA)（20℃，1分钟）CR：标称电容量（μF） UR额定电压（V） I≤0.04CRVR +100(μA) Whichever is greater(at 20℃, after 1 minutes)					
损耗角正切（tgδ） Dissipation Factor (Max) 20℃, 120Hz	U_R (V)	6.3	10	16	25	35	50	63	80	100	120-250	350-400
	tgδ	0.32	0.24	0.20	0.16	0.14	0.12	0.12	0.11	0.10	0.15	0.20
耐久性 Load Life	+105℃施加额定电压2000小时后，电容器应满足以下要求： After 2000 hours . application of rated voltage at 105℃, the capacitor shall meet the following requirement:											
	电容量变化率 Capacitance Change	±30%初始值以内(160-400V为±20%) Within ±30% of the initial value（±20% of 160-400V）										
	损耗角正切 Dissipation Factor	≤ 300%初始规定值(160-400V为≤200%) Not more than 300% of the initial specified value(≤200% of 160-400V)										
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value										
高温贮存 Shelf Life	+105℃ 贮存1000小时后，加额定工作电压30分钟,电容器应满足以上耐久性要求 After storage for 1000 hours at +105℃, UR to be applied for 30 minutes ,the capacitors shall meet the requirement of load life above											
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U_R (V)	6.3	10	16	25	35	50	63	80	100	160-250	350-400
	Z(-25℃)/Z(+20℃)	4	4	3	3	3	2	3	4	4	-	-
	Z(-40℃)/Z(+20℃)	-	-	-	-	-	-	-	-	-	6	10
耐焊接热 Resistance to Soldering Heat	在250℃的条件下，电容器在热板上保持30秒，然后从热板上取出电容器，让其在室温下恢复，电容器应满足以下要求： The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement.											
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value										
	损耗角正切（tgδ） Dissipation Factor	≤ 初始规定值 Not more than the initial specified value										
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value										

外形图及尺寸表 Case Size Table



(mm)

	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 7.7	8× 6.5	8× 10.5	10 × 10.5	8× 12.5	10 × 12.5
A	1.8	2.1	2.4	2.4	2.9	2.9	3.2	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	8.3	10.3
E	1.0	1.3	2.2	2.2	2.3	3.1	4.5	3.1	4.5
L	5.4	5.4	5.4	7.7	6 . 5	10.5	10.5	12.5	12.5
H	0.5 ~ 0.8					0.8 ~ 1.1			

注：160-400产品L值公差为±1

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

电压WV（Vdc）	容量Ca（μA）	产品尺寸	纹波电流	电压WV（Vdc）	容量Ca（μA）	产品尺寸	纹波电流	电压WV（Vdc）	容量Ca（μA）	产品尺寸	纹波电流	电压WV（Vdc）	容量Ca（μA）	产品尺寸	纹波电流
6.3	22	4×5.4	22	16	10	4×5.4	18	35	47	6.3×7.7	80	50	10	6.3×5.4	36
	33	4×5.4	26		22	5×5.4	30		100	8×10.5	230		22	6.3×5.4	32
	47	5×5.4	36		33	5×5.4	32		220	10×10.5	260		33	6.3×7.7	60
	100	5×5.4	38		47	6.3×5.4	50		330	10×10.5	450		47	8×10.5	210
	220	6.3×5.4	86		100	6.3×5.4	60		470	10×12.5	500		100	8×10.5	230
	330	6.3×7.7	105		220	6.3×7.7	100		560	10×12.5	510		220	10×10.5	375
	470	8×10.5	340		330	8×10.5	290	63	10	6.3×5.4	26	80	22	8×10.5	100
	680	8×10.5	350		470	8×10.5	320		22	6.3×7.7	48		33	10×10.5	100
	1000	10×10.5	495		680	10×10.5	470		33	8×10.5	140		47	10×10.5	150
	1500	10×12.5	560		1000	10×12.5	510		47	8×10.5	170		100	10×12.5	180
	2200	10×12.5	580		1200	10×12.5	520		100	10×10.5	310				
10	10	4×5.4	20	25	10	5×5.4	21		150	10×12.5	330				
	22	5×5.4	27		22	5×5.4	23	100	10	6.3×7.7	24	160	10	8×10.5	57
	33	5×5.4	35		47	6.3×5.4	38		22	8×10.5	100		15	8×12.5	65
	47	5×5.4	34		100	6.3×7.7	66		33	10×10.5	150		22	10×12.5	80
	100	6.3×5.4	60		220	8×10.5	240		47	10×12.5	180	200	10	10×10.5	75
	220	6.3×7.7	105		330	10×10.5	410		56	10×12.5	180		15	10×12.5	81
	330	8×10.5	290		470	10×10.5	450						22	10×12.5	83
	470	8×10.5	320		560	10×12.5	500	250	3.3	8×10.5	36	400	2.2	8×10.5	29
	680	10×10.5	395		680	10×12.5	510		4.7	8×10.5	42		3.3	8×10.5	30
	1000	10×10.5	450						6.8	8×10.5	64		4.7	8×12.5	40
	1500	10×12.5	520						8.2	10×10.5	70		5.6	10×12.5	51
35	4.7	4×5.4	16	50	1	4×5.4	6.3		10	10×10.5	72		6.8	10×12.5	52
	10	5×5.4	27		2.2	4×5.4	11						8.2	10×12.5	55
	22	6.3×5.4	44		3.3	4×5.4	14						10	10×12.5	60
	33	6.3×5.4	48		4.7	5×5.4	19								

└ I~=Rated ripple current (mA) (105℃, 120Hz) I~=额定纹波电流（mA）（105℃，120Hz）

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	≥ 10KHz
Coefficient 系数	0.70	1.00	1.17	1.36	1.50

KLS10-MD

Series Chip Type Aluminum Electrolytic Capacitors

特点 Features

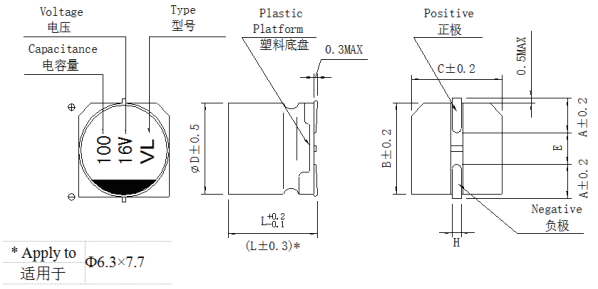
- +105℃3000-5000小时保证品。load life of 3000-5000 hours at +105°C
- 适用于再流焊。Reflow soldering is available.
- 适用于高密度表面组装。vailable for high density surface mounting.
- ROHS指令（2002/95/EC）已对应完毕。Adapted to the ROHS directive（2002/95/EC）。

主要技术性能 Specifications

项目 Items	特性 Performance Characteristics						
工作温度范围 Operating Temperature Range	-55℃ ~+105℃						
额定电压范围 Rated Voltage Range	6.3V ~ 50V						
标称电容量范围 Nominal Capacitance Range	1 ~ 1000μF						
标称电容量允许偏差 Capacitance Tolerance	±20%（20℃，120Hz）						
漏电流 Leakage Current	I≤0.01CRVR or 3(μA)，取较大者（2分钟） CR：标称电容量（μF） UR：额定电压（V） I≤0.01CRVR or 3(μA) Whichever is greater(at 20℃, after 2 minutes) CR: Nominal Capacitance (μF) UR: Rated voltages (V)						
损耗角正切（tgδ） Dissipation Factor (Max) 20℃, 120Hz	U_R (V)	6.3	10	16	25	35	50
	tgδ	0.32	0.24	0.20	0.16	0.14	0.12
耐久性 Load Life	+105℃施加额定电压5000小时后（ΦD=4，5和6.3为3000小时），电容器应满足以下要求： After 5000 hours (3000 hours for ΦD = 4, 5 and 6.3) . application of rated voltage at 105℃, the capacitor shall meet the following requirement:						
	电容量变化率 Capacitance Change	±30%初始值以内 Within ±30% of the initial value					
	损耗角正切 Dissipation Factor	≤300%初始规定值 Not more than 300% of the initial specified value					
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value					
高温贮存 Shelf Life	+105℃ 贮存1000小时后，加额定工作电压30分钟,电容器应满足以上耐久性要求 After storage for 1000 hours at +105℃, UR to be applied for 30 minutes ,the capacitors shall meet the requirement of load life above						
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U_R (V)	6.3	10	16	25	35	50
	Z(-25℃)/Z(+20℃)	4	3	2	2	2	2
	Z(-40℃)/Z(+20℃)	10	7	5	3	3	3
耐焊接热 Resistance to Soldering Heat	在250℃的条件下，电容器在热板上保持30秒，然后从热板上取出电容器，让其在室温下恢复，电容器应满足以下要求： The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement.						
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±30% of the initial value					
	损耗角正切 Dissipation Factor	≤ 初始规定值 Not more than the initial specified value					
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value					

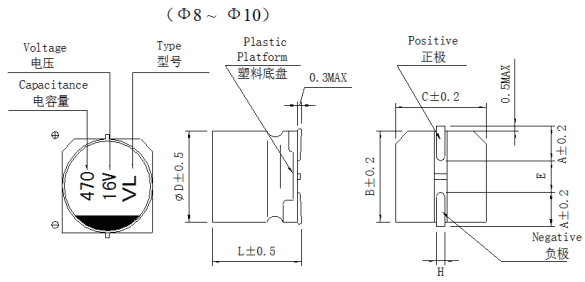
外形图及尺寸表 Case Size Table

（Φ4～ Φ6.3）



* Apply to 适用于 Φ6.3×7.7

（Φ8～ Φ10）



(mm)

	4 × 5.8	5 × 5.8	6.3 × 5.8	6.3 × 7.7	8x10.5	10x10.5
A	1.8	2.1	2.4	2.4	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	10.3
E	1.0	1.3	2.2	2.2	3.1	4.5
L	5.8	5.8	5.8	7.7	10.5	10.5
H	0.5 ~ 0.8				0.8 ~ 1.1	

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

V / μF	6.3		10		16		25		35		50	
	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA
1.0											4×5.8	8
2.2											4×5.8	12
3.3											4×5.8	17
4.7									4×5.8	20	5×5.8	21
10					4×5.8	20	5×5.8	30	5×5.8	30	6.3×5.8	35
22			5×5.8	30	5×5.8	35	6.3×5.8	45	6.3×5.8	50	6.3×7.7	52
33	5×5.8	40	5×5.8	40	6.3×5.8	50	6.3×5.8	50	6.3×7.7	62	8x10.5	80
47	5×5.8	45	6.3×5.8	55	6.3×5.8	60	6.3×7.7	65	8x10.5	100	8x10.5	95
100	6.3×5.8	70	6.3×5.8	75	6.3×7.7	90	8x10.5	140	10x10.5	260	10x10.5	99
220	6.3×7.7	105	8x10.5	170	10x10.5	230	10x10.5	230	10x10.5	230		
330	8x10.5	245	10x10.5	245	10x10.5	240	10x10.5	250				
470	10x10.5	350	10x10.5	350	10x10.5	360						
1000	10x10.5	350										

I~=Rated ripple current (mA) (105℃, 120Hz) I~=额定纹波电流（mA）（105℃，120Hz）

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	≥ 10KHz
Coefficient 系数	0.70	1.00	1.17	1.36	1.50

KLS10-ME

Series Chip Type Aluminum Electrolytic Capacitors

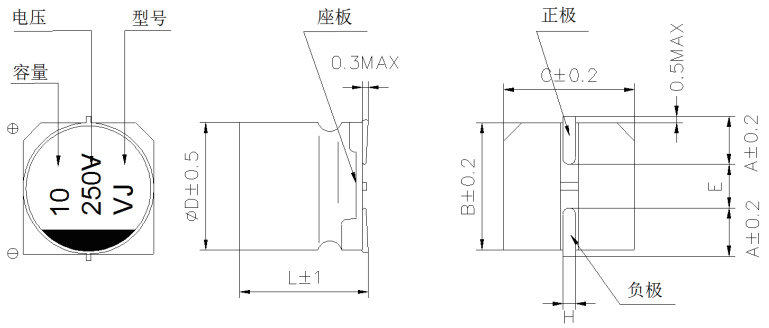
特点 Features

- 适用于再流焊。Reflow soldering is available.
- 适用于高密度表面组装。vailable for high density surface mountin .
- ROHS指令已对应完毕。Adapted to the ROHS directive.

主要技术性能 Specifications

项目 Items	特性 Performance Characteristics		
工作温度范围 Operating Temperature Range	-40~+105℃		
额定电压范围 Rated Voltage Range	160 ~ 400V		
标称电容量范围 Nominal Capacitance Range	1 ~ 22μF		
标称电容量允许偏差 Capacitance Tolerance	±20%（20℃，120Hz）		
漏电流 Leakage Current	160~400V		
	I = 0.04 CRVR +100 (μA) max.(1 min)		
损耗角正切（tgδ） Dissipation Factor (Max) 20℃, 120Hz	U_R (V)	160~250	350~400
	tgδ	0.15	0.20
耐久性 Load Life	+105℃施加额定电压6000小时后，电容器应满足以下要求： After 6000 hours' application of rated voltage at 105℃, the capacitor shall meet the following requirement:		
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value	
	损耗角正切 Dissipation Factor	≤ 200%初始规定值 Not more than 200% of the initial specified value	
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value	
高温贮存 Shelf Life	+105℃贮存1000小时后，电容器应满足以上耐久性要求 After storage for 1000 hours at +105℃, the capacitors shall meet the requirement of load life above		
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U_R (V)	160~250	350~400
	Z(-25℃)/Z(+20℃)	3	6
	Z(-40℃)/Z(+20℃)	6	10
耐焊接热 Resistance to Soldering Heat	在250℃的条件下，电容器在热板上保持30秒，然后从热板上取出电容器，让其在室温下恢复，电容器应满足以下要求： The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement.		
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value	
	损耗角正切 Dissipation Factor	≤初始规定值 Not more than the initial specified value	
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value	

外形图及尺寸表 Case Size Table



(mm)

	Φ8X10.5	Φ8X12.5	Φ10X10.5	Φ10X12.5
A	2.9	2.9	3.2	3.2
B	8.3	8.3	10.3	10.3
C	8.3	8.3	10.3	10.3
E	3.1	3.1	4.5	4.5
L	10.5	12.5	10.5	12.5
H	0.8 ~ 1.1			

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

V / μF	160		200		250		350		400	
	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA
1									8*10.5	42
2.2							8*10.5	44	8*12.5	40
3.3			8*10.5	55	8*10.5	34	8*12.5	43	10*10.5	58
4.7	8*10.5	68	8*10.5	53	8*10.5	34	10*10.5	60	10*10.5	56
5.6	8*10.5	67	8*10.5	51	8*10.5	36	10*10.5	58	10*12.5	72
6.8	8*10.5	65	8*10.5	49	8*12.5	38	10*10.5	56	10*12.5	70
8.2	8*10.5	64	8*12.5	43	10*10.5	50	10*12.5	73	10*12.5	68
10	8*12.5	59	10*10.5	53	10*12.5	72	10*12.5	71	10*12.5	65
15	10*12.5	79	10*12.5	75						
22	10*12.5	72								

I~=Rated ripple current (mA) (105℃, 120Hz) I~=额定纹波电流（mA）（105℃，120Hz额定纹波电流的频率系数）

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	≥ 10KHz
Coefficient 系数	0.80	1.00	1.25	1.40	1.60

KLS10-MF

Series Chip Type Aluminum Electrolytic Capacitors

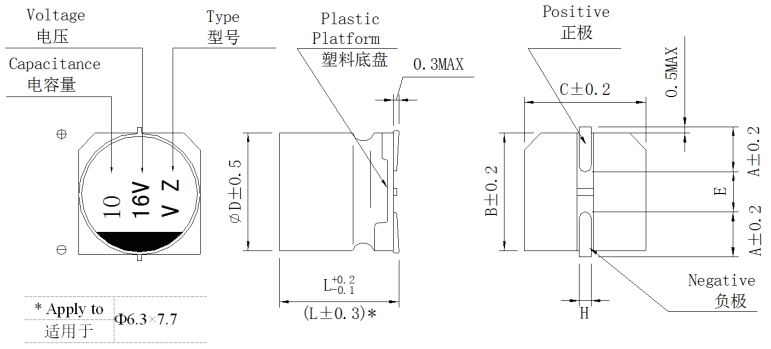
特点 Features

- 低阻抗。Low impedance.
- 适用于再流焊。Reflow soldering is available.
- 适用于高密度表面组装。vailable for high density surface mounting.
- 工作温度范围宽（-55℃ ~ +105℃）Operating over wide temperature range.
- ROHS指令对应完毕。Adapted to the ROHS directive.

主要技术性能 Specifications

项目 Items	特性 Performance Characteristics					
工作温度范围 Operating Temperature Range	-55℃ ~+105℃					
额定电压范围 Rated Voltage Range	6.3V ~ 35V					
标称电容量范围 Nominal Capacitance Range	1 ~ 220μF					
标称电容量允许偏差 Capacitance Tolerance	±20%（20℃，120Hz）					
漏电流 Leakage Current	I≤0.01CRVR or 3(μA)，取较大者（2分钟）CR：标称电容量（μF） UR：额定电压（V） I≤0.01CRVR or 3(μA) Whichever is greater(at 20℃, after 2 minutes) CR: Nominal Capacitance (μF) UR: Rated voltages (V)					
损耗角正切（tgδ） Dissipation Factor (Max) 20℃, 120Hz	U_R (V)	6.3	10	16	25	35
	tgδ	0.22	0.19	0.16	0.14	0.12
耐久性 Load Life	+105℃施加额定电压1000小时后，电容器应满足以下要求： After 1000 hours' application of rated voltage at 105℃, the capacitor shall meet the following requirement:					
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value				
	损耗角正切 Dissipation Factor	≤ 200%初始规定值 Not more than 200% of the initial specified value				
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value				
高温贮存 Shelf Life	+105℃贮存1000小时后，电容器应满足以上耐久性要求 After storage for 1000 hours at +105℃, the capacitors shall meet the requirement of load life above					
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U_R (V)	6.3	10	16	25	35
	Z(-25℃)/Z(+20℃)	2	2	2	2	2
	Z(-40℃)/Z(+20℃)	4	4	3	3	3
耐焊接热 Resistance to Soldering Heat	在250℃的条件下，电容器在热板上保持30秒，然后从热板上取出电容器，让其在室温下恢复，电容器应满足以下要求： The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement.					
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±30% of the initial value				
	损耗角正切 Dissipation Factor	≤ 初始规定值 Not more than the initial specified value				
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value				

外形图及尺寸表 Case Size Table



(mm)

	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 7.7
A	1.8	2.1	2.4	2.4
B	4.3	5.3	6.6	6.6
C	4.3	5.3	6.6	6.6
E	1.0	1.3	2.2	2.2
L	5.4	5.4	5.4	7.7
H	0.5 ~ 0.8			

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

V / μF	6.3			10			16			25			35		
	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA
1.0													4×5.4	5.0	50
1.5													4×5.4	5.0	50
2.2													4×5.4	5.0	50
3.3													4×5.4	5.0	50
4.7										4×5.4	5.0	50	4×5.4	5.0	50
6.8										4×5.4	5.0	50	5×5.4	2.6	80
10							4×5.4	5.0	50	5×5.4	2.6	80	5×5.4	2.6	80
15							5×5.4	2.6	80	6.3×5.4	1.3	115	6.3×5.4	1.3	115
22	4×5.4	5.0	50	5×5.4	2.6	80	5×5.4	2.6	80	6.3×5.4	1.3	115	6.3×5.4	1.3	115
33	5×5.4	2.6	80	5×5.4	2.6	80	6.3×5.4	1.3	115	6.3×5.4	1.3	115	6.3×7.7	0.8	150
47	5×5.4	2.6	80	6.3×5.4	1.3	115	6.3×5.4	1.3	115	6.3×7.7	0.8	150	6.3×7.7	0.8	150
68	6.3×5.4	1.3	115	6.3×5.4	1.3	115	6.3×7.7	0.8	150	6.3×7.7	0.8	150			
100	6.3×5.4	1.3	115	6.3×7.7	0.8	150	6.3×7.7	0.8	150						
150	6.3×7.7	0.8	150	6.3×7.7	0.8	150									
220	6.3×7.7	0.8	150												

I~=Rated ripple current (mA) (105℃, 100KHz) I~=额定纹波电流（mA）（105℃，100KHz）

Low impedance (20℃ 100KHz)

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	10KHz~100Hz
Coefficient 系数	0.64	0.50	0.64	0.83	1.00

KLS10-MG

Series Chip Type Aluminum Electrolytic Capacitors

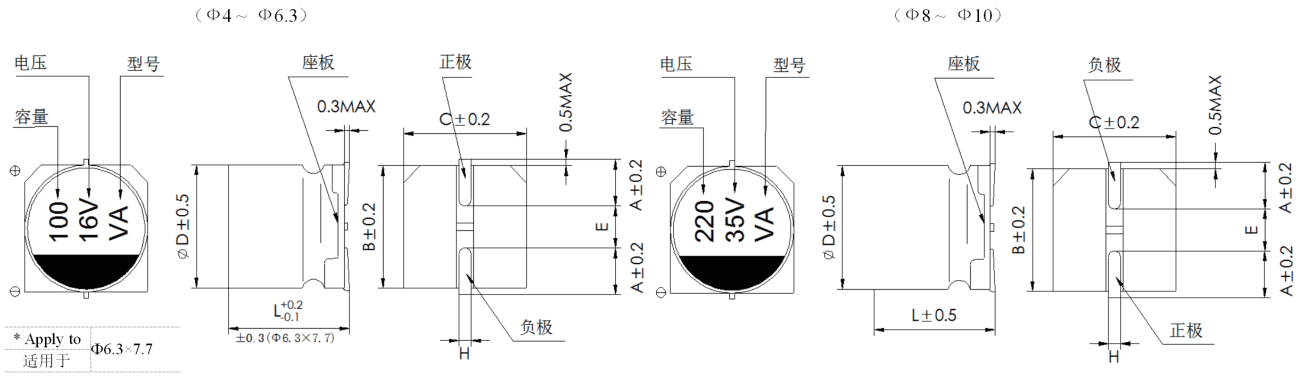
特点 Features

- 低阻抗。Low impedance.
- 适用于再流焊。Reflow soldering is available.
- 适用于高密度表面组装。vailable for high density surface mounting.
- 工作温度范围宽（-55℃ ~ +105℃）Operating over wide temperature range.
- ROHS指令（2002/95/EC）已对应完毕。Adapted to the ROHS directive（2002/95/EC）。

主要技术性能 Specifications

项目 Items	特性 Performance Characteristics						
工作温度范围 Operating Temperature Range	-55℃ ~+105℃						
额定电压范围 Rated Voltage Range	6.3V ~ 50V						
标称电容量范围 Nominal Capacitance Range	1 ~ 1000μF						
标称电容量允许偏差 Capacitance Tolerance	±20%（20℃，120Hz）						
漏电流 Leakage Current	I≤0.01CRVR or 3(μA)，取较大者（2分钟） CR：标称电容量（μF） UR：额定电压（V） I≤0.01CRVR or 3(μA) Whichever is greater(at 20℃, after 2 minutes) CR: Nominal Capacitance (μF) UR: Rated voltages (V)						
损耗角正切（tgδ） Dissipation Factor (Max) 20℃, 120Hz	U_R (V)	6.3	10	16	25	35	50
	tgδ	0.22	0.19	0.16	0.14	0.12	0.12
耐久性 Load Life	+105℃施加额定电压2000小时后，电容器应满足以下要求： After 2000 hours application of rated voltage at 105℃, the capacitor shall meet the following requirement:						
	电容量变化率 Capacitance Change	±30%初始值以内 Within ±30% of the initial value					
	损耗角正切 Dissipation Factor	≤ 300%初始规定值 Not more than 300% of the initial specified value					
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value					
高温贮存 Shelf Life	+105℃ 贮存1000小时后，电容器应满足以上耐久性要求 After storage for 1000 hours at +105℃, the capacitors shall meet the requirement of load life above						
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U_R (V)	6.3	10	16	25	35	50
	Z(-25℃)/Z(+20℃)	2	2	2	2	2	2
	Z(-40℃)/Z(+20℃)	4	4	3	3	3	3
耐焊接热 Resistance to Soldering Heat	在250℃的条件下，电容器在热板上保持30秒，然后从热板上取出电容器，让其在室温下恢复，电容器应满足以下要求： The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement.						
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value					
	损耗角正切 Dissipation Factor	≤初始规定值 Not more than the initial specified value					
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value					

外形图及尺寸表 Case Size Table



(mm)

	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 7.7	8 × 6.5	8 × 10.5	10 × 10.5
A	3.0	2.1	2.4	2.4	2.9	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3
E	1.0	1.3	2.2	2.2	2.3	3.1	4.5
L	5.4	5.4	5.4	7.7	6.5	10.5	10.5
H	0.5 ~ 0.8					0.8 ~ 1.1	

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

V / μF	6.3			10			16			25			35			50		
	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA
1.0																4×5.4	5.00	30
2.2																4×5.4	5.00	30
3.3																4×5.4	5.00	30
4.7													4×5.4	3.0	60	5×5.4	3.0	50
10										4×5.4	3.00	60	5×5.4	1.8	95	6.3×5.4	2.0	70
22				4×5.4	3.00	60	5×5.4	1.8	95	5×5.4	1.8	95	5×5.4	1.8	95	6.3×5.4	2.0	70
33	5×5.4	1.8	95	5×5.4	1.8	95	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×7.7	1.4	120
47	5×5.4	1.8	95	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×7.7	1.4	120
100	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×5.4	1.0	140	6.3×7.7	0.7	220	8x10.5	0.3	300	8x10.5	0.6	300
220	6.3×5.4	1.0	140	6.3×7.7	0.7	220	6.3×7.7	0.7	220	8x10.5	0.3	450	8x10.5	0.3	450	10x10.5	0.3	500
330	6.3×7.7	0.7	220	8x10.5	0.3	450	8x10.5	0.3	450	8x10.5	0.3	450	10x10.5	0.15	650			
470	8x10.5	0.3	450	8x10.5	0.3	450	8x10.5	0.3	450	10x10.5	0.15	650						
1000	8x10.5	0.3	450	10x10.5	0.15	650												

I~=Rated ripple current (mA) (105℃, 100kHz) I~=额定纹波电流（mA）（105℃，100kHz）
20℃ 100 KHz时的电阻（Ω）MAX

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	≥ 10KHz
Coefficient 系数	0.64	0.50	0.64	0.83	1.00

KLS10-MH

Series Chip Type Aluminum Electrolytic Capacitors

特点 Features

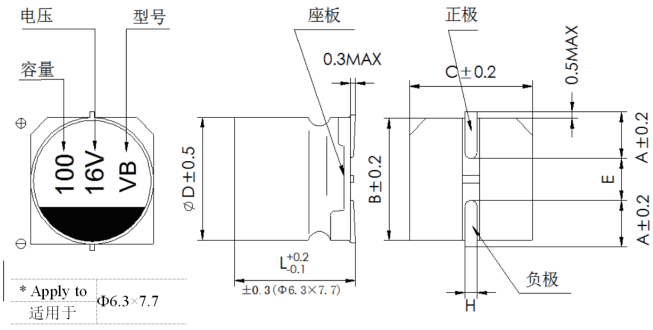
- 低阻抗。Low impedance.
- 适用于再流焊。Reflow soldering is available.
- 适用于高密度表面组装。vailable for high density surface mounting.
- 工作温度范围宽（-55℃ ~ +105℃）Operating over wide temperature range.
- ROHS指令（2002/95/EC）已对应完毕。Adapted to the ROHS directive（2002/95/EC）。

主要技术性能 Specifications

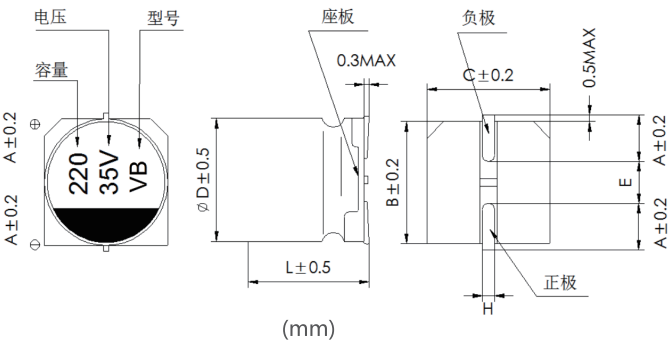
项目 Items	特性 Performance Characteristics						
工作温度范围 Operating Temperature Range	-55℃ ~+105℃						
额定电压范围 Rated Voltage Range	6.3V ~ 50V						
标称电容量范围 Nominal Capacitance Range	1 ~ 1500μF						
标称电容量允许偏差 Capacitance Tolerance	±20%（20℃，120Hz）						
漏电流 Leakage Current	I≤0.01CRVR or 3(μA)，取较大者（2分钟）CR：标称电容量（μF） UR：额定电压（V） I≤0.01CRVR or 3(μA) Whichever is greater(at 20℃, after 2 minutes) CR: Nominal Capacitance (μF) UR: Rated voltages (V)						
损耗角正切（tgδ） Dissipation Factor (Max) 20℃, 120Hz	U_R (V)	6.3	10	16	25	35	50
	tgδ	0.26	0.20	0.16	0.14	0.12	0.12
耐久性 Load Life	+105℃施加额定电压2000小时后，电容器应满足以下要求： After 2000 hours application of rated voltage at 105℃, the capacitor shall meet the following requirement:						
	电容量变化率 Capacitance Change	±30%初始值以内 Within ±30% of the initial value					
	损耗角正切 Dissipation Factor	≤ 300%初始规定值 Not more than 300% of the initial specified value					
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value					
高温贮存 Shelf Life	+105℃ 贮存1000小时后，电容器应满足以上耐久性要求 After storage for 1000 hours at +105℃, the capacitors shall meet the requirement of load life above						
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U_R (V)	6.3	10	16	25	35	50
	Z(-25℃)/Z(+20℃)	3	2	2	2	2	2
	Z(-40℃)/Z(+20℃)	5	4	4	3	3	3
耐焊接热 Resistance to Soldering Heat	在250℃的条件下，电容器在热板上保持30秒，然后从热板上取出电容器，让其在室温下恢复，电容器应满足以下要求： The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement.						
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value					
	损耗角正切 Dissipation Factor	≤初始规定值 Not more than the initial specified value					
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value					

外形图及尺寸表 Case Size Table

（Φ4～ Φ6.3）



（Φ8～ Φ10）



(mm)

	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 7.7	8 × 10.5	10 × 10.5
A	1.8	2.1	2.4	2.4	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	10.3
E	1.0	1.3	2.2	2.2	3.1	4.5
L	5.4	5.4	5.4	7.7	10.5	10.5
H	0.5 ~ 0.8				0.8 ~ 1.1	

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

V / μF	6.3			10			16			25			35			50		
	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA	D×L mm	Impedance Ω	I~ mA
1.0																4×5.4	5.00	30
2.2																4×5.4	5.00	30
3.3																4×5.4	5.00	30
4.7													4×5.4	1.8	80	5×5.4	1.52	85
10										4×5.4	1.80	80	5×5.4	0.76	150	6.3×5.4	0.88	165
22				4×5.4	1.80	80	5×5.4	0.76	150	5×5.4	0.76	150	5×5.4	0.76	150	6.3×5.4	0.88	165
33	5×5.4	0.76	150	5×5.4	0.76	150	6.3×5.4	0.44	230	6.3×5.4	0.44	230	6.3×5.4	0.44	230	6.3×7.7	0.68	185
47	5×5.4	0.76	150	6.3×5.4	0.44	230	6.3×5.4	0.44	230	6.3×5.4	0.44	230	6.3×7.7	0.34	280	6.3×7.7	0.68	185
100	6.3×5.4	0.44	230	6.3×5.4	0.44	230	6.3×5.4	0.44	230	6.3×7.7	0.34	280	8x10.5	0.17	600	8x10.5	0.34	300
220	6.3×5.4	0.44	230	6.3×7.7	0.34	280	6.3×7.7	0.34	280	8x10.5	0.17	600	8x10.5	0.17	600	10x10.5	0.18	670
330	6.3×7.7	0.34	280	8x10.5	0.17	600	8x10.5	0.17	600	8x10.5	0.17	600	10x10.5	0.09	850			
470	8x10.5	0.17	600	8x10.5	0.17	600	8x10.5	0.17	600	10x10.5	0.09	850						
1000	8x10.5	0.17	600	10x10.5	0.09	850												
1500	10x10.5	0.09	850															

I~=Rated ripple current (mA) (105℃, 100kHz) I~=额定纹波电流（mA）（105℃，100kHz）
20℃ 100 KHz时的电阻（Ω）MAX

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	≥ 10KHz
Coefficient 系数	0.35	0.50	0.64	0.83	1.00

KLS10-MJ

Series Chip Type Aluminum Electrolytic Capacitors

特点 Features

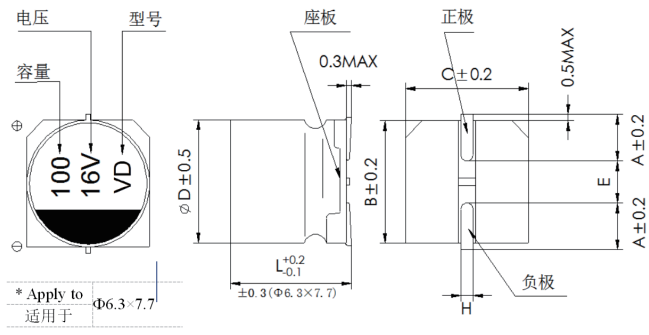
- 低阻抗。Low impedance.
- 适用于再流焊。Reflow soldering is available.
- 适用于高密度表面组装。vailable for high density surface mounting.
- 工作温度范围宽（-55℃ ~ +105℃）Operating over wide temperature range.
- ROHS指令已对应完毕。Adapted to the ROHS directive.

主要技术性能 Specifications

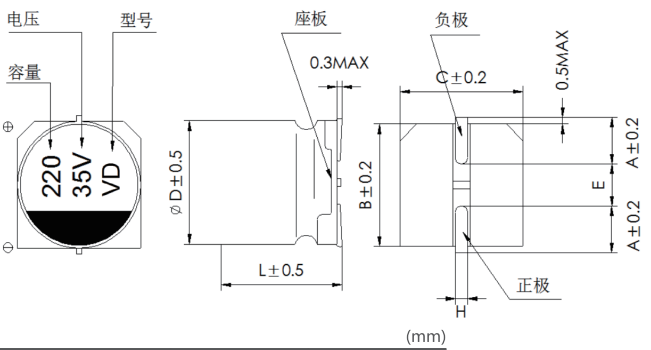
项目 Items	特性 Performance Characteristics							
工作温度范围 Operating Temperature Range	-55℃ ~+105℃							
额定电压范围 Rated Voltage Range	6.3V ~ 100V							
标称电容量范围 Nominal Capacitance Range	4.7 ~ 2200μF							
标称电容量允许偏差 Capacitance Tolerance	±20%（20℃，120Hz）							
漏电流 Leakage Current	I≤0.01$C_R V_R$ or 3(μA)，取较大者（2分钟）C_R：标称电容量（μF） U_R：额定电压（V） I≤0.01$C_R V_R$ or 3(μA) Whichever is greater(at 20℃, after 2 minutes) C_R: Nominal Capacitance (μF) U_R: Rated voltages (V)							
损耗角正切（tgδ） Dissipation Factor (Max) 20℃, 120Hz	U_R (V)	6.3	10	16	25	35	50	63
	tgδ	0.26	0.20	0.16	0.14	0.12	0.12	0.10
耐久性 Load Life	+105℃施加额定电压5000小时后（ΦD=4，5和6.3为2000小时），电容器应满足以下要求： After 5000 hours (2000 hours for φD = 4, 5 and 6.3) . application of rated voltage at 105℃, the capacitor shall meet the following requirement:							
	电容量变化率 Capacitance Change	±30%初始值以内 Within ±30% of the initial value						
	损耗角正切 Dissipation Factor	≤ 300%初始规定值 Not more than 300% of the initial specified value						
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value						
高温贮存 Shelf Life	+105℃ 贮存1000小时后，电容器应满足以上耐久性要求 After storage for 1000 hours at +105℃, the capacitors shall meet the requirement of load life above							
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U_R (V)	6.3	10	16	25	35	50	63	80	100
	Z(-25℃)/Z(+20℃)	3	2	2	2	2	2	2	2	2
	Z(-40℃)/Z(+20℃)	5	4	4	3	3	3	3	3	3
耐焊接热 Resistance to Soldering Heat	在250℃的条件下，电容器在热板上保持30秒，然后从热板上取出电容器，让其在室温下恢复，电容器应满足以下要求： The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement.							
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value e						
	损耗角正切 Dissipation Factor	≤初始规定值 Not more than the initial specified value						
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value						

外形图及尺寸表 Case Size Table

（Φ4～ Φ6.3）



（Φ8～ Φ10）



(mm)

	4 × 5.8	5 × 5.8	6.3 × 5.8	6.3 × 7.7	8 × 10.5	10 × 10.5	10 × 12.5
A	1.35	2.1	2.4	2.4	2.9	3.2	3.2
B	4.3	5.3	6.6	6.6	8.3	10.3	10.3
C	4.3	5.3	6.6	6.6	8.3	10.3	10.3
E	1.0	1.3	2.2	2.2	3.1	4.5	4.5
L	5.8	5.8	5.8	7.7	10.5	10.5	12.5
H	0.5 ~ 0.8				0.8 ~ 1.1		

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

电压 WV（Vdc）	容量 Cap（μA）	产品尺寸 Size	纹波电流 mArms 100KHz/105℃	阻抗Impedance（Ω）100KHz/25℃	电压 WV（Vdc）	容量 Cap（μA）	产品尺寸 Size	纹波电流 mArms 100KHz/105℃	阻抗Impedance（Ω）100KHz/25℃
6.3	22	4×5.8	90	1.35	25	10	4×5.8	90	1.35
	47	5×5.8	160	0.70		22	5×5.8	160	0.70
	100	5×5.8	160	0.70		47	6.3×5.8	240	0.36
	220	6.3×5.8	240	0.36		100	6.3×7.7	280	0.28
	330	6.3×7.7	280	0.28		220	8×10.5	650	0.16
	470	8×10.5	650	0.16		330	10×10.5	850	0.09
	680	10×10.5	850	0.085		470	10×10.5	850	0.09
	1000	10×10.5	850	0.085		560	10×12.5	1000	0.075
	1500	10×12.5	1000	0.075	35	10	5×5.8	160	0.70
	2200	10×12.5	1000	0.075		22	6.3×5.8	240	0.36
10	22	4×5.8	90	1.35		47	6.3×7.7	280	0.28
	47	5×5.8	160	0.70		100	8×10.5	650	0.16
	100	6.3×5.8	240	0.36		220	10×10.5	850	0.09
	220	6.3×7.7	280	0.28		470	10×12.5	100	0.075
	330	8×10.5	650	0.16	50	4.7	4×5.8	60	3.0
	470	8×10.5	650	0.16		10	5×5.8	85	1.50
	680	10×10.5	850	0.09		22	6.3×5.8	165	0.88
	1000	10×10.5	850	0.09		47	6.3×7.7	195	0.68
	1500	10×12.5	1000	0.075		82	8×10.5	350	0.34
16	10	4×5.8	90	1.35		100	10×10.5	670	0.18
	22	5×5.8	160	0.70		220	10×12.5	700	0.16
	100	6.3×5.8	240	0.36	63	4.7	5×5.8	50	3.2
	220	6.3×7.7	280	0.28		10	6.3×5.8	80	1.5
	330	8×10.5	650	0.16		22	6.3×7.7	120	1.2
	470	10×10.5	850	0.09		47	8×10.5	250	0.65
	1000	10×12.5	1000	0.075		100	10×10.5	400	0.35
						120	10×12.5	500	0.28

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	≥ 10KHz
Coefficient 系数	0.35	0.50	0.64	0.83	1.00

KLS10-MK

Series Chip Type Aluminum Electrolytic Capacitors

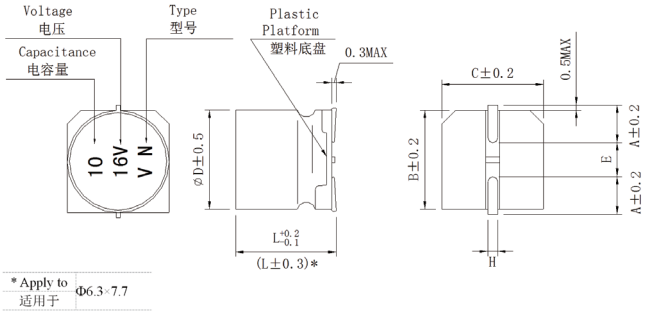
特点 Features

- 双极性。Bi-polar.
- 适用于再流焊。Reflow soldering is available.
- 适用于高密度表面组装。Available for high density surface mounting.
- ROHS指令已对应完毕。Adapted to the ROHS directive.

主要技术性能 Specifications

项目 Items	特性 Performance Characteristics						
工作温度范围 Operating Temperature Range	-40℃ ~ +85℃						
额定电压范围 Rated Voltage Range	6.3V ~ 50V						
标称电容量范围 Nominal Capacitance Range	0.1 ~ 100μF						
标称电容量允许偏差 Capacitance Tolerance	±20%（20℃，120Hz）						
漏电流 Leakage Current	I≤0.05CRVR or 10(μA)，取较大者（2分钟） CR：标称电容量（μF） UR：额定电压（V） I≤0.05CRVR or 10(μA) Whichever is greater(at 20℃,after 2 minutes) CR: Nominal Capacitance (μF) UR: Rated voltages (V)						
损耗角正切（tgδ） Dissipation Factor (Max) 20℃, 120Hz	U_R (V)	6.3	10	16	25	35	50
	tgδ	0.26	0.22	0.20	0.20	0.20	0.18
耐久性 Load Life	+85℃施加额定电压1000小时后，每250小时换向一次，电容器应满足以下要求： After 1000 hours' application of rated voltage at 85℃, with the polarity inverted every 250 hours, the capacitor shall meet the following requirement:						
	电容量变化率 Capacitance Change	±20%初始值以内 Within ±20% of the initial value					
	损耗角正切 Dissipation Factor	≤ 200%初始规定值 Not more than 200% of the initial specified value					
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value					
高温贮存 Shelf Life	+85℃贮存1000小时后，加额定工作电压30分钟,电容器应满足以上耐久性要求 After storage for 1000 hours at +85℃, UR to be applied for 30 minutes, the capacitors shall meet the requirement of load life above						
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U_R (V)	6.3	10	16	25	35	50
	Z(-25℃)/Z(+20℃)	4	3	2	2	2	2
	Z(-40℃)/Z(+20℃)	8	6	4	4	3	3
耐焊接热 Resistance to Soldering Heat	在250℃的条件下，电容器在热板上保持30秒，然后从热板上取出电容器，让其在室温下恢复，电容器应满足以下要求： The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement.						
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value					
	损耗角正切 Dissipation Factor	≤ 初始规定值 Not more than the initial specified value					
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value					

外形图及尺寸表 Case Size Table



(mm)

	4 × 5.4	5 × 5.4	6.3 × 5.4	6.3 × 7.7
A	1.8	2.1	2.4	2.4
B	4.3	5.3	6.6	6.6
C	4.3	5.3	6.6	6.6
E	1.0	1.3	2.2	2.2
L	5.4	5.4	5.4	7.7
H	0.5 ~ 0.8			

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

V / μF	6.3		10		16		25		35		50	
	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA	D×L mm	I~ mA
0.1											4×5.4	2.3
0.22											4×5.4	3.3
0.33											4×5.4	4.1
0.47											4×5.4	4.9
1.0									4×5.4	10	4×5.4	8.4
2.2							4×5.4	13	5×5.4	17	5×5.4	13
3.3							5×5.4	20	5×5.4	21	5×5.4	17
4.7					4×5.4	14	6.3×5.4	35	6.3×5.4	35	6.3×5.4	20
10			4×5.4	18	5×5.4	26	6.3×7.7	50	6.3×7.7	54	6.3×7.7	36
22	5×5.4	28	6.3×5.4	40	6.3×5.4	45	6.3×7.7	61				
33	6.3×5.4	37	6.3×5.4	50	6.3×5.4	55						
47	6.3×5.4	45	6.3×7.7	61	6.3×7.7	75						
100	6.3×7.7	82										

I~=Rated ripple current (mA) (85℃, 120Hz) I~=额定纹波电流（mA）（85℃，120Hz）

额定纹波电流的频率系数
Frequency Coefficient of Ripple Current

Frequency 频率	50Hz	120Hz	300Hz	1KHz	≥10KHz
Coefficient 系数	0.70	1.00	1.17	1.36	1.50

KLS10-ML

Series Chip Type Aluminum Electrolytic Capacitors

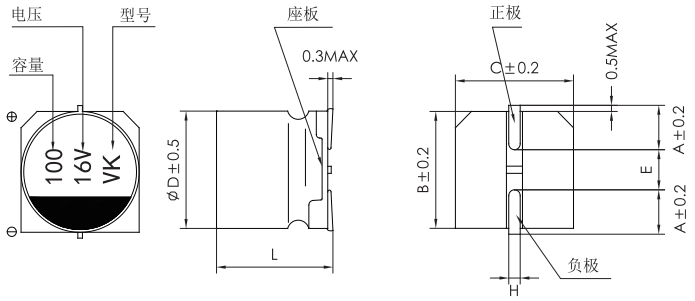
特点 Features

- 125℃ 1000~1500小时保证品
- 产品尺寸：Φ6.3~Φ10
- 适用于车载电装品的高温用途
- ROHS指令（2002/95/EC）已对应完毕

主要技术性能 Specifications

项目 Items	特性 Performance Characteristics					
工作温度范围 Operating Temperature Range	-40℃ ~+125℃					
额定电压范围 Rated Voltage Range	10V ~ 50V					
标称电容量允许偏差 Nominal Capacitance Tolerance	±20%（20℃，120Hz）					
漏电流 Leakage Current	I≤0.01CRVR or 3(μA)，取较大者（2分钟） CR：标称电容量（μF） UR：额定电压（V） I≤0.01CRVR or 3(μA) Whichever is greater(at 20℃, after 2 minutes) CR: Nominal Capacitance (μF) UR: Rated voltages (V)					
损耗角正切（tgδ） Dissipation Factor (Max) 20℃, 120Hz	U_R (V)	10	16	25	35	50
	tgδ	0.30	0.24	0.20	0.17	0.14
耐久性 Load Life	+125℃连续加1000-1500小时额定电压小时后，电容器应满足以下要求： After 1000-1500hours' application of rated voltage at 105℃, the capacitor shall meet the following requirement:					
	规定时间 Specified time	Φ6.3*5.8~Φ6.3*7.7:1000小时 Φ8*10.5~Φ10*10.5:1500小时				
	电容量变化率 Capacitance Change	±30%初始值以内 Within ±30% of the initial value				
	损耗角正切 Dissipation Factor	≤ 300%初始规定值 Not more than 300% of the initial specified value				
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value				
高温贮存 Shelf Life	+125℃贮存1000小时后，加额定工作电压30分钟,电容器应满足以上耐久性要求 After storage for 1000 hours at +125℃, UR to be applied for 30 minutes, the capacitors shall meet the requirement of load life above					
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U_R (V)	10	16	25	35	50
	Z(-25℃)/Z(+20℃)	6	5	4	3	3
	Z(-40℃)/Z(+20℃)	12	8	6	4	4
耐焊接热 Resistance to Soldering Heat	在250℃的条件下，电容器在热板上保持30秒，然后从热板上取出电容器，让其在室温下恢复，电容器应满足以下要求： The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement.					
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value				
	损耗角正切 Dissipation Factor	≤ 初始规定值 Not more than the initial specified value				
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value				

外形图及尺寸表 Case Size Table



(mm)

	6.3 × 5.8	6.3 × 7.7	8× 10.5	10 × 10.5
A	2.4	2.4	2.9	3.2
B	6.6	6.6	8.3	10.3
C	6.6	6.6	8.3	10.3
E	2.2	2.2	3.1	4.5
L	5.8	7.7	10.5	10.5
H	0.5 ~ 0.8		0 . 8~1.1	

注：L值Φ6.3壳号公差±0.3，Φ8及以上壳号公差±0.5

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

电压 WV (Vdc)	容量 Cap (μA)	产品尺寸 Size	纹波电流 mArms 120Hz/125℃	电压 WV (Vdc)	容量 Cap (μA)	产品尺寸 Size	纹波电流 mArms 120Hz/125℃
10	68	6.3*5.8	50	35	10	6.3*5.8	50
	100	6.3*7.7	75		22	6.3*5.8	50
	220	8*10.5	130		33	6.3*7.7	70
	330	8*10.5	130		47	6.3*7.7	70
	330	10*10.5	180		47	8*10.5	130
	470	10*10.5	180		100	8*10.5	130
16	33	6.3*5.8	50		100	10*10.5	180
	47	6.3*7.7	70		220	10*10.5	180
	100	6.3*7.7	75		10	6.3*5.8	50
	100	8*10.5	130	50	22	6.3*7.7	70
	220	8*10.5	130		33	6.3*7.7	70
	220	10*10.5	180		33	8*10.5	130
	330	10*10.5	180		47	8*10.5	130
25	22	6.3*5.8	50		47	10*10.5	180
	33	6.3*5.8	50		100	10*10.5	180
	47	6.3*7.7	70	纹波修正系数：			
	100	8*10.5	130	频率	50Hz	120Hz	300Hz	1KHz	10KHz~
	220	8*10.5	130						
	220	10*10.5	180	修正系数	0.85	1.0	1.17	1.36	1.50
	330	10*10.5	180						

KLS10-MN

Series Chip Type Aluminum Electrolytic Capacitors

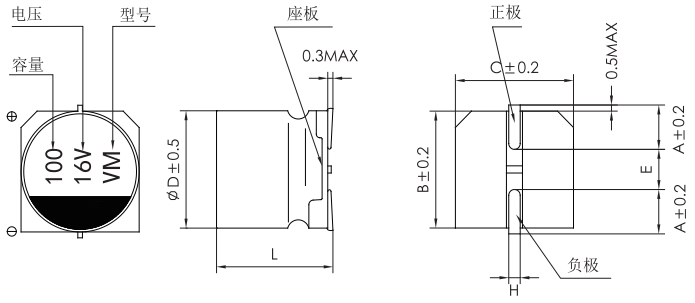
特点 Features

- 125℃ 2000~3000 小时保证品
- 产品尺寸：Φ6.3~Φ10
- 适用于车载电装品的高温用途
- ROHS 指令（2002/95/EC）已对应完毕

主要技术性能 Specifications

项目 Items	特性 Performance Characteristics					
工作温度范围 Operating Temperature Range	-40℃ ~+125℃					
额定电压范围 Rated Voltage Range	10V ~ 50V					
标称电容量允许偏差 Nominal Capacitance Tolerance	±20%（20℃，120Hz）					
漏电流 Leakage Current	I≤0.01CRVR or 3(μA)，取较大者（2 分钟） CR：标称电容量（μF） UR：额定电压（V） I≤0.01CRVR or 3(μA) Whichever is greater(at 20℃, after 2 minutes) CR: Nominal Capacitance (μF) UR: Rated voltages (V)					
损耗角正切（tgδ） Dissipation Factor (Max) 20℃, 120Hz	U_R (V)	10	16	25	35	50
	tgδ	0.24	0.20	0.16	0.14	0.14
耐久性 Load Life	+125℃连续加载规定时间的额定电压后待温度恢复到 20℃进行测量时，应满足以下要求： + 125 ℃ continuous loading at a predetermined time after the rated voltage until the temperature returns to 20 ℃ measured					
	规定时间 Specified time	Φ6.3&50V 的Φ8~Φ10 产品: 2000 小时 Φ8~Φ10:3000 小时				
	电容量变化率 Capacitance Change	±30%初始值 Within ±30% of the initial value				
	损耗角正切 Dissipation Factor	≤ 300%初始规定值 Not more than 300% of the initial specified value				
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value				
高温贮存 Shelf Life	+125℃贮存 1000 小时后，加额定工作电压 30 分钟,电容器应满足以上耐久性要求 After storage for 1000 hours at +125℃, UR to be applied for 30 minutes, the capacitors shall meet the requirement of load life above					
低温特性 Low Temperature Stability 阻抗比 Impedance Ratio (120Hz)	U_R (V)	10	16	25	35	50
	Z(-25℃)/Z(+20℃)	6	5	4	3	3
	Z(-40℃)/Z(+20℃)	12	8	6	4	4
耐焊接热 Resistance to Soldering Heat	在 250℃的条件下，电容器在热板上保持 30 秒，然后从热板上取出电容器，让其在室温下恢复，电容器应满足以下要求： The capacitors shall be kept on the hot plate maintained at 250℃ for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement.					
	电容量变化率 Capacitance Change	±10%初始值以内 Within ±10% of the initial value				
	损耗角正切 Dissipation Factor	≤ 初始规定值 Not more than the initial specified value				
	漏电流 Leakage Current	≤ 初始规定值 Not more than the initial specified value				

外形图及尺寸表 Case Size Table



(mm)

	6.3 × 5.8	6.3 × 7.7	8× 10.5	10 × 10.5
A	2.4	2.4	2.9	3.2
B	6.6	6.6	8.3	10.3
C	6.6	6.6	8.3	10.3
E	2.2	2.2	3.1	4.5
L	5.8	7.7	10.5	10.5
H	0.5 ~ 0.8		0 . 8~1.1	

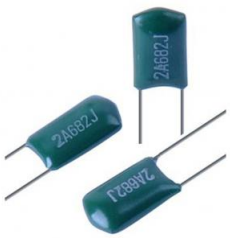
注：L值Φ6.3壳号公差±0.3，Φ8及以上壳号公差±0.5

标称电容量、额定电压、额定纹波电流与尺寸对应表
Nominal Capacitance, Rated Voltage, Rated Ripple Current and Case Size Table

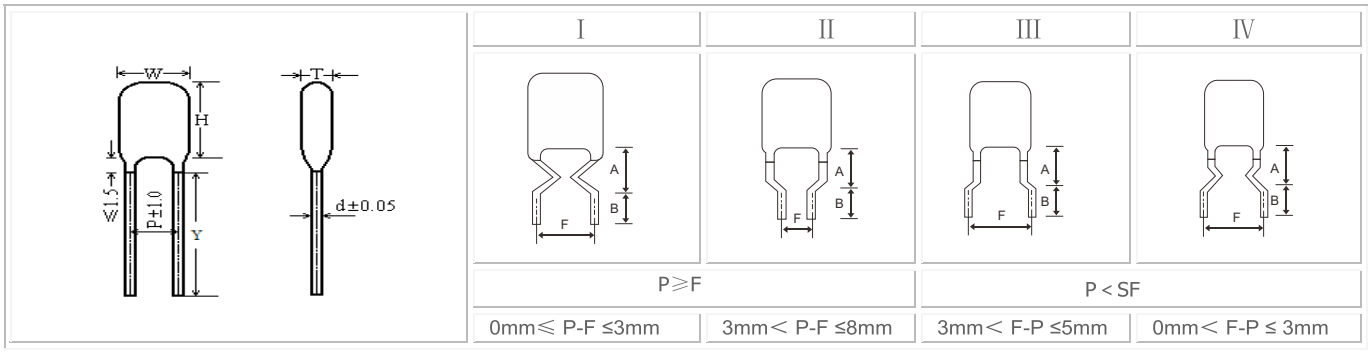
电压 WV (Vdc)	容量 Cap (μA)	产品尺寸 Size	纹波电流 mArms 120Hz/125℃	等价串联电阻(Ω max/100k Hz)	电压 WV (Vdc)	容量 Cap (μA)	产品尺寸 Size	纹波电流 mArms 120Hz/125℃	等价串联电阻(Ω max/100k Hz)
10	68	6.3*5.8	110	1.2	35	10	6.3*5.8	110	1.2
	100	6.3*7.7	220	0.6		22	6.3*5.8	110	1.2
	220	8*10.5	296	0.3		33	6.3*7.7	220	0.6
	330	8*10.5	296	0.3		47	6.3*7.7	220	0.6
	330	10*10.5	440	0.2		47	8*10.5	296	0.3
	470	10*10.5	440	0.2		100	8*10.5	296	0.3
16	33	6.3*5.8	110	1.2		100	10*10.5	440	0.2
	47	6.3*7.7	220	0.6		220	10*10.5	440	0.2
	100	6.3*7.7	220	0.6		10	6.3*5.8	51	2.8
	100	8*10.5	296	0.3	50	22	6.3*7.7	83	2.0
	220	8*10.5	296	0.3		33	6.3*7.7	83	2.0
	220	10*10.5	440	0.2		33	8*10.5	160	0.7
	330	10*10.5	440	0.2		47	8*10.5	160	0.7
25	22	6.3*5.8	110	1.2		47	10*10.5	247	0.5
	33	6.3*5.8	110	1.2		100	10*10.5	247	0.5
	47	6.3*7.7	220	0.6	纹波修正系数：				
	100	8*10.5	296	0.3	频率 (Hz) / 静电容量 (μF)	120	1K	10K	100K
	220	8*10.5	296	0.3	10	0.66	0.86	0.93	1.0
	220	10*10.5	440	0.2	22-470	0.93	0.97	1.0	1.0
	330	10*10.5	440	0.2					

CL11 series

有感箔式聚酯膜电容器
Polyester film/foil capacitor (inductive)



■ 外形图 Outline Drawing



■ 特点

- 聚酯膜/铝箔，有感卷绕
- 引线直接点焊于电极，损耗小
- 环氧料真空包封

■ Features

- Polyester film/Foil, inductive wound construction
- Dissipation factor is small because the leads are welded directly on the foil
- epoxy resin vacuum-dipped

■ 主要用途

- 广泛应用于电视机、收录机及各种电子仪器的直流、脉动电路中

■ Typical application

- widely used in DC and pulsating circuits of radio,TV Sets and various electronic equipments

■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 6346 (IEC 60384-11)
气候类别 Climatic Category	55/105/21
额定温度 Rated temperature	85℃
工作温度范围 Operating temperature	-55℃~105℃ (+85℃ to +105℃: decreasing factor 1.25% per ℃ for VR(dc))
额定电压 Rated Voltage	50 ,63V/100V,160V/250V,400V,630V,1000V/1200V
电容量范围 Capacitance Range	0.0010 ~ 0.27μF
电容量偏差 Capacitance Tolerance	±5%(J), ±10% (K), ±20%(M)
耐电压 Voltage Proof	2.0UR (5s)
损耗角正切 Dissipation Factor	≤100×10-4(20℃, 1kHz)
绝缘电阻 Insulation Resistance	≥50 000MΩ, CR ≤0.1μF ≥10 000MΩ, CR >0.1μF (20℃, 1min)

CL11 series

产品代码说明

ORDER INFORMATION

KLS10	- CL11	- XXX	- X	- XX	- XX
Pos.No.	Product Name: Iductive polyester film foil capacitor Dipped	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% J=± 5%	Rated Voltage 100=100VDC 250=250VDC 400=400VDC	Pitch P5=5mm P7.5=7.5mm

CL11 series

■ 外形尺寸 Dimensions (mm)

50Vdc					
Cn (μF)	W max	H max	T max	P	d
0.0010	6.0	9.5	3.5	3.5	0.5
0.0012	6.0	9.5	3.5	3.5	0.5
0.0015	6.0	9.5	3.5	3.5	0.5
0.0018	6.0	9.5	3.5	3.5	0.5
0.0022	6.0	9.5	3.5	3.5	0.5
0.0027	6.5	9.5	4.0	4.0	0.5
0.0033	6.5	9.5	4.0	4.0	0.5
0.0039	6.5	9.5	4.0	4.0	0.5
0.0047	6.5	9.5	4.0	4.0	0.5
0.0056	6.5	9.5	4.0	4.0	0.5
0.0068	6.5	10.0	4.0	4.0	0.5
0.0082	6.5	10.0	4.0	4.0	0.5
0.010	6.5	10.0	4.0	4.0	0.5
0.012	7.0	10.0	4.0	4.0	0.5
0.015	7.0	10.0	4.0	4.0	0.5
0.018	7.0	10.0	4.0	4.5	0.5
0.022	7.0	10.0	4.0	4.5	0.5
0.027	7.5	10.0	4.0	4.5	0.5
0.033	7.5	10.5	4.5	5.0	0.5
0.039	8.0	10.5	5.0	5.5	0.5
0.047	8.5	10.5	5.0	5.5	0.5
0.056	8.5	11.5	5.0	5.5	0.5
0.068	9.0	11.5	5.5	6.0	0.5
0.082	9.5	11.5	5.5	6.0	0.5
0.10	10.0	14.0	6.0	6.5	0.5
0.12	10.5	14.0	6.0	6.5	0.5
0.15	11.0	14.0	6.5	7.0	0.5
0.18	11.5	14.5	7.0	7.0	0.5
0.22	12.0	14.5	8.0	7.5	0.6
0.27	13.0	16.0	8.0	8.0	0.6

63V/100Vdc #					
Cn (μF)	W max	H max	T max	P	d
0.0010	6.0	11.5	3.5	3.5	0.5
0.0012	6.0	11.5	3.5	3.5	0.5
0.0015	6.0	11.5	3.5	3.5	0.5
0.0018	6.0	11.5	3.5	3.5	0.5
0.0022	6.0	11.5	3.8	3.5	0.5
0.0027	6.0	11.5	3.8	3.5	0.5
0.0033	6.0	11.5	3.8	3.5	0.5
0.0039	6.0	11.5	3.8	3.5	0.5
0.0047	6.0	11.5	3.8	3.5	0.5
0.0056	6.0	11.5	3.8	4.0	0.5
0.0068	6.5	11.5	3.8	4.0	0.5
0.0082	7.0	11.5	4.0	4.0	0.5
0.010	7.0	11.5	4.3	4.0	0.5
0.012	7.0	11.5	4.3	4.0	0.5
0.015	7.0	11.5	4.3	4.5	0.5
0.018	7.0	12.0	4.3	4.5	0.5
0.022	8.0	12.0	4.3	5.0	0.5
0.027	8.0	13.0	4.8	5.0	0.5
0.033	8.5	13.0	4.8	5.5	0.5
0.039	9.0	13.0	5.0	5.5	0.5
0.047	9.0	13.0	5.3	5.5	0.5
0.056	9.5	13.5	5.5	6.5	0.5
0.068	10.0	13.5	6.0	7.0	0.5
0.082	10.5	13.5	6.5	7.0	0.5
0.10	11.5	13.5	7.0	7.5	0.5
0.12	12.5	15.5	7.5	8.5	0.6
0.15	13.5	16.0	8.0	9.0	0.6
0.18	14.0	16.5	8.0	9.5	0.6
0.22	14.5	17.5	8.5	9.5	0.6
0.27	15.0	21.0	9.0	10.0	0.6

CL11 series

■ 外形尺寸 Dimensions (mm)

160/250Vdc#					
Cn (μF)	W max	H max	T max	P	d
0.0010	6.0	11.5	3.5	3.5	0.5
0.0012	6.0	11.5	3.5	3.5	0.5
0.0015	6.0	11.5	3.5	3.5	0.5
0.0018	6.0	11.5	3.5	3.5	0.5
0.0022	6.0	11.5	3.8	3.5	0.5
0.0027	6.5	12.0	3.8	3.5	0.5
0.0033	6.5	12.0	3.8	3.5	0.5
0.0039	6.5	12.0	3.8	4.0	0.5
0.0047	6.5	12.0	3.8	4.5	0.5
0.0056	7.0	12.0	4.0	5.0	0.5
0.0068	7.0	12.0	4.0	5.0	0.5
0.0082	8.0	13.0	4.0	5.5	0.5
0.010	8.0	13.0	5.0	5.5	0.5
0.012	8.5	13.5	5.0	5.5	0.5
0.015	8.5	13.5	5.0	5.5	0.5
0.018	9.0	14.0	5.7	6.0	0.5
0.022	9.5	14.0	5.7	6.5	0.5
0.027	10.0	15.0	6.3	6.5	0.5
0.033	10.5	15.5	6.3	6.5	0.5
0.039	11.5	15.5	7.0	7.0	0.5
0.047	11.5	16.0	7.0	7.5	0.5
0.056	12.5	16.0	8.5	8.0	0.6
0.068	12.5	17.0	8.5	8.0	0.6
0.082	14.0	19.0	10.0	8.5	0.6
0.10	15.0	19.0	10.0	9.0	0.6

400Vdc					
Cn (μF)	W max	H max	T max	P	d
0.0010	6.0	11.5	3.5	3.5	0.5
0.0012	6.0	11.5	3.5	3.5	0.5
0.0015	6.0	11.5	3.5	3.5	0.5
0.0018	6.0	11.5	3.5	3.5	0.5
0.0022	6.0	11.5	3.8	3.5	0.5
0.0027	7.0	13.0	4.0	4.0	0.5
0.0033	7.0	13.0	4.5	4.5	0.5
0.0039	7.5	13.5	4.5	4.5	0.5
0.0047	8.0	13.5	4.5	4.5	0.5
0.0056	8.0	13.5	5.0	5.5	0.5
0.0068	8.5	13.5	5.5	5.5	0.5
0.0082	9.0	15.5	5.5	5.5	0.5
0.010	9.5	15.5	6.0	5.5	0.5
0.012	10.5	15.5	6.5	6.0	0.5
0.015	10.5	15.5	6.5	6.5	0.5
0.018	11.5	17.5	7.0	7.0	0.6
0.022	11.5	17.5	7.0	7.0	0.6
0.027	12.5	18.5	7.5	7.5	0.6
0.033	12.5	18.5	7.5	7.5	0.6
0.039	14.0	19.0	8.0	8.5	0.6
0.047	14.5	19.0	8.5	9.0	0.6
0.056	14.5	21.5	8.5	9.0	0.6
0.068	14.5	22.5	9.0	9.5	0.6

CL11 series

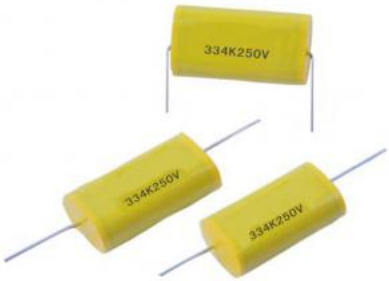
■ 外形尺寸 Dimensions (mm)

630Vdc					
Cn (μF)	W max	H max	T max	P	d
0.0010	6.5	12.5	4.0	4.0	0.5
0.0012	6.5	12.5	4.0	4.0	0.5
0.0015	6.5	12.5	4.0	4.0	0.5
0.0018	6.5	12.5	4.0	4.0	0.5
0.0022	7.0	12.5	4.5	4.5	0.5
0.0027	7.5	13.5	5.0	4.5	0.5
0.0033	7.5	13.5	5.0	4.5	0.5
0.0039	8.0	13.5	5.5	5.0	0.5
0.0047	8.5	13.5	5.5	5.0	0.5
0.0056	9.5	14.0	5.5	5.5	0.5
0.0068	10.0	14.0	6.0	6.0	0.5
0.0082	10.0	16.0	6.0	6.0	0.5
0.010	10.0	16.0	6.5	6.0	0.5
0.012	11.0	16.5	6.5	7.0	0.6
0.015	11.5	17.0	7.0	7.5	0.6
0.018	12.0	17.0	7.5	7.5	0.6
0.022	12.5	18.0	7.5	8.0	0.6

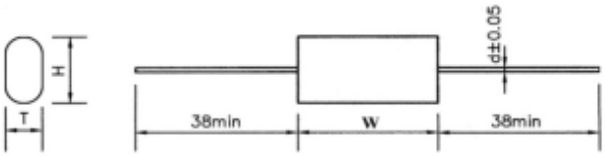
1200Vdc					
Cn (μF)	W max	H max	T max	P	d
0.0010	7.0	13.5	4.5	4.0	0.5
0.0012	7.0	13.5	4.5	4.0	0.5
0.0015	7.5	13.5	4.5	4.5	0.5
0.0018	7.5	13.5	4.5	4.5	0.5
0.0022	8.0	14.0	5.0	5.0	0.5
0.0027	8.0	14.0	5.5	5.0	0.5
0.0033	9.0	14.0	6.0	5.5	0.5
0.0039	9.5	15.0	6.0	6.0	0.5
0.0047	9.5	16.0	6.0	6.0	0.5
0.0056	10.0	16.5	6.5	6.0	0.5
0.0068	10.5	16.5	6.5	6.5	0.6
0.0082	11.5	17.5	7.5	7.5	0.6
0.010	12.0	17.5	7.5	7.5	0.6

CL20A series

轴向金属化聚酯膜电容器
Metallized polyester film capacitor(Axial-type)



■ 外形图 Outline Drawing



■ 特点
- 金属化聚酯膜，卷绕结构
- 体积小，重量轻，自愈性能优异
- 外包装聚酯胶带纸，两端灌注环氧树脂

■ Features
- Metallized polyester film, non-inductive wound construction
- Small size, light weight, excellent self-healing property
- Wrapped with polyester adhesive tape and ends filled

■ 主要用途
- 隔直，旁路和耦合（去耦）

■ Typical application
- Suitable for blocking, by-pass ,coupling, and decoupling

■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 7332 (IEC 60384-2)
气候类别 Climatic Category	55/105/21
额定温度 Rated temperature	85℃
工作温度范围 Operating temperature	-55℃~105℃ (+85℃ to +105℃: decreasing factor 1.25% per ℃ for VR(dc))
额定电压 Rated Voltage	50V,63V, 100V, 250V, 400V, 630V,1000V
电容量范围 Capacitance Range	0.010μF ~ 10.0μF
电容量偏差 Capacitance Tolerance	±5%(J), ±10%(K), ±20%(M)
耐电压 Voltage Proof	1.6UR (5s)
损耗角正切 Dissipation Factor	≤1.0% (20℃,1kHz)
绝缘电阻 Insulation Resistance	≥30 000MΩ, CR≤0.33μF ≥10 000s, CR>0.33μF (20℃,100V,1min)

最大脉冲爬升速率 Maximum Pulse Rise Time (dv/dt)
若实际工作电压 U 比额定电压 UR 低，电容器可工作在更高的 dv/dt 场合。这样 dv/dt 允许值为右表值乘 UR/U。

UR(V)	dv/dt (V/μs)				
	L=12.0	L=15.0	L=19.0	L=27.0	L=32.0
50/63	6	6	2	1.5	1
100	9	9	3	2	1
250	20	20	8	5	2.5
400	30	30	10	7	4
630	40	40	15	10	6
1000	50	50	25	12	8

CL20A series

产品代码说明

ORDER INFORMATION

KLS10	- CL20A	- XXX	- X	- XX	- XX
Pos.No.	Product Name:	CAPACITANCE	TOL.	Rated Voltage	Pitch
	Axial-type	IN 3DIGITS	K= ± 10%	100=100VDC	P5=5mm
	metallized	332=0.0033uF	J=± 5%	250=250VDC	P7.5=7.5mm
	polyester	104= 0.1uF		400=400VDC	
	film capacitor Flat	474= 0.47uF			
		105= 1uF			

CL20A series

■ 外形尺寸 Dimensions (mm)

50Vdc (30Vac)/63Vdc (40Vac) #					
Cn (μF)	T max	H max	L max	d	Part number
0.33	4.0	8.0	12.0	0.6	
0.39	4.5	8.5	12.0	0.6	
0.47	4.5	8.5	15.0	0.6	
0.56	4.5	8.5	15.0	0.6	
0.68	5.0	8.5	15.0	0.6	
0.82	5.5	9.5	15.0	0.6	
1.0	6.0	10.0	15.0	0.8	
1.2	6.0	10.0	15.0	0.8	
1.5	5.5	9.5	19.0	0.8	
1.8	5.5	9.5	19.0	0.8	
2.2	5.5	9.5	19.0	0.8	
2.7	6.0	10.5	19.0	0.8	
3.3	6.5	11.5	19.0	0.8	
3.9	6.5	13.5	19.0	0.8	
4.7	6.0	13.0	27.0	0.8	
5.6	6.5	13.5	27.0	0.8	
6.8	7.5	14.5	27.0	0.8	
8.2	8.5	15.5	27.0	0.8	
10	7.5	16.5	32.0	0.8	

100Vdc (63Vac)					
Cn (μF)	T max	H max	L max	d	Part number
0.068	4.0	8.0	12.0	0.6	
0.082	4.0	8.0	12.0	0.6	
0.10	4.0	8.0	12.0	0.6	
0.12	4.0	8.0	12.0	0.6	
0.15	4.0	8.0	12.0	0.6	
0.18	4.0	8.0	12.0	0.6	
0.22	4.0	8.0	12.0	0.6	
0.27	4.0	8.0	12.0	0.6	
0.33	4.5	8.5	15.0	0.6	
0.39	4.5	8.5	15.0	0.6	
0.47	5.0	9.0	15.0	0.6	
0.56	5.5	9.5	15.0	0.6	
0.68	5.5	10.0	15.0	0.8	
0.82	6.0	10.5	15.0	0.8	
1.0	5.5	9.5	19.0	0.8	
1.2	5.5	10.0	19.0	0.8	
1.5	6.5	11.0	19.0	0.8	
1.8	6.5	12.5	19.0	0.8	
2.2	7.0	12.5	19.0	0.8	
2.7	7.5	13.0	19.0	0.8	
3.3	7.0	14.0	27.0	0.8	
3.9	7.5	15.0	27.0	0.8	
4.7	7.0	14.0	32.0	0.8	
5.6	7.5	15.0	32.0	0.8	
6.8	8.5	16.0	32.0	0.8	
8.2	9.0	18.5	32.0	0.8	
10	10.5	20.0	32.0	0.8	

CL20A series

■ 外形尺寸 Dimensions (mm)

250Vdc(160Vac)				
Cn (μF)	T max	H max	L max	d
0.047	4.0	8.0	12.0	0.6
0.056	4.0	8.0	12.0	0.6
0.068	4.0	8.0	12.0	0.6
0.082	4.0	8.0	12.0	0.6
0.10	4.5	8.5	15.0	0.6
0.12	4.5	8.5	15.0	0.6
0.15	4.5	8.5	15.0	0.6
0.18	4.5	8.5	15.0	0.6
0.22	5.0	9.0	15.0	0.6
0.27	5.5	9.5	15.0	0.6
0.33	4.5	9.0	19.0	0.6
0.39	5.0	9.5	19.0	0.6
0.47	5.5	10.0	19.0	0.8
0.56	6.0	10.5	19.0	0.8
0.68	6.5	11.5	19.0	0.8
0.82	7.0	12.5	19.0	0.8
1.0	7.5	14.0	19.0	0.8
1.2	6.5	13.5	27.0	0.8
1.5	7.0	14.5	27.0	0.8
1.8	7.5	15.0	27.0	0.8
2.2	7.5	15.0	32.0	0.8
2.7	8.0	16.0	32.0	0.8
3.3	8.5	18.0	32.0	0.8
3.9	9.0	19.5	32.0	0.8
4.7	9.5	20.5	32.0	0.8
5.6	11.0	21.5	32.0	1.0
6.8	12.5	23.5	32.0	1.0
8.2	14.0	24.5	32.0	1.0
10	16.0	26.5	32.0	1.0

400Vdc (200Vac)				
Cn (μF)	T max	H max	L max	d
0.010	4.0	8.0	12.0	0.6
0.012	4.0	8.0	12.0	0.6
0.015	4.0	8.0	12.0	0.6
0.018	4.0	8.0	12.0	0.6
0.022	4.0	8.0	12.0	0.6
0.027	4.0	8.0	12.0	0.6
0.033	4.0	8.0	12.0	0.6
0.039	4.5	8.5	15.0	0.6
0.047	4.5	8.5	15.0	0.6
0.056	4.5	8.5	15.0	0.6
0.068	5.0	9.0	15.0	0.6
0.082	5.5	9.5	15.0	0.8
0.10	5.5	10.0	15.0	0.8
0.12	6.0	10.5	15.0	0.8
0.15	5.0	9.5	19.0	0.6
0.18	5.5	10.0	19.0	0.8
0.22	6.0	10.5	19.0	0.8
0.27	6.5	11.5	19.0	0.8
0.33	6.5	13.5	19.0	0.8
0.39	7.0	14.5	19.0	0.8
0.47	6.5	13.5	27.0	0.8
0.56	7.0	14.0	27.0	0.8
0.68	7.5	15.0	27.0	0.8
0.82	8.5	16.0	27.0	0.8
1.0	7.5	15.5	32.0	0.8
1.2	8.5	16.0	32.0	0.8
1.5	8.5	19.5	32.0	0.8
1.8	9.5	20.5	32.0	0.8
2.2	10.5	21.5	32.0	0.8
2.7	12.0	23.0	32.0	1.0
3.3	14.0	24.0	32.0	1.0

CL20A series

■ 外形尺寸 Dimensions (mm)

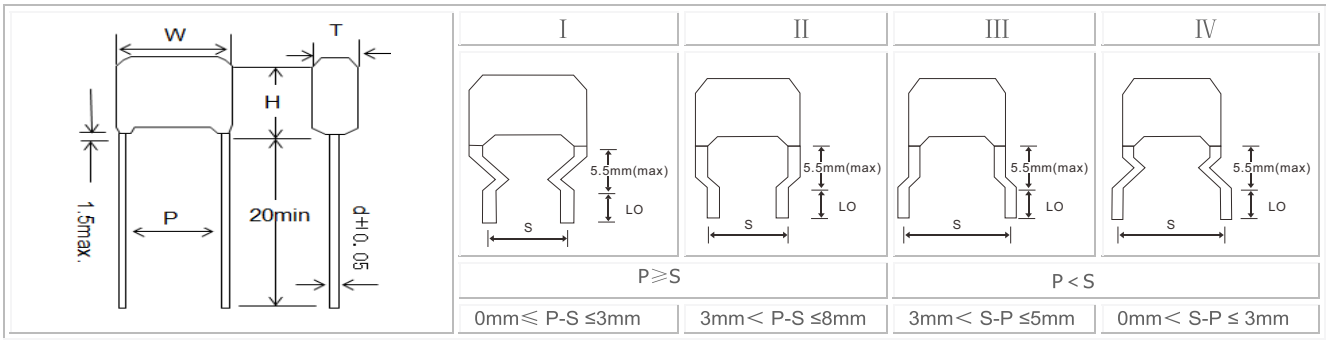
630Vdc(220Vac)@				
Cn (μF)	T max	H max	L max	d
0.0010	4.0	8.0	12.0	0.6
0.0012	4.0	8.0	12.0	0.6
0.0015	4.0	8.0	12.0	0.6
0.0018	4.0	8.0	12.0	0.6
0.0022	4.0	8.0	12.0	0.6
0.0027	4.0	8.0	12.0	0.6
0.0033	4.0	8.0	12.0	0.6
0.0039	4.0	8.0	12.0	0.6
0.0047	4.0	8.0	12.0	0.6
0.0056	4.0	8.0	12.0	0.6
0.0068	4.5	8.5	12.0	0.6
0.0082	4.5	8.5	12.0	0.6
0.010	4.5	8.5	15.0	0.6
0.012	4.5	8.5	15.0	0.6
0.015	5.0	9.0	15.0	0.6
0.018	5.5	10.0	15.0	0.8
0.022	5.5	10.0	15.0	0.8
0.027	5.5	10.5	15.0	0.8
0.033	5.0	9.0	19.0	0.8
0.039	5.0	9.0	19.0	0.8
0.047	5.5	10.0	19.0	0.8
0.056	5.5	10.5	19.0	0.8
0.068	6.0	11.0	19.0	0.8
0.082	6.5	11.5	19.0	0.8
0.10	5.5	12.5	27.0	0.8
0.12	6.0	13.0	27.0	0.8
0.15	6.5	13.5	27.0	0.8
0.18	7.0	14.0	27.0	0.8
0.22	7.5	15.0	27.0	0.8
0.27	8.5	16.0	27.0	0.8
0.33	7.0	17.5	32.0	0.8
0.39	7.5	18.5	32.0	0.8
0.47	8.0	19.0	32.0	0.8
0.56	9.0	20.0	32.0	0.8
0.68	10.0	21.0	32.0	0.8
0.82	11.0	22.0	32.0	1.0
1.0	12.0	23.0	32.0	1.0

1000Vdc (250Vac)				
Cn (μF)	T max	H max	L max	d
0.0010	4.0	8.0	12.0	0.6
0.0012	4.0	8.0	12.0	0.6
0.0015	4.0	8.0	12.0	0.6
0.0018	4.0	8.0	12.0	0.6
0.0022	4.0	8.0	12.0	0.6
0.0027	4.0	8.0	12.0	0.6
0.0033	4.0	8.0	12.0	0.6
0.0039	4.0	8.0	12.0	0.6
0.0047	4.5	8.5	15.0	0.6
0.0056	4.5	8.5	15.0	0.6
0.0068	4.5	8.5	15.0	0.6
0.0082	4.5	9.0	15.0	0.6
0.010	4.5	9.0	19.0	0.6
0.012	4.5	9.0	19.0	0.6
0.015	4.5	9.0	19.0	0.6
0.018	5.0	9.5	19.0	0.6
0.022	5.0	10.0	19.0	0.8
0.027	5.5	11.0	19.0	0.8
0.033	5.0	10.5	27.0	0.6
0.039	5.5	11.0	27.0	0.6
0.047	5.5	13.0	27.0	0.8
0.056	6.0	13.5	27.0	0.8
0.068	6.5	14.0	27.0	0.8
0.082	7.0	14.5	27.0	0.8
0.10	8.0	15.5	27.0	0.8
0.12	8.5	17.5	27.0	0.8
0.15	7.5	18.5	32.0	0.8
0.18	8.0	19.0	32.0	0.8
0.22	9.0	20.0	32.0	0.8
0.27	10.0	21.0	32.0	0.8
0.33	11.5	22.5	32.0	0.8
0.39	12.5	23.5	32.0	0.8
0.47	14.0	24.5	32.0	0.8

CBB21 series

金属化聚丙烯膜电容器（浸渍型）
Metallized polypropylene film capacitor(dipped)

■ 外形图 Outline Drawing



■ 特点

- 金属化聚丙烯
- 高频损耗小
- 内部升温小
- 阻燃环氧粉末包封(UL94/V-0)

■ 主要用途

- 广泛应用于高频、直流、交流和脉冲电路中
- 适用于要求体积小，性能优异的彩色 S 校正电路
- 专为大屏幕显示器及彩电的 S 校正电路设计
- 适用于各种高频、大电流场合

■ Features

- Metallized polypropylene structure
- Low loss at high frequency
- Small inherent temperature rise
- Flame retardant epoxy resin powder coating (UL94/V-0)

■ Typical application

- Widely used in high frequency, DC,AC and pulse circuits
- Providing optimum performance with small size in S-correction circuits for colour TV set
- Specially designed for S-correction circuits of large screen monitor and colour TV
- Suitable for the situation where applies high frequency and high current pulse

■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 10190 (IEC 60384-16)				
气候类别 Climatic Category	40/105/21				
额定温度 Rated temperature	85℃				
工作温度范围 Operating temperature	-40℃~105℃ (+85℃ to +105℃: decreasing factor 1.25% per ℃ for VR(dc))				
额定电压 Rated Voltage	100V/160V, 250V, 400V, 630V, 1000V/1250V				
电容量范围 Capacitance Range	0.0010 ~ 3.3μF				
电容量偏差 Capacitance Tolerance	±5%(J), ±10% (K), ±20% (M)				
耐电压 Voltage Proof	1.6UR (5s)				
损耗角正切 Dissipation Factor	≤10×10-4(20℃, 1kHz)				
绝缘电阻 Insulation Resistance	≥50 000MΩ, CR≤0.33μF ≥15 000s, CR>0.33μF (20℃,100V,1min)				
最大脉冲爬升速率 Maximum Pulse Rise Time (dv/dt) 若实际工作电压 U 比额定电压 UR 低，电容器可工作在更高的 dv/dt 场合。这样 dv/dt 允许值为右表值乘 UR/U。	UR(V)	dv/dt (V/μs)			
		P=7.5	P=10	P=15	P=22
	100/160	660	560	310	130
	200/250	660	560	310	130
	400	900	780	600	300
	630	1500	1200	900	400
	1000	2500	2200	--	--

CBB21 series

产品代码说明

ORDER INFORMATION

KLS10	- CBB21	- XXX	- X	- XX	- P10
Pos.No.	Product Name: Metallized polypropylene capacitor(Dipped)	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% J=± 5%	Rated Voltage 100=100VDC 250=250VDC	Pitch P10=10mm P15=15mm

CBB21 series

■ 外形尺寸 Dimensions (mm)

100Vdc (63Vac) /250Vdc(160Vac)#					
Cn (μF)	W max	H max	T max	P	d
0.010	9.5	7.5	4.5	7.5	0.6
0.011	9.5	7.5	4.5	7.5	0.6
0.012	9.5	7.5	4.5	7.5	0.6
0.013	9.5	7.5	4.5	7.5	0.6
0.015	9.5	7.5	4.5	7.5	0.6
0.016	9.5	7.9	4.3	7.5	0.6
0.018	9.5	8.1	4.4	7.5	0.6
0.020	9.5	8.2	4.6	7.5	0.6
0.022	9.5	8.4	4.8	7.5	0.6
0.024	9.5	8.6	4.9	7.5	0.6
0.027	9.5	7.6	4.0	7.5	0.6
0.030	9.5	7.7	4.1	7.5	0.6
0.033	9.5	7.9	4.2	7.5	0.6
0.036	9.5	8.0	4.4	7.5	0.6
0.039	9.5	8.1	4.5	7.5	0.6
0.043	9.5	8.3	4.7	7.5	0.6
0.047	9.5	8.5	4.8	7.5	0.6
0.051	12.5	8.0	4.3	10.0	0.6
0.056	12.5	8.1	4.5	10.0	0.6
0.062	12.5	8.3	4.6	10.0	0.6
0.068	12.5	8.5	4.8	10.0	0.6
0.075	12.5	8.6	5.0	10.0	0.6
0.082	12.5	8.8	5.2	10.0	0.6
0.091	12.5	8.1	4.5	10.0	0.6
0.10	12.5	8.3	4.7	10.0	0.6
0.11	12.5	8.5	4.8	10.0	0.6
0.12	12.5	8.6	5.0	10.0	0.6
0.13	12.5	8.6	4.9	10.0	0.6
0.15	12.5	8.9	5.2	10.0	0.6
0.16	12.5	9.0	5.4	10.0	0.6
0.18	12.5	9.3	5.6	10.0	0.6
0.20	12.5	9.5	5.9	10.0	0.6
0.22	12.5	9.8	6.1	10.0	0.6
0.24	12.5	10.0	6.4	10.0	0.6
0.27	17.5	10.5	5.3	15.0	0.6
0.30	17.5	10.8	5.5	15.0	0.6
0.33	17.5	11.0	5.8	15.0	0.6
0.36	17.5	11.2	6.0	15.0	0.6
0.39	17.5	11.4	6.2	15.0	0.6
0.43	17.5	11.6	6.4	15.0	0.6
0.47	17.5	11.9	6.6	15.0	0.6
0.51	17.5	12.1	6.9	15.0	0.6
0.56	17.5	12.4	7.2	15.0	0.6
0.62	17.5	12.7	7.5	15.0	0.8
0.68	17.5	13.5	7.8	15.0	0.8
0.75	17.5	13.9	8.2	15.0	0.8
0.82	17.5	14.2	8.5	15.0	0.8
0.91	17.5	14.9	8.9	15.0	0.8
1.0	17.5	15.0	9.3	15.0	0.8
1.1	17.5	15.5	9.7	15.0	0.8
1.2	25.0	14.8	7.5	22.0	0.8
1.3	25.0	15.1	7.8	22.0	0.8
1.5	25.0	15.6	8.3	22.0	0.8
1.6	25.0	15.9	8.6	22.0	0.8
1.8	25.0	16.4	9.1	22.0	0.8
2.0	25.0	16.9	10.1	22.0	0.8
2.2	25.0	18.3	9.9	22.0	0.8
2.4	25.0	18.7	10.4	22.0	0.8
2.7	25.0	19.3	10.9	22.0	0.8
3.0	25.0	19.9	11.6	22.0	0.8
3.3	25.0	20.5	12.1	22.0	0.8

400Vdc (200Vac)					
Cn (μF)	W max	H max	T max	P	d
0.010	9.5	7.8	4.1	7.5	0.6
0.011	9.5	7.9	4.2	7.5	0.6
0.012	9.5	8.0	4.4	7.5	0.6
0.013	9.5	8.1	4.5	7.5	0.6
0.015	9.5	8.4	4.7	7.5	0.6
0.016	9.5	8.5	4.8	7.5	0.6
0.018	9.5	8.7	5.0	7.5	0.6
0.020	9.5	8.9	5.3	7.5	0.6
0.022	9.5	9.1	5.5	7.5	0.6
0.024	12.5	8.0	4.3	10.0	0.6
0.027	12.5	8.1	4.5	10.0	0.6
0.030	12.5	8.3	4.7	10.0	0.6
0.033	12.5	8.5	4.8	10.0	0.6
0.036	12.5	8.6	5.0	10.0	0.6
0.039	12.5	8.7	5.0	10.0	0.6
0.043	12.5	8.8	5.2	10.0	0.6
0.047	12.5	9.0	5.4	10.0	0.6
0.051	12.5	9.2	5.6	10.0	0.6
0.056	12.5	9.4	5.8	10.0	0.6
0.062	12.5	8.9	5.2	10.0	0.6
0.068	12.5	9.1	5.4	10.0	0.6
0.075	12.5	9.3	5.7	10.0	0.6
0.082	12.5	9.5	5.9	10.0	0.6
0.091	12.5	9.8	6.1	10.0	0.6
0.10	12.5	10.0	6.4	10.0	0.6
0.11	12.5	10.3	6.6	10.0	0.6
0.12	17.5	10.7	5.5	15.0	0.6
0.13	17.5	10.9	5.7	15.0	0.6
0.15	17.5	11.2	6.0	15.0	0.6
0.16	17.5	11.3	6.1	15.0	0.6
0.18	17.5	11.6	6.4	15.0	0.6
0.20	17.5	11.9	6.7	15.0	0.6
0.22	17.5	12.2	7.0	15.0	0.6
0.24	17.5	12.5	7.3	15.0	0.6
0.27	17.5	12.9	7.6	15.0	0.8
0.30	17.5	13.7	8.0	15.0	0.8
0.33	17.5	14.1	8.4	15.0	0.8
0.36	17.5	14.4	8.7	15.0	0.8
0.39	17.5	14.7	9.0	15.0	0.8
0.43	17.5	15.1	9.4	15.0	0.8
0.47	17.5	15.5	9.8	15.0	0.8
0.51	25.0	14.8	7.6	22.0	0.8
0.56	25.0	15.2	7.9	22.0	0.8
0.62	25.0	15.6	8.3	22.0	0.8
0.68	25.0	15.9	9.1	22.0	0.8
0.75	25.0	16.3	9.6	22.0	0.8
0.82	25.0	16.7	10.0	22.0	0.8
0.91	25.0	17.2	10.5	22.0	0.8
1.0	25.0	17.7	10.9	22.0	0.8

CBB21 series

■ 外形尺寸 Dimensions (mm)

630Vdc (220Vac) @					
Cn (μF)	W max	H max	T max	P	d
0.0010	9.5	7.9	4.3	7.5	0.6
0.0011	9.5	8.1	4.4	7.5	0.6
0.0012	9.5	8.2	4.5	7.5	0.6
0.0013	9.5	8.3	4.7	7.5	0.6
0.0015	9.5	8.1	4.4	7.5	0.6
0.0016	9.5	8.2	4.5	7.5	0.6
0.0018	9.5	7.8	4.2	7.5	0.6
0.0020	9.5	8.0	4.3	7.5	0.6
0.0022	9.5	8.1	4.5	7.5	0.6
0.0024	9.5	8.0	4.3	7.5	0.6
0.0027	9.5	8.1	4.5	7.5	0.6
0.0030	9.5	8.3	4.7	7.5	0.6
0.0033	9.5	8.5	4.8	7.5	0.6
0.0036	9.5	8.0	4.4	7.5	0.6
0.0039	9.5	8.2	4.5	7.5	0.6
0.0043	9.5	8.3	4.7	7.5	0.6
0.0047	9.5	8.5	4.9	7.5	0.6
0.0051	9.5	8.6	5.0	7.5	0.6
0.0056	9.5	8.8	5.2	7.5	0.6
0.0062	9.5	9.0	5.4	7.5	0.6
0.0068	12.5	8.0	4.4	10.0	0.6
0.0075	12.5	8.2	4.5	10.0	0.6
0.0082	12.5	8.3	4.7	10.0	0.6
0.0091	12.5	8.5	4.9	10.0	0.6
0.010	12.5	7.8	4.1	10.0.	0.6
0.011	12.5	7.9	4.2	10.0	0.6
0.012	12.5	8.0	4.4	10.0	0.6
0.013	12.5	8.1	4.5	10.0	0.6
0.015	12.5	8.3	4.7	10.0	0.6
0.016	12.5	8.5	4.8	10.0	0.6
0.018	12.5	8.6	4.9	10.0	0.6
0.020	12.5	8.8	5.1	10.0	0.6
0.022	12.5	8.9	5.3	10.0	0.6
0.024	12.5	9.1	5.5	10.0	0.6
0.027	12.5	9.4	5.7	10.0	0.6
0.030	12.5	9.6	6.0	10.0	0.6
0.033	12.5	9.9	6.2	10.0	0.6
0.036	12.5	10.1	6.4	10.0	0.6
0.039	12.5	10.3	6.7	10.0	0.6
0.043	17.5	10.7	5.4	15.0	0.6
0.047	17.5	10.8	5.6	15.0	0.6
0.051	17.5	11.0	5.8	15.0	0.6
0.056	17.5	11.2	6.0	15.0	0.6
0.062	17.5	11.4	6.2	15.0	0.6
0.068	17.5	11.7	6.5	15.0	0.6
0.075	17.5	11.9	6.7	15.0	0.6
0.082	17.5	12.2	7.0	15.0	0.6
0.091	17.5	12.5	7.3	15.0	0.6
0.10	17.5	12.8	7.6	15.0	0.8
0.11	17.5	13.6	7.9	15.0	0.8
0.12	17.5	13.9	8.2	15.0	0.8
0.13	17.5	14.2	8.5	15.0	0.8
0.15	17.5	14.7	9.0	15.0	0.8
0.16	17.5	15.0	9.3	15.0	0.8
0.18	17.5	15.5	9.8	15.0	0.8
0.20	17.5	16.0	10.3	15.0	0.8
0.22	25.0	15.2	7.9	22.0	0.8
0.24	25.0	15.5	8.2	22.0	0.8
0.27	25.0	15.9	9.2	22.0	0.8
0.30	25.0	16.4	9.6	22.0	0.8
0.33	25.0	16.8	10.0	22.0	0.8

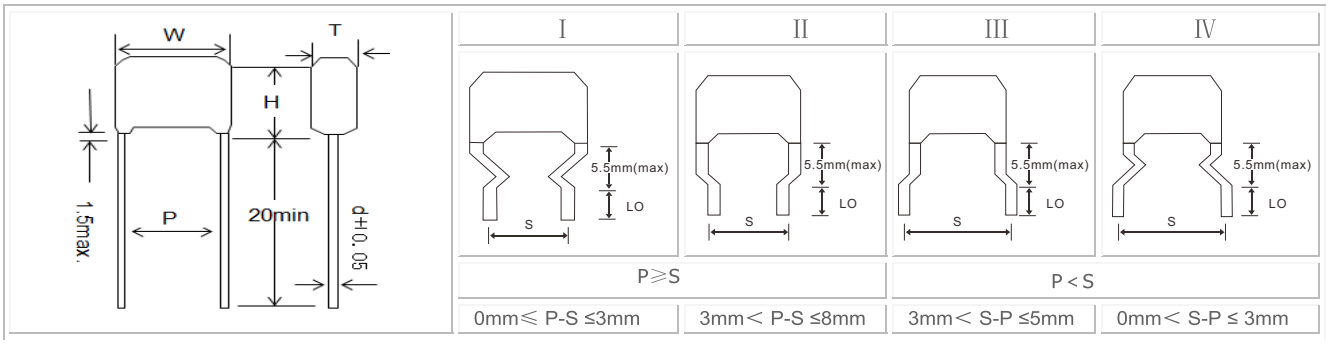
630Vdc (220Vac) @					
Cn (μF)	W max	H max	T max	P	d
0.36	25.0	17.2	10.4	22.0	0.8
0.39	25.0	17.6	10.8	22.0	0.8
0.43	25.0	18.1	11.3	22.0	0.8
0.47	25.0	18.6	11.8	22.0	0.8
0.51	25.0	19.0	12.2	22.0	0.8
0.56	25.0	19.6	12.8	22.0	0.8

1 000/1 250Vdc# (400Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0010	9.5	7.9	4.3	7.5	0.6
0.0011	9.5	8.1	4.4	7.5	0.6
0.0012	9.5	8.2	4.5	7.5	0.6
0.0013	9.5	8.3	4.7	7.5	0.6
0.0015	9.5	8.1	4.4	7.5	0.6
0.0016	9.5	8.2	4.5	7.5	0.6
0.0018	9.5	7.8	4.2	7.5	0.6
0.0020	9.5	8.0	4.3	7.5	0.6
0.0022	9.5	8.1	4.5	7.5	0.6
0.0024	9.5	7.7	4.0	7.5	0.6
0.0027	9.5	7.8	4.2	7.5	0.6
0.0030	9.5	8.0	4.4	7.5	0.6
0.0033	9.5	8.2	4.5	7.5	0.6
0.0036	9.5	8.3	4.7	7.5	0.6
0.0039	9.5	8.4	4.8	7.5	0.6
0.0043	9.5	8.2	4.5	7.5	0.6
0.0047	9.5	8.3	4.7	7.5	0.6
0.0051	9.5	8.5	4.8	7.5	0.6
0.0056	9.5	8.7	5.0	7.5	0.6
0.0062	9.5	8.7	5.0	7.5	0.6
0.0068	12.5	8.9	5.2	10.0	0.6
0.0075	12.5	9.1	5.4	10.0	0.6
0.0082	12.5	9.3	5.6	10.0	0.6
0.0091	12.5	9.5	5.9	10.0	0.6

CBB21S series

金属化聚丙烯膜电容器（浸渍型）
Metallized polypropylene film capacitor(dipped)

■ 外形图 Outline Drawing



■ 特点

- 金属化聚丙烯结构
- 良好的电性能
- 阻燃环氧粉末包封(UL94/V-0)

■ Features

- Metallized polypropylene structure
- excellent electric property
- Flame retardant epoxy resin powder coating (UL94/V-0)

■ 主要用途

- 用于开关电源、电子镇流器和变频器等中间电路隔直流滤波（如：DC-Link/PFC）

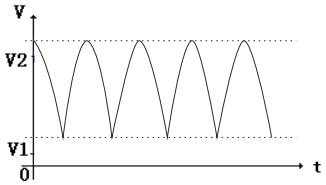
■ Typical application

- As intermediate circuit capacitors for SMPS、Electronic Ballast、inverter(I.e DC-Link and P.F.C).

The series product is only recommended to use in DC-filter or DC-blocking circuits. It means the voltage applied to the capacitors must be unidirectional ripple voltage. The typical voltage curve is as follows reference. If you have any questions for this note, please feel free to contact with our technical engineer.

Here: $V_1 \geq 0$, $V_2 \leq U_R$, $Irms = 2\pi f \times C \times (V_2 - V_1) \div \sqrt{2}$

U_R is the rated voltage of the capacitor



■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 10190 (IEC 60384-16)				
气候类别 Climatic Category	40/105/21				
额定温度 Rated temperature	85℃				
工作温度范围 Operating temperature	-40℃~105℃ (+85℃ to +105℃: decreasing factor 1.25% per ℃ for VR(dc))				
额定电压 Rated Voltage	450V, 520V,630V				
电容量范围 Capacitance Range	0.027 ~ 10.0μF				
电容量偏差 Capacitance Tolerance	±5%(J), ±10% (K), ±20% (M)				
耐电压 Voltage Proof	1.6UR (5s)				
损耗角正切 Dissipation Factor	≤10×10-4 (20℃, 1kHz)				
绝缘电阻 Insulation Resistance	≥75000MΩ, CR≤0.33μF ≥30 000s, CR>0.33μF (20℃,100V,1min)				
最大脉冲爬升速率 Maximum Pulse Rise Time (dv/dt) 若实际工作电压 U 比额定电压 UR 低，电容器可工作在更高的 dv/dt 场合。这样 dv/dt 允许值为右表值乘 UR/U。	UR(V)	dv/dt (V/μs)			
		P=10.0	P=15.0	P=22.0	P=27.0
	450	300	200	100	80
	520	350	220	150	100
	630	400	300	180	120

CBB21S series

产品代码说明

ORDER INFORMATION

KLS10	-CBB21X	- XXX	- X	- XX	- XX
Pos.No.	Product Name: Metallized polypropylene capacitor(Dipped)	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% J=± 5%	Rated Voltage 100=100VDC 250=250VDC 400=400VDC	Pitch P10=10mm P15=15mm

CBB21S series

■ 外形尺寸 Dimensions (mm)

450Vdc					
Cn (μF)	W max	H max	T max	P	d
0.047	12.5	7.7	4.1	10.0	0.6
0.056	12.5	7.9	4.3	10.0	0.6
0.068	12.5	8.8	4.4	10.0	0.6
0.082	12.5	9.1	4.7	10.0	0.6
0.10	12.5	9.5	5.3	10.0	0.6
0.12	12.5	10.4	5.5	10.0	0.6
0.15	12.5	10.9	6.0	10.0	0.6
0.18	12.5	11.4	6.4	10.0	0.6
0.15	17.5	9.7	5.1	15.0	0.6
0.18	17.5	10.6	5.2	15.0	0.6
0.22	17.5	11.0	5.6	15.0	0.6
0.27	17.5	11.5	6.0	15.0	0.6
0.33	17.5	12.0	6.6	15.0	0.6
0.39	17.5	12.5	7.1	15.0	0.6
0.47	17.5	14.6	7.1	15.0	0.6
0.56	17.5	15.2	7.7	15.0	0.8
0.68	17.5	15.9	8.5	15.0	0.8
0.82	17.5	16.8	9.3	15.0	0.8
1.0	17.5	17.7	10.7	15.0	0.8
1.2	17.5	18.7	11.7	15.0	0.8
0.27	25.0	10.4	5.0	22.0	0.6
0.33	25.0	10.8	5.4	22.0	0.6
0.39	25.0	11.2	5.7	22.0	0.6
0.47	25.0	11.6	6.2	22.0	0.6
0.56	25.0	13.6	6.2	22.0	0.6
0.68	25.0	14.2	6.7	22.0	0.6
0.82	25.0	15.9	6.8	22.0	0.6
1.0	25.0	16.5	8.0	22.0	0.8
1.2	25.0	17.3	8.7	22.0	0.8
1.5	25.0	18.2	9.7	22.0	0.8
1.8	25.0	19.1	10.6	22.0	0.8
2.2	25.0	20.2	11.7	22.0	0.8
2.7	25.0	21.5	12.9	22.0	0.8
0.68	30.0	13.5	6.0	27.0	0.6
0.82	30.0	14.0	6.6	27.0	0.6
1.0	30.0	14.7	7.7	27.0	0.8
1.2	30.0	16.4	7.8	27.0	0.8
1.5	30.0	17.2	8.7	27.0	0.8
1.8	30.0	18.0	9.4	27.0	0.8
2.2	30.0	20.0	9.8	27.0	0.8
2.7	30.0	23.2	9.9	27.0	0.8
3.3	30.0	24.3	11.0	27.0	0.8
3.9	30.0	25.3	12.0	27.0	0.8
4.7	30.0	26.6	13.3	27.0	0.8
5.6	30.0	28.0	14.7	27.0	0.8
6.8	30.0	29.6	16.4	27.0	0.8
8.2	30.0	31.4	18.2	27.0	0.8
10.0	30.0	33.5	20.3	27.0	0.8

520Vdc					
Cn (μF)	W max	H max	T max	P	d
0.039	12.5	7.8	4.1	10.0	0.6
0.047	12.5	8.0	4.4	10.0	0.6
0.056	12.5	8.8	4.4	10.0	0.6
0.068	12.5	9.2	4.7	10.0	0.6
0.082	12.5	9.5	5.1	10.0	0.6
0.1	12.5	10.5	5.6	10.0	0.6
0.12	12.5	10.9	6.0	10.0	0.6
0.15	12.5	11.5	6.6	10.0	0.6
0.18	12.5	12.0	7.1	10.0	0.6
0.1	17.5	9.4	4.8	15.0	0.6
0.12	17.5	9.7	5.1	15.0	0.6
0.15	17.5	10.1	5.5	15.0	0.6
0.18	17.5	10.5	5.9	15.0	0.6
0.22	17.5	11.0	6.4	15.0	0.6
0.27	17.5	12.1	6.6	15.0	0.6
0.33	17.5	12.6	7.2	15.0	0.6
0.39	17.5	14.7	7.2	15.0	0.6
0.47	17.5	15.4	7.9	15.0	0.8
0.56	17.5	16.1	8.6	15.0	0.8
0.68	17.5	16.9	9.4	15.0	0.8
0.82	17.5	17.8	10.3	15.0	0.8
1.0	17.5	18.9	11.9	15.0	0.8
0.33	25.0	11.3	5.9	22.0	0.6
0.39	25.0	11.7	6.3	22.0	0.6
0.47	25.0	13.8	6.3	22.0	0.6
0.56	25.0	14.3	6.8	22.0	0.6
0.68	25.0	16.0	6.9	22.0	0.6
0.82	25.0	16.6	7.6	22.0	0.8
1.0	25.0	17.4	8.9	22.0	0.8
1.2	25.0	18.2	9.7	22.0	0.8
1.5	25.0	20.3	10.2	22.0	0.8
1.8	25.0	21.3	11.2	22.0	0.8
2.2	25.0	22.5	12.4	22.0	0.8
0.47	30.0	11.6	6.2	27.0	0.6
0.56	30.0	12.1	6.6	27.0	0.6
0.68	30.0	12.6	7.2	27.0	0.6
0.82	30.0	13.8	7.8	27.0	0.8
1.0	30.0	14.5	9.1	27.0	0.8
1.2	30.0	16.2	9.2	27.0	0.8
1.5	30.0	17.2	10.2	27.0	0.8
1.8	30.0	19.0	10.5	27.0	0.8
2.2	30.0	21.1	11.0	27.0	0.8
2.7	30.0	24.4	11.1	27.0	0.8
3.3	30.0	25.6	12.4	27.0	0.8
3.9	30.0	26.8	13.6	27.0	0.8
4.7	30.0	28.3	15.0	27.0	0.8
5.6	30.0	29.8	16.6	27.0	0.8
6.8	30.0	31.7	18.4	27.0	0.8
8.2	30.0	33.7	20.5	27.0	0.8

CBB21S series

■ 外形尺寸 Dimensions (mm)

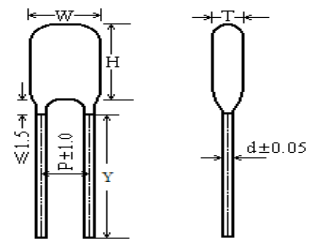
630Vdc					
Cn (μF)	W max	H max	T max	P	d
0.027	12.5	7.8	4.2	10.0	0.6
0.033	12.5	8.1	4.5	10.0	0.6
0.039	12.5	8.9	4.5	10.0	0.6
0.047	12.5	9.2	4.8	10.0	0.6
0.056	12.5	9.6	5.1	10.0	0.6
0.068	12.5	10.5	5.3	10.0	0.6
0.082	12.5	10.9	5.7	10.0	0.6
0.10	12.5	11.4	6.5	10.0	0.6
0.12	12.5	12.0	7.0	10.0	0.6
0.15	12.5	12.7	7.8	10.0	0.6
0.068	17.5	9.4	4.5	15.0	0.6
0.082	17.5	10.7	5.3	15.0	0.6
0.10	17.5	10.7	5.3	15.0	0.6
0.12	17.5	11.0	5.6	15.0	0.6
0.15	17.5	11.6	6.1	15.0	0.6
0.18	17.5	12.0	6.6	15.0	0.6
0.22	17.5	14.1	6.7	15.0	0.6
0.27	17.5	14.8	7.3	15.0	0.6
0.33	17.5	15.5	8.0	15.0	0.8
0.39	17.5	16.1	8.7	15.0	0.8
0.47	17.5	17.0	9.5	15.0	0.8
0.56	17.5	17.8	10.3	15.0	0.8
0.68	17.5	18.9	11.4	15.0	0.8
0.82	17.5	20.9	11.8	15.0	0.8
1.0	17.8	22.1	13.6	15.0	0.8
0.22	25.0	11.3	5.9	22.0	0.6
0.27	25.0	11.8	6.4	22.0	0.6
0.33	25.0	12.3	6.9	22.0	0.6

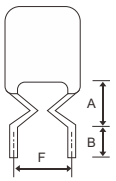
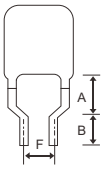
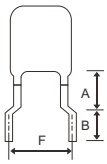
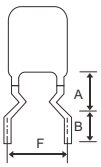
630Vdc					
Cn (μF)	W max	H max	T max	P	d
0.39	25.0	14.4	6.9	22.0	0.6
0.47	25.0	15.0	7.5	22.0	0.8
0.56	25.0	17.4	8.3	22.0	0.8
0.68	25.0	18.2	9.2	22.0	0.8
0.82	25.0	18.2	9.2	22.0	0.8
1.0	25.0	19.2	10.6	22.0	0.8
1.2	25.0	20.2	11.6	22.0	0.8
1.5	25.0	22.5	12.4	22.0	0.8
1.8	25.0	23.7	13.6	22.0	0.8
2.2	25.0	25.2	15.1	22.0	0.8
0.27	30.0	11.2	5.8	27.0	0.6
0.33	30.0	11.7	6.3	27.0	0.6
0.39	30.0	12.1	6.7	27.0	0.6
0.47	30.0	12.7	7.3	27.0	0.6
0.56	30.0	13.8	7.9	27.0	0.8
0.68	30.0	15.5	8.0	27.0	0.8
0.82	30.0	16.2	8.7	27.0	0.8
1.0	30.0	18.0	9.7	27.0	0.8
1.2	30.0	19.9	9.8	27.0	0.8
1.5	30.0	21.1	11.0	27.0	0.8
1.8	30.0	24.2	10.9	27.0	0.8
2.2	30.0	25.5	12.2	27.0	0.8
2.7	30.0	26.9	13.6	27.0	0.8
3.3	30.0	28.5	15.2	27.0	0.8
3.9	30.0	29.9	16.7	27.0	0.8
4.7	30.0	31.7	18.5	27.0	0.8
5.6	30.0	33.6	20.3	27.0	0.8

CBB11 series

有感箔式聚丙烯膜电容器
polypropylene film/foil capacitor (inductive)

■ 外形图 Outline Drawing



I	II	III	IV
			
P≥F		P < SF	
0mm≤ P-F ≤3mm	3mm< P-F ≤8mm	3mm< F-P ≤5mm	0mm< F-P ≤ 3mm

■ 特点
- 聚丙烯膜铝箔有感卷绕结构
- 优异的频率和温度特性
- 环氧料真空包封，提高产品的机械强度，耐湿性

■ Features
- Film/foil capacitor inductive wound dipped
- Excellent frequency and temperature characteristics
- Epoxy resin vacuum-dipped enhances the mechanical strength, humidity resistance

■ 主要用途
- 适用于定时，振荡电路等

■ Typical application
- Suitable for timing circuit and oscillation circuit

■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 10188 (IEC 60384-13)
气候类别 Climatic Category	40/105/21
额定温度 Rated temperature	85℃
工作温度范围 Operating temperature	-40℃~105℃ (+85℃ to +105℃: decreasing factor 1.25% per ℃ for VR(dc))
额定电压 Rated Voltage	50/63V ,100V
电容量范围 Capacitance Range	0.0010 ~ 0.1μF
电容量偏差 Capacitance Tolerance	±2%(G), ±5%(J), ±10% (K)
耐电压 Voltage Proof	2.0UR (5s)
损耗角正切 Dissipation Factor	≤10×10-4(20℃, 1kHz)
绝缘电阻 Insulation Resistance	≥50 000MΩ, CR ≤0.1μF (20℃,100V,1min)

CBB11 series

产品代码说明

ORDER INFORMATION

KLS10	- CBB11 -	XXX	- X -	XX	- XX
Pos.No.	Product Name: Inductive Polypropylene Film/Foil Capacitor (Dipped)	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% J=± 5%	Rated Voltage 100=100VDC 250=250VDC	Pitch P10=10mm P15=15mm

CBB11 series

■ 外形尺寸 Dimensions (mm)

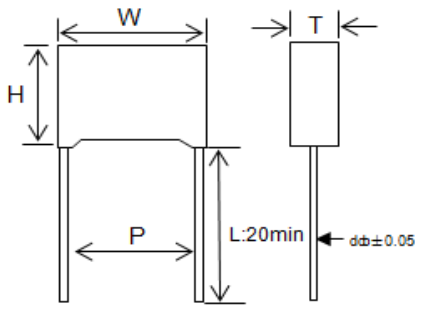
50/63/100Vdc#					
Cn (μF)	W max	H max	T max	P	d
0.0010	6.5	11.5	4.0	3.5	0.5
0.0012	6.5	11.5	4.0	3.5	0.5
0.0015	6.5	11.5	4.0	3.5	0.5
0.0018	6.5	11.5	4.0	3.5	0.5
0.0022	6.5	11.5	4.5	3.5	0.5
0.0027	6.5	11.5	4.5	3.5	0.5
0.0033	6.5	11.5	4.5	3.5	0.5
0.0039	7.0	11.5	4.5	4.0	0.5
0.0047	7.0	11.5	4.5	4.0	0.5
0.0056	7.0	11.5	5.0	4.0	0.5
0.0068	7.0	11.5	5.0	4.0	0.5
0.0082	8.0	11.5	5.0	4.5	0.5
0.010	8.0	11.5	5.0	4.5	0.5

50/63/100Vdc#					
Cn (μF)	W max	H max	T max	P	d
0.012	8.0	12.0	5.0	4.5	0.5
0.015	8.0	12.5	5.0	5.0	0.5
0.018	8.5	12.5	5.0	5.0	0.5
0.022	8.5	12.5	5.0	5.0	0.5
0.027	9.0	13.0	5.5	5.5	0.5
0.033	9.0	13.0	5.5	5.5	0.5
0.039	10.0	14.0	6.0	6.0	0.5
0.047	10.0	14.0	6.0	6.5	0.5
0.056	11.0	14.0	6.5	7.0	0.5
0.068	11.5	16.0	6.5	7.0	0.5
0.082	12.0	16.0	7.5	8.0	0.5
0.10	12.0	16.0	7.5	8.0	0.5

MKP64 series

金属化聚丙烯膜抗干扰电容器（X1 类, 330Vac）
Metallized polypropylene film interference suppression capacitor(class X1,310Vac)

■ 外形图 Outline Drawing



■ 特点

- 金属聚丙烯膜
- 能承受过压冲击
- 优异的阻燃性能
- 广泛用于电源跨线电路等抗干扰场合
  （不用于与电源串联的场合）

■ Features

- Metallized polypropylene structure
- Withstanding overvoltage stressing
- S Excellent active and passive flame resistant abilities
- Widely used in across-the-line, interference suppression circuit, etc.（Not for use in series with the mains）

■ 技术要求 Specifications

电容器类别 class	X1 类		
气候类别/阻燃等级 Climatic Category/Passive Flammability Class	40/110/56/B		
工作温度范围 Operating temperature	-40℃ ~ +110℃		
额定电压 Rated Voltage	330Vac/760Vdc , 50/60Hz		
适应电压场合 Mains voltage applied to	适用于电源电压不超过 250Vac 50/60Hz 的场合 Mains voltage can't be higher than 250Vac 50/60Hz		
电容量范围 Capacitance Range	0.010 μF ~ 15.0μF		
电容量偏差 Capacitance Tolerance	±10% (K), ±20% (M)		
耐电压 Voltage Proof	引线之间 Between Terminals:	2 500Vdc(2s)	
	极壳之间 Between Terminals To Case:	2 160Vac (1min)	
损耗角正切 Dissipation Factor	0.010μF<C_N≤0.47μF	≤15×10^{-4}(1kHz,20℃)	≤30×10^{-4}(10kHz,20℃)
	0.47μF<C_N≤1.0μF	≤20×10^{-4}(1kHz,20℃)	≤40×10^{-4}(10kHz,20℃)
	1.0μF<C_N≤15.0μF	≤30×10^{-4}(1kHz,20℃)	----------
绝缘电阻 Insulation Resistance	R ≥ 15 000MΩ , C_N ≤ 0.33μF RC_N ≥ 5 000s, C_N > 0.33μF	(20℃, 100V ,1min)	

MKP64 series

产品代码说明

ORDER INFORMATION

KLS10	- X1	- XXX	- X	- XX	- XX
Pos.No.	Product Name: X1 Capacitor	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% M=± 20%	Rated Voltage 250=250VDC 275=275VDC 310=310VDC	Pitch P15=15mm P20=20mm

MKP64 series

■ 外形尺寸 Dimensions (mm)

330Vac					
Cn (μF)	W max	H max	T max	P	d
0.010	13.0	9.0	4.0	10.0	0.6
0.012	13.0	9.0	4.0	10.0	0.6
0.015	13.0	9.0	4.0	10.0	0.6
0.018	13.0	11.0	5.0	10.0	0.6
0.022	13.0	11.0	5.0	10.0	0.6
0.027	13.0	11.0	5.0	10.0	0.6
0.033	13.0	11.0	5.0	10.0	0.6
0.039	13.0	12.0	6.0	10.0	0.6
0.047	13.0	12.0	6.0	10.0	0.6
0.056	13.0	13.0	7.0	10.0	0.6
0.068	13.0	14.0	8.0	10.0	0.6
0.010	18.0	9.5	5.0	15.0	0.6
0.012	18.0	9.5	5.0	15.0	0.6
0.015	18.0	9.5	5.0	15.0	0.6
0.018	18.0	9.5	5.0	15.0	0.6
0.022	18.0	9.5	5.0	15.0	0.6
0.027	18.0	9.5	5.0	15.0	0.6
0.033	18.0	9.5	5.0	15.0	0.6
0.039	18.0	9.5	5.0	15.0	0.6
0.047	18.0	11.0	5.0	15.0	0.6
0.056	18.0	11.0	5.0	15.0	0.6
0.068	18.0	12.0	6.0	15.0	0.6
0.082	18.0	12.0	6.0	15.0	0.6
0.10	18.0	12.0	7.0	15.0	0.6
0.10	18.0	17.5	6.0	15.0	0.6
0.12	18.0	13.5	7.5	15.0	0.6
0.12	18.0	17.5	6.0	15.0	0.6
0.12M	18.0	12.5	9.0	15.0	0.6
0.15M	18.0	13.5	7.5	15.0	0.6
0.15K	18.0	14.0	8.0	15.0	0.8
0.15K	18.0	18.5	7.5	15.0	0.8
0.15	18.0	12.0	13.0	15.0	0.8
0.18	18.0	14.5	8.5	15.0	0.6
0.18	18.0	18.5	7.5	15.0	0.8
0.22M	18.0	14.5	8.5	15.0	0.6
0.22	18.0	16.0	10.0	15.0	0.8
0.27	18.0	19.0	11.0	15.0	0.8
0.33	18.0	19.0	11.0	15.0	0.8
0.039	26.5	15.0	6.0	22.0	0.8
0.047	26.5	15.0	6.0	22.0	0.8
0.056	26.5	15.0	6.0	22.0	0.8
0.068	26.5	15.0	6.0	22.0	0.8

330Vac					
Cn (μF)	W max	H max	T max	P	d
0.082	26.5	15.0	6.0	22.0	0.8
0.10	26.5	15.0	6.0	22.0	0.8
0.12	26.5	15.0	6.0	22.0	0.8
0.15	26.5	15.0	6.0	22.0	0.8
0.18	26.5	15.0	6.0	22.0	0.8
0.22M	26.5	15.0	6.0	22.0	0.8
0.22K	26.5	16.0	7.0	22.0	0.8
0.27	26.5	16.0	7.0	22.0	0.8
0.33	26.5	17.0	8.5	22.0	0.8
0.39M	26.5	17.0	8.5	22.0	0.8
0.39K	26.5	18.5	10.0	22.0	0.8
0.47	26.5	18.5	10.0	22.0	0.8
0.56	26.5	20.0	11.0	22.0	0.8
0.68	26.5	22.0	12.0	22.0	0.8
0.82M	26.5	22.0	12.0	22.0	0.8
0.82K	26.5	23.0	13.5	22.0	0.8
1.0	26.5	24.5	15.5	22.0	0.8
1.2M	26.5	24.5	15.5	22.0	0.8
1.2	26.5	29.5	14.5	22.0	0.8
0.15	32.0	18.0	9.0	27.0	0.8
0.18	32.0	18.0	9.0	27.0	0.8
0.22	32.0	18.0	9.0	27.0	0.8
0.27	32.0	18.0	9.0	27.0	0.8
0.33	32.0	18.0	9.0	27.0	0.8
0.39	32.0	18.0	9.0	27.0	0.8
0.47	32.0	18.0	9.0	27.0	0.8
0.47	32.0	12.0	18.0	27.0	0.8
0.56M	32.0	18.0	9.0	27.0	0.8
0.56K	32.0	20.0	11.0	27.0	0.8
0.68	32.0	20.0	11.0	27.0	0.8
0.68	32.0	12.0	22.0	27.0	0.8
0.82	32.0	20.0	11.0	27.0	0.8
1.0M	32.0	12.0	22.0	27.0	0.8
1.0M	32.0	22.0	13.0	27.0	0.8
1.0K	32.0	25.0	13.0	27.0	0.8
1.2	32.0	24.5	15.0	27.0	0.8
1.2	32.0	28.0	14.0	27.0	0.8
1.5	32.0	24.5	15.0	27.0	0.8
1.5	32.0	28.0	14.0	27.0	0.8
1.5	32.0	16.0	27.5	27.0	0.8
1.8	32.0	28.0	17.0	27.0	0.8
1.8	32.0	30.0	16.0	27.0	0.8

MKP64 series

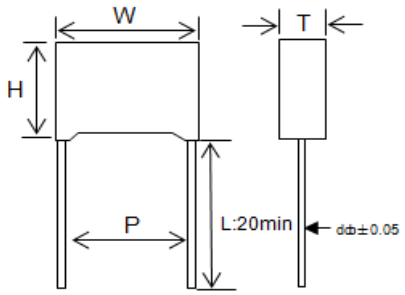
■ 外形尺寸 Dimensions (mm)

330Vac					
Cn (μF)	W max	H max	T max	P	d
2.2M	32.0	28.0	17.0	27.0	0.8
2.2	32.0	29.0	19.0	27.0	0.8
2.2	32.0	18.5	31.0	27.0	0.8
2.2	32.0	33.0	18.0	27.0	0.8
2.7	32.0	37.0	22.0	27.0	0.8
3.3	32.0	37.0	22.0	27.0	0.8
0.33	41.0	22.0	11.0	37.0	1.0
0.39	41.0	22.0	11.0	37.0	1.0
0.47	41.0	22.0	11.0	37.0	1.0
0.56	41.0	22.0	11.0	37.0	1.0
0.68	41.0	22.0	11.0	37.0	1.0
0.82	41.0	22.0	11.0	37.0	1.0
1.0	41.0	22.0	11.0	37.0	1.0
1.0	42.0	15.0	24.0	37.0	1.0
1.2M	41.0	22.0	11.0	37.0	1.0
1.2K	41.0	24.0	13.0	37.0	1.0
1.5	41.0	24.0	13.0	37.0	1.0
1.5	41.0	26.0	12.0	37.0	1.0
1.5	42.0	15.0	24.0	37.0	1.0
1.8	41.0	26.0	15.0	37.0	1.0
2.2M	41.0	26.0	15.0	37.0	1.0
2.2M	42.0	28.0	14.0	37.0	1.0
2.2K	41.0	30.0	16.0	37.0	1.0
2.2	41.0	19.0	24.0	37.0	1.0
2.7	41.0	32.0	17.0	37.0	1.0
3.3M	41.0	20.0	26.0	37.0	1.0
3.3	41.0	33.5	18.5	37.0	1.0
3.9	41.0	37.0	22.0	37.0	1.0
4.7M	42.0	24.0	32.0	37.0	1.0
4.7	41.0	37.0	22.0	37.0	1.0
5.6	41.0	41.0	26.0	37.0	1.0
6.8M	41.0	41.0	26.0	37.0	1.0
6.8K	41.0	43.0	28.0	37.0	1.0
8.2	42.0	45.0	30.0	37.0	1.0
8.2	57.0	45.0	30.0	52.5	1.2
10.0	57.0	45.0	30.0	52.5	1.2
12.0	57.0	45.0	30.0	52.5	1.2
15.0	57.0	50.0	35.0	52.5	1.2

MKP series

金属化聚丙烯膜抗干扰电容器（X2 类）
Metallized polypropylene film interference suppression capacitor(class X2)

■ 外形图 Outline Drawing



■ 特点

- 金属聚丙烯膜
- 能承受过压冲击
- 优异的阻燃性能
- 广泛用于电源跨线电路等抗干扰场合

■ Features

- Metallized polypropylene structure
- Withstanding overvoltage stressing
- S Excellent active and passive flame resistant abilities
- Widely used in across-the-line, interference suppression circuit, etc.

■ 技术要求 Specifications

电容器类别 class	X2 类		
气候类别/阻然等级 Climatic Category/Passive Flammability Category	40/110/56/B		
工作温度范围 Operating temperature	-40℃~110℃		
额定电压 Rated Voltage	310VAC,50/60Hz 适用于电源电压不超过 250Vac，50/60Hz 的场合 Mains voltage can't be higher than 250Vac,50/60Hz		
最大连续直流电压 Maximum continuous DC voltage	630Vdc		
电容量范围 Capacitance Range	0.0010 ~ 10.0μF		
电容量偏差 Capacitance Tolerance	±10% (K), ±20% (M)		
耐电压 Voltage Proof	引线之间 Between Terminals:	4.3U_R(DC) (5S)	
	极壳之间 Between Terminals To Case:	2 120Vac (1min)	
损耗角正切 Dissipation Factor	0.0010μF ≤ C_R ≤ 0.47μF	0.47μF < C_R ≤ 1.0μF	1.0μF < C_R ≤ 10μF
	≤10×10^{-4} (1kHz,20℃)	≤20×10^{-4}(1kHz,20℃)	≤30×10^{-4}(1kHz,20℃)
	≤20×10^{-4}(10kHz,20℃)	≤40×10^{-4}(10kHz,20℃)	--------
绝缘电阻 Insulation Resistance	≥15 000MΩ, C_R≤0.33μF ≥5 000s, C_R>0.33μF (20℃,100V,1min)		

MKP series

产品代码说明

ORDER INFORMATION

KLS10	- X2	- XXX	- X	- XX	- XX
Pos.No.	Product Name: X2 Capacitor	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% M=± 20%	Rated Voltage 250=250VDC 275=275VDC 310=310VDC	Pitch P15=15mm P20=20mm

MKP series

■ 外形尺寸 Dimensions (mm)

310Vac					
Cn (μF)	W max	H max	T max	P	d
0.0010	10.5	9.0	4.0	7.5	0.6
0.0012	10.5	9.0	4.0	7.5	0.6
0.0015	10.5	9.0	4.0	7.5	0.6
0.0018	10.5	9.0	4.0	7.5	0.6
0.0022	10.5	9.0	4.0	7.5	0.6
0.0027	10.5	9.0	4.0	7.5	0.6
0.0033	10.5	9.0	4.0	7.5	0.6
0.0039	10.5	9.0	4.0	7.5	0.6
0.0047	10.5	9.0	4.0	7.5	0.6
0.0056	10.5	9.0	4.0	7.5	0.6
0.0068	10.5	9.0	4.0	7.5	0.6
0.0082	10.5	9.0	4.0	7.5	0.6
0.01	10.5	9.0	4.0	7.5	0.6
0.012	10.5	9.0	4.0	7.5	0.6
0.015	10.5	9.0	4.0	7.5	0.6
0.018	10.5	9.0	4.0	7.5	0.6
0.022	10.5	9.0	4.0	7.5	0.6
0.027	10.5	11.0	5.0	7.5	0.6
0.033	10.5	11.0	5.0	7.5	0.6
0.039	10.5	12.0	6.0	7.5	0.6
0.047	10.5	12.0	6.0	7.5	0.6
0.068	10.5	13.0	7.0	7.5	0.6
0.1	10.5	14.0	8.0	7.5	0.6
0.0047	13.0	9.0	4.0	10.0	0.6
0.0056	13.0	9.0	4.0	10.0	0.6
0.0068	13.0	9.0	4.0	10.0	0.6
0.0082	13.0	9.0	4.0	10.0	0.6
0.01	13.0	9.0	4.0	10.0	0.6
0.01	13.0	11.0	5.0	10.0	0.6
0.012	13.0	11.0	5.0	10.0	0.6
0.015	13.0	9.0	4.0	10.0	0.6
0.018	13.0	11.0	5.0	10.0	0.6
0.022	13.0	9.0	4.0	10.0	0.6
0.022	13.0	11.0	5.0	10.0	0.6
0.027	13.0	11.0	5.0	10.0	0.6
0.033	13.0	9.0	4.0	10.0	0.6
0.033	13.0	11.0	5.0	10.0	0.6
0.039	13.0	11.0	5.0	10.0	0.6
0.047	13.0	11.0	5.0	10.0	0.6
0.056	13.0	11.0	5.0	10.0	0.6
0.068	13.0	12.0	6.0	10.0	0.6
0.082	13.0	12.0	6.0	10.0	0.6
0.1	13.0	12.0	6.0	10.0	0.6
0.12	13.0	13.0	7.0	10.0	0.6
0.15	13.0	14.0	8.0	10.0	0.6
0.18	13.0	16.0	9.0	10.0	0.6
0.22	13.0	16.0	9.0	10.0	0.6
0.33	13.0	20.0	10.0	10.0	0.6
0.47	13.0	22.0	12.0	10.0	0.6

310Vac					
Cn (μF)	W max	H max	T max	P	d
0.01	18.0	11.0	5.0	15.0	0.6
0.012	18.0	11.0	5.0	15.0	0.6
0.015	18.0	11.0	5.0	15.0	0.6
0.018	18.0	11.0	5.0	15.0	0.6
0.022	18.0	11.0	5.0	15.0	0.6
0.027	18.0	11.0	5.0	15.0	0.6
0.033	18.0	11.0	5.0	15.0	0.6
0.039	18.0	11.0	5.0	15.0	0.6
0.047	18.0	11.0	5.0	15.0	0.6
0.056	18.0	11.0	5.0	15.0	0.6
0.068	18.0	11.0	5.0	15.0	0.6
0.082	18.0	11.0	5.0	15.0	0.6
0.1	18.0	11.0	5.0	15.0	0.6
0.1	18.0	12.0	6.0	15.0	0.6
0.12	18.0	12.0	6.0	15.0	0.6
0.15	18.0	12.0	6.0	15.0	0.6
0.15	18.0	14.5	8.5	15.0	0.8
0.18	18.0	12.0	6.0	15.0	0.6
0.18	18.0	14.5	8.5	15.0	0.8
0.22	18.0	13.0	7.0	15.0	0.8
0.22	18.0	14.5	8.5	15.0	0.8
0.27	18.0	13.5	7.5	15.0	0.8
0.33	18.0	14.5	8.5	15.0	0.8
0.33	18.0	15.5	9.5	15.0	0.8
0.39	18.0	17.0	8.0	15.0	0.8
0.47	18.0	16.0	10.0	15.0	0.8
0.47	18.0	17.5	9.0	15.0	0.8
0.47	18.0	18.5	11.0	15.0	0.8
0.56	18.0	19.0	10.0	15.0	0.8
0.56	18.0	19.0	11.0	15.0	0.8
0.68	18.0	19.0	11.0	15.0	0.8
0.82	18.0	26.0	16.0	15.0	0.8
0.1	26.5	15.0	6.0	22.0	0.8
0.15	26.5	15.0	6.0	22.0	0.8
0.18	26.5	15.0	6.0	22.0	0.8
0.22	26.5	15.0	6.0	22.0	0.8
0.22	26.5	16.5	7.0	22.0	0.8
0.27	26.5	15.0	6.0	22.0	0.8
0.33	26.5	15.0	6.0	22.0	0.8
0.33	26.5	16.0	7.0	22.0	0.8
0.33	26.5	17.0	8.5	22.0	0.8
0.39	26.5	15.0	6.0	22.0	0.8
0.47	26.5	16.0	7.0	22.0	0.8
0.47	26.5	19.0	10.0	22.0	0.8
0.56	26.5	16.0	7.0	22.0	0.8
0.56	26.5	19.0	10.0	22.0	0.8
0.68	26.5	17.0	8.5	22.0	0.8
0.68	26.5	17.0	10.0	22.0	0.8
0.68	26.5	19.0	10.0	22.0	0.8
0.82	26.5	19.0	10.0	22.0	0.8
1.0	26.5	19.0	10.0	22.0	0.8
1.0	26.5	20.0	11.0	22.0	0.8
1.0	26.0	21.5	12.0	22.0	0.8
1.2	26.5	20.0	11.0	22.0	0.8
1.5	26.5	22.0	12.0	22.0	0.8
1.8	26.5	24.5	15.5	22.0	0.8
2.2	26.5	24.5	15.5	22.0	0.8
2.2	26.5	25.0	16.5	22.0	0.8
2.2	26.5	29.5	14.5	22.0	0.8

MKP series

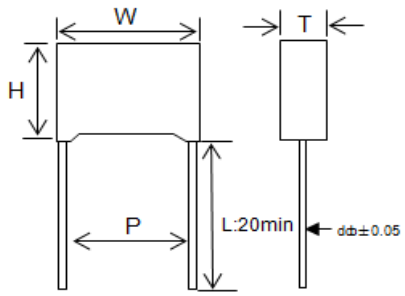
■ 外形尺寸 Dimensions (mm)

310Vac					
Cn (μF)	W max	H max	T max	P	d
0.47	32.0	18.0	9.0	27.0	0.8
0.47	31.5	19.5	9.0	27.0	0.8
0.56	32.0	18.0	9.0	27.0	0.8
0.68	32.0	18.0	9.0	27.0	0.8
0.68	31.5	19.5	11.0	27.0	0.8
0.82	32.0	18.0	9.0	27.0	0.8
0.82	31.5	19.5	9.0	27.0	0.8
1.0	32.0	18.0	9.0	27.0	0.8
1.0	31.5	19.5	11.0	27.0	0.8
1.2	32.0	20.0	11.0	27.0	0.8
1.5	32.0	20.0	11.0	27.0	0.8
1.8	32.0	22.0	13.0	27.0	0.8
2.2	32.0	25.0	13.0	27.0	0.8
2.2	32.0	25.0	15.0	27.0	0.8
2.7	32.0	28.0	14.0	27.0	0.8
3.3	32.0	28.0	17.0	27.0	0.8
3.3	31.5	32.0	16.0	27.0	0.8
3.3	32.0	33.0	18.0	27.0	0.8
3.9	32.0	33.0	18.0	27.0	0.8
4.7	32.0	33.0	18.0	27.0	0.8
4.7	31.5	31.0	21.0	27.0	0.8
5.6	32.0	37.0	22.0	27.0	0.8
1.5	41.0	22.0	11.0	37.0	1.0
1.8	41.0	22.0	11.0	37.0	1.0
2.2	41.0	24.0	13.0	37.0	1.0
2.2	41.0	25.0	14.0	37.0	1.0
2.7	41.0	24.0	13.0	37.0	1.0
3.3	41.0	26.0	15.0	37.0	1.0
3.3	41.5	28.5	16.0	37.0	1.0
3.3	41.0	30.0	15.0	37.0	1.0
3.9	41.0	30.0	16.0	37.0	1.0
4.7	41.0	30.0	16.0	37.0	1.0
4.7	41.0	32.0	19.0	37.0	1.0
4.7	41.5	32.5	18.0	37.0	1.0
5.6	41.0	33.5	18.5	37.0	1.0
6.8	41.0	33.5	19.5	37.0	1.0
6.8	41.5	39.5	20.0	37.0	1.0
8.2	41.0	37.0	22.0	37.0	1.0
10.0	41.0	41.0	26.0	37.0	1.0
10.0	41.5	42.5	28.0	37.0	1.0
10.0	41.0	45.0	30.0	37.0	1.0

Y2 series

金属化聚丙烯膜抗干扰电容器（Y2 类）
Metallized polypropylene film interference suppression capacitor(class Y2)

■ 外形图 Outline Drawing



■ 特点

- 金属聚丙烯膜
- 能承受过压冲击
- 优异的阻燃性能
- 广泛用于电源接地，旁路，天线耦合等抗干扰场合

■ Features

- Metallized polypropylene structure
- Withstanding overvoltage stressing
- Excellent active and passive flame resistant abilities
- Widely used in line to ground, line-by-pass, antenna coupling interference suppression circuit, etc.

■ 技术要求 Specifications

电容器类别 class	Y2 类		
气候类别/阻然等级 Climatic Category/Passive Flammability Category	40/110/56/B		
工作温度范围 Operating temperature	-40℃~+110℃		
额定电压 Rated Voltage	300VAC, 50/60Hz		
最大连续交流电压 Maximum continuous AC voltage	500VAC, 50/60Hz		
最大连续直流电压 Maximum continuous DC voltage	1500VDC		
电容量范围 Capacitance Range	0.0010 ~ 1.0μF		
电容量偏差 Capacitance Tolerance	±10% (K), ±20% (M)		
耐电压 Voltage Proof	引线之间 Between Terminals:	2000Vac(2S) or	4000Vdc(2S) C_R≤0.33μF 3700Vdc(2S) C_R>0.33μF
	极壳之间 Between Terminals To Case:	2 500Vac (1min)	
损耗角正切 Dissipation Factor	≤ 30×10^{-4} (1KHz,20℃)	≤ 40×10^{-4} (10KHz,20℃)	
绝缘电阻 Insulation Resistance	≥15 000MΩ, C_R≤0.33μF ≥5 000s, C_R>0.33μF (20℃,100V,1min)		

Y2 series

产品代码说明 Part number system

ORDER INFORMATION

KLS10	- Y2	- XXX	- X	- XX	- XX
Pos.No.	Product Name: Y2 Capacitor	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% J=± 20%	Rated Voltage 250=250VDC 275=275VDC 310=310VDC	Pitch P15=15mm P20=20mm

Y2 series

■ 外形尺寸 Dimensions (mm)

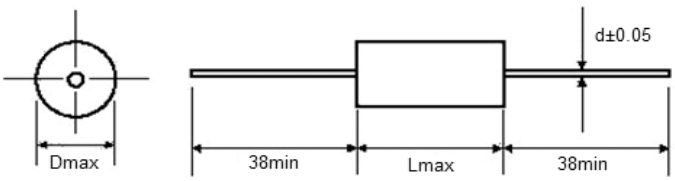
300Vac					
Cn (μF)	W max	H max	T max	P	d
0.0010	10.5	9.0	4.0	7.5	0.6
0.0012	10.5	9.0	4.0	7.5	0.6
0.0015	10.5	9.0	4.0	7.5	0.6
0.0018	10.5	9.0	4.0	7.5	0.6
0.0022	10.5	9.0	4.0	7.5	0.6
0.0027	10.5	9.0	4.0	7.5	0.6
0.0033	10.5	11.0	5.0	7.5	0.6
0.0039	10.5	11.0	5.0	7.5	0.6
0.0047	10.5	12.0	6.0	7.5	0.6
0.0056	10.5	12.0	6.0	7.5	0.6
0.0010	13.0	9.0	4.0	10.0	0.6
0.0012	13.0	9.0	4.0	10.0	0.6
0.0015	13.0	9.0	4.0	10.0	0.6
0.0018	13.0	9.0	4.0	10.0	0.6
0.0022	13.0	9.0	4.0	10.0	0.6
0.0027	13.0	9.0	4.0	10.0	0.6
0.0033	13.0	9.0	4.0	10.0	0.6
0.0039	13.0	9.0	4.0	10.0	0.6
0.0047	13.0	11.0	5.0	10.0	0.6
0.0056	13.0	11.0	5.0	10.0	0.6
0.0068	13.0	11.0	5.0	10.0	0.6
0.0068	13.0	7.5	9.5	10.0	0.6
0.0082	13.0	12.0	6.0	10.0	0.6
0.010	13.0	12.0	6.0	10.0	0.6
0.0022	18.0	9.5	5.0	15.0	0.6
0.0027	18.0	9.5	5.0	15.0	0.6
0.0033	18.0	9.5	5.0	15.0	0.6
0.0039	18.0	9.5	5.0	15.0	0.6
0.0047	18.0	9.5	5.0	15.0	0.6
0.0056	18.0	9.5	5.0	15.0	0.6
0.0068	18.0	9.5	5.0	15.0	0.6
0.0082	18.0	9.5	5.0	15.0	0.6
0.010	18.0	9.5	5.0	15.0	0.6
0.012	18.0	11.0	5.0	15.0	0.6
0.015	18.0	11.0	5.0	15.0	0.6
0.018M	18.0	11.0	5.0	15.0	0.6
0.018K	18.0	12.0	6.0	15.0	0.6
0.022	18.0	12.0	6.0	15.0	0.6
0.027M	18.0	12.0	6.0	15.0	0.6
0.027K	18.0	12.0	6.0	15.0	0.6
0.033	18.0	13.5	7.5	15.0	0.6
0.033	18.0	12.5	9.0	15.0	0.6
0.039	18.0	13.5	7.5	15.0	0.6
0.039	18.0	12.5	9.0	15.0	0.6
0.047	18.0	14.5	8.5	15.0	0.6
0.047	18.0	12.0	13.0	15.0	0.8
0.056	18.0	16.0	10.0	15.0	0.8
0.068	18.0	16.0	10.0	15.0	0.8
0.082	18.0	19.0	11.0	15.0	0.8
0.033	26.5	15.0	6.0	22.0	0.8
0.039	26.5	15.0	6.0	22.0	0.8
0.047	26.5	15.0	6.0	22.0	0.8
0.056	26.5	15.0	6.0	22.0	0.8
0.068M	26.5	15.0	6.0	22.0	0.8
0.068K	26.5	16.0	7.0	22.0	0.8
0.082	26.5	16.0	7.0	22.0	0.8

300Vac					
Cn (μF)	W max	H max	T max	P	d
0.010	26.5	17.0	8.5	22.0	0.8
0.012	26.5	17.0	8.5	22.0	0.8
0.015	26.5	18.5	10.0	22.0	0.8
0.018	26.5	20.0	11.0	22.0	0.8
0.022	26.5	22.0	12.0	22.0	0.8
0.027	26.5	23.0	13.5	22.0	0.8
0.033	26.5	24.5	15.5	22.0	0.8
0.033	26.5	29.5	14.5	22.0	0.8
0.039M	26.5	29.5	14.5	22.0	0.8
0.10	32.0	18.0	9.0	27.0	0.8
0.12	32.0	18.0	9.0	27.0	0.8
0.15	32.0	18.0	9.0	27.0	0.8
0.15	32.0	12.0	18.0	27.0	0.8
0.18	32.0	20.0	11.0	27.0	0.8
0.22	32.0	20.0	11.0	27.0	0.8
0.22M	32.0	12.0	18.0	27.0	0.8
0.22K	32.0	12.0	22.0	27.0	0.8
0.27M	32.0	20.0	11.0	27.0	0.8
0.27K	32.0	22.0	13.0	27.0	0.8
0.33M	32.0	22.0	13.0	27.0	0.8
0.33K	32.0	25.0	13.0	27.0	0.8
0.33K	32.0	24.5	15.0	27.0	0.8
0.33M	32.0	12.0	22.0	27.0	0.8
0.39	32.0	24.5	15.0	27.0	0.8
0.39	32.0	28.0	14.0	27.0	0.8
0.47M	32.0	24.5	15.0	27.0	0.8
0.47M	32.0	28.0	14.0	27.0	0.8
0.47K	32.0	30.0	16.0	27.0	0.8
0.47K	32.0	28.0	17.0	27.0	0.8
0.47	32.0	16.0	27.5	27.0	0.8
0.56	32.0	30.0	16.0	27.0	0.8
0.56	32.0	28.0	17.0	27.0	0.8
0.68M	32.0	29.0	19.0	27.0	0.8
0.68K	32.0	30.0	21.0	27.0	0.8
0.68	32.0	33.0	18.0	27.0	0.8
0.68	32.0	18.5	31.0	27.0	0.8
0.82M	32.0	18.5	31.0	27.0	0.8
0.82M	32.0	33.0	18.0	27.0	0.8
0.82K	32.0	37.0	22.0	27.0	0.8
1.0	32.0	37.0	22.0	27.0	0.8
0.33	41.0	22.0	11.0	37.0	1.0
0.39M	41.0	22.0	11.0	37.0	1.0
0.39K	41.0	24.0	13.0	37.0	1.0
0.47	41.0	24.0	13.0	37.0	1.0
0.47	42.0	15.0	24.0	37.0	1.0
0.56	41.0	26.0	15.0	37.0	1.0
0.56	42.0	28.0	14.0	37.0	1.0
0.68M	41.0	26.0	15.0	37.0	1.0
0.68M	42.0	28.0	14.0	37.0	1.0
0.68K	41.0	30.0	16.0	37.0	1.0
0.68M	42.0	15.0	24.0	37.0	1.0
0.82	41.0	30.0	16.0	37.0	1.0
0.82	42.0	19.0	24.0	37.0	1.0
1.0 M	41.0	32.0	17.0	37.0	1.0
1.0 K	41.0	33.5	18.5	37.0	1.0

CL20 series

轴向金属化聚酯膜电容器
Metallized polyester film capacitor(Axial-type)

■ 外形图 Outline Drawing



■ 特点
- 金属化聚酯膜，卷绕结构
- 体积小，重量轻，治愈性能优异
- 外包装聚酯胶带纸，两端灌注环氧树脂

■ Features
- Metallized polyester film, non-inductive wound construction
- Small size, light weight, excellent self-healing property
- Wrapped with polyester adhesive tape and ends filled

■ 主要用途
- 隔直，旁路和耦合（去耦）

■ Typical application
- Suitable for blocking, by-pass ,coupling, and decoupling

■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 7332 (IEC 60384-2)
气候类别 Climatic Category	55/105/21
额定温度 Rated temperature	85℃
工作温度范围 Operating temperature	-55℃~105℃ (+85℃ to +105℃: decreasing factor 1.25% per ℃ for VR(dc))
额定电压 Rated Voltage	50V,63V, 100V, 250V, 400V, 630V,1000V
电容量范围 Capacitance Range	0.010μF ~ 10.0μF
电容量偏差 Capacitance Tolerance	±5%(J), ±10%(K), ±20%(M)
耐电压 Voltage Proof	1.6UR (5s)
损耗角正切 Dissipation Factor	≤1.0% (20℃,1kHz)
绝缘电阻 Insulation Resistance	≥30 000MΩ, CR≤0.33μF ≥10 000s, CR>0.33μF (20℃,100V,1min)

最大脉冲爬升速率 Maximum Pulse Rise Time (dv/dt)
若实际工作电压 U 比额定电压 UR 低，电容器可工作在更高的 dv/dt 场合。这样 dv/dt 允许值为右表值乘 UR/U。

UR(V)	dv/dt (V/μs)				
	L=12.0	L=15.0	L=19.0	L=27.0	L=32.0
50/63	6	6	2	1.5	1
100	9	9	3	2	1
250	20	20	8	5	2.5
400	30	30	10	7	4
630	40	40	15	10	6
1000	50	50	25	12	8

CL20 series

产品代码说明

ORDER INFORMATION

KLS10	- CL20	- XXX	- X	- XX	- XX
Pos.No.	Product Name: Metallized Polyester Film Capacitor(MEF)	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% J=± 5%	Rated Voltage 100=100VDC 250=250VDC 400=400VDC	Pitch P5=5mm P7.5=7.5mm

CL20 series

■ 外形尺寸 Dimensions (mm)

50Vdc(30Vac)/63Vdc(40Vac)#			
Cn (μF)	D max	L max	d
0.33	5.2	12.0	0.6
0.39	5.5	12.0	0.6
0.47	5.5	15.0	0.6
0.56	6.0	15.0	0.6
0.68	6.0	15.0	0.6
0.82	6.5	15.0	0.6
1.0	7.0	15.0	0.8
1.2	7.0	15.0	0.8
1.5	6.7	19.0	0.8
1.8	7.0	19.0	0.8
2.2	7.5	19.0	0.8
2.7	8.5	19.0	0.8
3.3	9.0	19.0	0.8
3.9	9.5	19.0	0.8
4.7	8.5	27.0	0.8
5.6	9.0	27.0	0.8
6.8	10.0	27.0	0.8
8.2	10.5	27.0	0.8
10	11.0	32.0	0.8

100Vdc (63Vac)			
Cn (μF)	D max	L max	d
0.068	5.2	12.0	0.6
0.082	5.2	12.0	0.6
0.10	5.2	12.0	0.6
0.12	5.2	12.0	0.6
0.15	5.2	12.0	0.6
0.18	5.2	12.0	0.6
0.22	5.2	12.0	0.6
0.27	5.2	12.0	0.6
0.33	6.0	15.0	0.6
0.39	6.0	15.0	0.6
0.47	6.0	15.0	0.6
0.56	6.0	15.0	0.6
0.68	6.8	15.0	0.8
0.82	7.0	15.0	0.8
1.0	7.7	19.0	0.8
1.2	7.0	19.0	0.8
1.5	8.0	19.0	0.8
1.8	8.5	19.0	0.8
2.2	9.0	19.0	0.8
2.7	9.5	19.0	0.8
3.3	9.5	27.0	0.8
3.9	9.5	27.0	0.8
4.7	10.0	32.0	0.8
5.6	10.5	32.0	0.8
6.8	11.5	32.0	0.8
8.2	12.5	32.0	0.8
10	13.5	32.0	0.8

250Vdc (160Vac)			
Cn (μF)	D max	L max	d
0.047	5.2	12.0	0.6
0.056	5.2	12.0	0.6
0.068	5.2	12.0	0.6
0.082	5.2	12.0	0.6
0.10	5.5	15.0	0.6
0.12	5.5	15.0	0.6
0.15	5.5	15.0	0.6
0.18	5.5	15.0	0.6
0.22	6.0	15.0	0.6
0.27	6.5	15.0	0.6
0.33	6.5	19.0	0.6
0.39	6.5	19.0	0.6
0.47	7.0	19.0	0.8
0.56	7.5	19.0	0.8
0.68	8.0	19.0	0.8
0.82	8.5	19.0	0.8
1.0	9.0	19.0	0.8
1.2	8.5	27.0	0.8
1.5	9.0	27.0	0.8
1.8	9.5	27.0	0.8
2.2	11.0	32.0	0.8
2.7	12.0	32.0	0.8
3.3	13.0	32.0	0.8
3.9	14.5	32.0	0.8
4.7	15.5	32.0	0.8
5.6	16.5	32.0	1.0
6.8	18.5	32.0	1.0
8.2	20.0	32.0	1.0
10	22.0	32.0	1.0

3XIA RD. XIAPU SHANQIAN INDUSTRIAL ZONE BEILUN NINGBO ZHEJIANG.
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CL20 series

■ 外形尺寸 Dimensions (mm)

400Vdc (200Vac)			
Cn (μF)	D max	L max	d
0.010	5.2	12.0	0.6
0.012	5.2	12.0	0.6
0.015	5.2	12.0	0.6
0.018	5.2	12.0	0.6
0.022	5.2	12.0	0.6
0.027	5.2	12.0	0.6
0.033	5.2	12.0	0.6
0.039	5.2	15.0	0.6
0.047	6.5	15.0	0.6
0.056	6.5	15.0	0.6
0.068	6.5	15.0	0.6
0.082	7.0	15.0	0.8
0.10	7.5	15.0	0.8
0.12	8.0	15.0	0.8
0.15	7.0	19.0	0.6
0.18	7.0	19.0	0.8
0.22	7.5	19.0	0.8
0.27	8.0	19.0	0.8
0.33	9.0	19.0	0.8
0.39	9.5	19.0	0.8
0.47	8.5	27.0	0.8
0.56	9.0	27.0	0.8
0.68	10.0	27.0	0.8
0.82	10.5	27.0	0.8
1.0	10.5	32.0	0.8
1.2	11.5	32.0	0.8
1.5	12.5	32.0	0.8
1.8	13.5	32.0	0.8
2.2	14.5	32.0	0.8
2.7	16.0	32.0	1.0
3.3	17.5	32.0	1.0

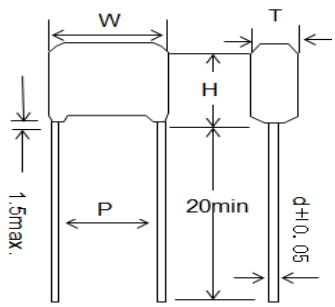
630Vdc (220Vac)@			
Cn (μF)	D max	L max	d
0.0010	5.2	12.0	0.6
0.0012	5.2	12.0	0.6
0.0015	5.2	12.0	0.6
0.0018	5.2	12.0	0.6
0.0022	5.2	12.0	0.6
0.0027	5.2	12.0	0.6
0.0033	5.2	12.0	0.6
0.0039	5.2	12.0	0.6
0.0047	5.2	12.0	0.6
0.0056	5.2	12.0	0.6
0.0068	6.0	12.0	0.6
0.0082	6.0	12.0	0.6
0.010	6.0	15.0	0.6
0.012	6.0	15.0	0.6
0.015	6.5	15.0	0.6
0.018	7.0	15.0	0.8
0.022	7.5	15.0	0.8
0.027	8.0	15.0	0.8
0.033	7.0	19.0	0.8
0.039	7.5	19.0	0.8
0.047	7.5	19.0	0.8
0.056	8.0	19.0	0.8
0.068	8.5	19.0	0.8
0.082	9.0	19.0	0.8
0.10	8.0	27.0	0.8
0.12	8.5	27.0	0.8
0.15	9.0	27.0	0.8
0.18	10.0	27.0	0.8
0.22	10.5	27.0	0.8
0.27	11.5	27.0	0.8
0.33	11.0	32.0	0.8
0.39	12.0	32.0	0.8
0.47	12.5	32.0	0.8
0.56	13.5	32.0	0.8
0.68	14.5	32.0	0.8
0.82	16.0	32.0	1.0
1.0	17.5	32.0	1.0

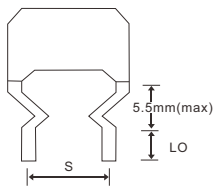
1000Vdc (250Vac)			
Cn (μF)	D max	L max	d
0.0010	5.2	12.0	0.6
0.0010	5.2	12.0	0.6
0.0015	5.2	12.0	0.6
0.0018	5.2	12.0	0.6
0.0022	5.2	12.0	0.6
0.0027	5.2	12.0	0.6
0.0033	5.2	12.0	0.6
0.0039	5.2	12.0	0.6
0.0047	5.2	15.0	0.6
0.0056	5.2	15.0	0.6
0.0068	5.2	15.0	0.6
0.0082	6.0	15.0	0.6
0.010	6.0	19.0	0.6
0.012	6.0	19.0	0.6
0.015	6.5	19.0	0.6
0.018	6.5	19.0	0.6
0.022	7.0	19.0	0.8
0.027	7.5	19.0	0.8
0.033	6.5	27.0	0.6
0.039	6.5	27.0	0.6
0.047	7.0	27.0	0.8
0.056	7.5	27.0	0.8
0.068	8.0	27.0	0.8
0.082	8.5	27.0	0.8
0.10	9.0	27.0	0.8
0.12	9.5	27.0	0.8
0.15	9.5	32.0	0.8
0.18	10.0	32.0	0.8
0.22	11.0	32.0	0.8
0.27	12.0	32.0	0.8
0.33	13.0	32.0	0.8
0.39	14.0	32.0	0.8
0.47	15.0	32.0	0.8

CL21X series

金属化聚酯膜电容器（浸渍型）Metallized polyester film capacitor(Dipped)

■ 外形图 Outline Drawing





P=S=5.0mm　　P=5.0mm　S=7.5mm

■ 特点

- 金属聚酯膜，无感式结构
- 阻燃环氧粉末包封(UL94 V-0)
- 自愈性好，寿命长

■ Features

- Metallized polyester film, stacked construction
- Flame retardation epoxy resin powder coated(UL94 V-0)
- Long life due to self-healing effect

■ 主要用途

- 旁路，隔直，耦合，退耦
- 脉冲，逻辑，定时，电路振荡器
- LCD 监视器整流，汽车直流马达抑制干扰

■ Typical Applications:

- By-passing, blocking, coupling, decoupling,
- Pulse logic, timing, oscillator circuits.
- Inverter for LCD monitors, automotive DC motor suppression

■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 7332 (IEC 60384-2)	
气候类别 Climatic Category	55/105/56	
额定温度 Rated temperature	85℃	
工作温度范围 Operating temperature	-55℃~105℃ (+85℃ to +105℃: decreasing factor 1.25% per ℃ for VR(dc))	
额定电压 Rated Voltage	50V,63V, 100V, 250V	
电容量范围 Capacitance Range	0.010μF ~ 1.5μF	
电容量偏差 Capacitance Tolerance	±5%(J), ±10%(K), ±20%(M)	
耐电压 Voltage Proof	1.4UR (5s)	
损耗角正切 Dissipation Factor	≤1.0% (20℃,1kHz)	
绝缘电阻 Insulation Resistance	UR≤100V ≥15 000MΩ, CR≤0.33μF ≥5 000s, CR>0.33μF (20℃,100V,1min) UR>100V ≥30 000MΩ, CR≤0.33μF ≥10 000s, CR>0.33μF (20℃,100V,1min)	
最大脉冲爬升速率 Maximum Pulse Rise Time (dv/dt) 若实际工作电压 U 比额定电压 UR 低，电容器可工作在更高的 dv/dt 场合。这样 dv/dt 允许值为右表值乘 UR/U。	UR(V)	dv/dt (V/μs)
		P=5.0
	50	10
	63	10
	100	10
	250	20

CL21X series

产品代码说明

ORDER INFORMATION

KLS10	- CL21X	- XXX	- X	- XX	- XX
Pos.No.	Product Name: Metallized Polyester Film Capacitor(MEF)	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% J=± 5%	Rated Voltage 100=100VDC 250=250VDC 400=400VDC	Pitch P5=5mm P7.5=7.5mm

CL21X series

■ 外形尺寸 Dimensions (mm)

50Vdc (30Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0010	7.5	7.0	4.0	5.0	0.5
0.0012	7.5	7.0	4.0	5.0	0.5
0.0015	7.5	7.0	4.0	5.0	0.5
0.0018	7.5	7.0	4.0	5.0	0.5
0.0022	7.5	7.0	4.0	5.0	0.5
0.0027	7.5	7.0	4.0	5.0	0.5
0.0033	7.5	7.0	4.0	5.0	0.5
0.0039	7.5	7.0	4.0	5.0	0.5
0.0047	7.5	7.0	4.0	5.0	0.5
0.0056	7.5	7.0	4.0	5.0	0.5
0.0068	7.5	7.0	4.0	5.0	0.5
0.0082	7.5	7.0	4.0	5.0	0.5
0.010	7.5	7.0	4.0	5.0	0.5
0.012	7.5	7.0	4.0	5.0	0.5
0.015	7.5	7.0	4.0	5.0	0.5
0.018	7.5	7.0	4.0	5.0	0.5
0.022	7.5	7.0	4.0	5.0	0.5
0.027	7.5	7.0	4.0	5.0	0.5
0.033	7.5	7.0	4.0	5.0	0.5
0.039	7.5	7.0	4.0	5.0	0.5
0.047	7.5	7.0	4.0	5.0	0.5
0.056	7.5	7.0	4.0	5.0	0.5
0.068	7.5	7.0	4.0	5.0	0.5
0.082	7.5	7.0	4.0	5.0	0.5
0.10	7.5	7.5	4.5	5.0	0.5
0.12	7.5	7.5	4.5	5.0	0.5
0.15	7.5	7.5	4.5	5.0	0.5
0.18	7.5	7.5	4.5	5.0	0.5
0.22	7.5	7.5	4.5	5.0	0.5
0.27	7.5	8.5	4.5	5.0	0.5
0.33	7.5	9.0	5.0	5.0	0.5
0.39	7.5	9.5	5.0	5.0	0.5
0.47	7.5	9.5	5.5	5.0	0.5
0.56	7.5	10.5	6.0	5.0	0.5
0.68	7.5	10.5	6.5	5.0	0.5
0.82	7.5	12.0	7.0	5.0	0.5
1.0	7.5	12.0	6.5	5.0	0.5
1.5	7.5	13.0	8.0	5.0	0.5

63Vdc (40Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0010	7.5	7.0	4.0	5.0	0.5
0.0012	7.5	7.0	4.0	5.0	0.5
0.0015	7.5	7.0	4.0	5.0	0.5
0.0018	7.5	7.0	4.0	5.0	0.5
0.0022	7.5	7.0	4.0	5.0	0.5
0.0027	7.5	7.0	4.0	5.0	0.5
0.0033	7.5	7.0	4.0	5.0	0.5
0.0039	7.5	7.0	4.0	5.0	0.5
0.0047	7.5	7.0	4.0	5.0	0.5
0.0056	7.5	7.0	4.0	5.0	0.5
0.0068	7.5	7.0	4.0	5.0	0.5
0.0082	7.5	7.0	4.0	5.0	0.5
0.010	7.5	7.0	4.0	5.0	0.5
0.012	7.5	7.0	4.0	5.0	0.5
0.015	7.5	7.0	4.0	5.0	0.5
0.018	7.5	7.0	4.0	5.0	0.5
0.022	7.5	7.0	4.0	5.0	0.5
0.027	7.5	7.0	4.0	5.0	0.5
0.033	7.5	7.0	4.0	5.0	0.5
0.039	7.5	7.0	4.0	5.0	0.5
0.047	7.5	7.0	4.0	5.0	0.5
0.056	7.5	7.0	4.0	5.0	0.5
0.068	7.5	7.0	4.0	5.0	0.5
0.082	7.5	7.0	4.0	5.0	0.5
0.10	7.5	7.5	4.5	5.0	0.5
0.12	7.5	7.5	4.5	5.0	0.5
0.15	7.5	7.5	4.5	5.0	0.5
0.18	7.5	7.5	4.5	5.0	0.5
0.22	7.5	7.5	4.5	5.0	0.5
0.27	7.5	8.5	4.5	5.0	0.5
0.33	7.5	9.0	5.0	5.0	0.5
0.39	7.5	9.5	5.0	5.0	0.5
0.47	7.5	9.5	5.5	5.0	0.5
0.56	7.5	10.5	6.0	5.0	0.5
0.68	7.5	10.5	6.5	5.0	0.5
0.82	7.5	12.0	7.0	5.0	0.5
1.0	7.5	12.0	6.5	5.0	0.5
1.5	7.5	13.0	8.0	5.0	0.5

CL21X series

■ 外形尺寸 Dimensions (mm)

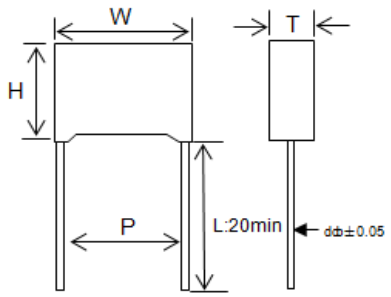
100Vdc (63Vac)@					
Cn (μF)	W max	H max	T max	P	d
0.0010	7.5	7.0	4.0	5.0	0.5
0.0012	7.5	7.0	4.0	5.0	0.5
0.0015	7.5	7.0	4.0	5.0	0.5
0.0018	7.5	7.0	4.0	5.0	0.5
0.0022	7.5	7.0	4.0	5.0	0.5
0.0027	7.5	7.0	4.0	5.0	0.5
0.0033	7.5	7.0	4.0	5.0	0.5
0.0039	7.5	7.0	4.0	5.0	0.5
0.0047	7.5	7.0	4.0	5.0	0.5
0.0056	7.5	7.0	4.0	5.0	0.5
0.0068	7.5	7.0	4.0	5.0	0.5
0.0082	7.5	7.0	4.0	5.0	0.5
0.010	7.5	7.0	4.0	5.0	0.5
0.012	7.5	7.0	4.0	5.0	0.5
0.015	7.5	7.0	4.0	5.0	0.5
0.018	7.5	7.0	4.0	5.0	0.5
0.022	7.5	7.0	4.0	5.0	0.5
0.027	7.5	7.0	4.0	5.0	0.5
0.033	7.5	7.0	4.0	5.0	0.5
0.039	7.5	7.0	4.0	5.0	0.5
0.047	7.5	7.0	4.0	5.0	0.5
0.056	7.5	7.0	4.0	5.0	0.5
0.068	7.5	7.0	4.0	5.0	0.5
0.082	7.5	7.0	4.0	5.0	0.5
0.10	7.5	7.5	4.5	5.0	0.5
0.12	7.5	7.5	4.5	5.0	0.5
0.15	7.5	7.5	4.5	5.0	0.5
0.18	7.5	7.5	4.5	5.0	0.5
0.22	7.5	7.5	4.5	5.0	0.5
0.27	7.5	8.5	4.5	5.0	0.5
0.33	7.5	9.0	5.0	5.0	0.5
0.39	7.5	9.5	5.0	5.0	0.5
0.47	7.5	9.5	5.5	5.0	0.5
0.56	7.5	10.5	6.0	5.0	0.5
0.68	7.5	10.5	6.5	5.0	0.5
0.82	7.5	12.0	7.0	5.0	0.5
1.0	7.5	12.0	6.5	5.0	0.5
1.5	7.5	13.0	8.0	5.0	0.5

250Vdc (140Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0010	7.5	7.0	4.0	5.0	0.5
0.0012	7.5	7.0	4.0	5.0	0.5
0.0015	7.5	7.0	4.0	5.0	0.5
0.0018	7.5	7.0	4.0	5.0	0.5
0.0022	7.5	7.0	4.0	5.0	0.5
0.0027	7.5	7.0	4.0	5.0	0.5
0.0033	7.5	7.0	4.0	5.0	0.5
0.0039	7.5	7.0	4.0	5.0	0.5
0.0047	7.5	7.0	4.0	5.0	0.5
0.0056	7.5	7.0	4.0	5.0	0.5
0.0068	7.5	7.0	4.0	5.0	0.5
0.0082	7.5	7.0	4.0	5.0	0.5
0.010	7.5	7.0	4.0	5.0	0.5
0.012	7.5	7.0	4.0	5.0	0.5
0.015	7.5	7.0	4.0	5.0	0.5
0.018	7.5	7.0	4.0	5.0	0.5
0.022	7.5	7.0	4.0	5.0	0.5
0.027	7.5	7.0	4.0	5.0	0.5
0.033	7.5	7.0	4.0	5.0	0.5
0.039	7.5	7.0	4.0	5.0	0.5
0.047	7.5	7.0	4.0	5.0	0.5
0.056	7.5	7.0	4.5	5.0	0.5
0.068	7.5	8.0	4.5	5.0	0.5
0.082	7.5	8.5	4.5	5.0	0.5
0.10	7.5	8.5	4.5	5.0	0.5
0.12	7.5	9.0	5.5	5.0	0.5
0.15	7.5	9.5	6.0	5.0	0.5
0.18	7.5	10.5	6.5	5.0	0.5
0.22	7.5	11.5	7.0	5.0	0.5
0.27	7.5	12.0	7.5	5.0	0.5
0.33	7.5	13.0	8.5	5.0	0.5

CL23 series

塑料外壳金属化聚酯膜电容器　Box-type metallized polyester film capacitor

■ 外形图 Outline Drawing



■ 特点

- 可靠性高
- 金属化聚酯膜，无感卷绕结构
- 塑料外壳（UL94 V-0），阻燃环氧填充

■ Features

- High reliability
- Metallized polyester film, non-inductive wound construction
- Plastic case (UL94 V-0) , Epoxy resin sealing

■ 主要用途

- 旁路，隔直，耦合，退耦
- 脉冲，逻辑，定时，振荡电路
- 低电压场合抗干扰

■ Typical application

- by-passing, blocking, coupling, decoupling,
- pulse, logic, timing, oscillator circuits.
- interference suppression in low voltage application (i.e. automotive)

■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 7332 (IEC 60384-2)
气候类别 Climatic Category	55/105/56
额定温度 Rated temperature	85℃
工作温度范围 Operating temperature	-55℃~125℃ (+85℃ to +105℃: decreasing factor 1.25% per ℃ for VR(dc))
额定电压 Rated Voltage	63V, 100V, 160V, 250V, 400V, 630V,
电容量范围 Capacitance Range	0.00330μF ~ 33.0μF
电容量偏差 Capacitance Tolerance	±5%(J), ±10%(K), ±20%(M)
耐电压 Voltage Proof	1.6UR (5s)
损耗角正切 Dissipation Factor	≤1.0% (20℃,1kHz)
绝缘电阻 Insulation Resistance	UR≤100V ≥15 000MΩ, CR≤0.33μF ≥5 000s, CR>0.33μF (20℃,100V,1min) UR>100V ≥30 000MΩ, CR≤0.33μF ≥10 000s, CR>0.33μF (20℃,100V,1min)

最大脉冲爬升速率 Maximum Pulse Rise Time (dv/dt)
若实际工作电压 U 比额定电压 UR 低，电容器可工作在更高的 dv/dt 场合。这样 dv/dt 允许值为右表值乘 UR/U。

UR(V)	dv/dt (V/μs)				
	P=7.5	P=10.0	P=15.0	P=22.0	P=27.0
63	7.5	6	3	2	1
100	15	9	5	3	2
250	30	20	12	8	5
400	40	30	20	10	7
630	50	40	25	12	--

CL23 series

产品代码说明

ORDER INFORMATION

KLS10	- CL23	- XXX	- X	- XX	- XX
Pos.No.	Product Name: Metallized Polyester Film Capacitor(MEF)	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% J=± 5%	Rated Voltage 100=100VDC 250=250VDC 400=400VDC	Pitch P10=10mm P15=15mm

CL23 series

■ 外形尺寸 Dimensions (mm)

50Vdc (40Vac)					
Cn (μF)	W max	H max	T max	P	d
0.47	10.5	8.5	3.5	7.5	0.5
0.68	10.5	8.5	3.5	7.5	0.5
1.0	10.5	11.0	5.0	7.5	0.6
1.5	10.5	12.0	6.0	7.5	0.6
1.8	10.5	12.0	6.0	7.5	0.6
0.10	13.0	9.0	4.0	10.0	0.6
0.15	13.0	9.0	4.0	10.0	0.6
0.22	13.0	9.0	4.0	10.0	0.6
0.33	13.0	9.0	4.0	10.0	0.6
0.47	13.0	9.0	4.0	10.0	0.6
0.68	13.0	9.0	4.0	10.0	0.6
1.0	13.0	9.0	4.0	10.0	0.6
1.5	13.0	11.0	5.0	10.0	0.6
1.8	13.0	12.0	6.0	10.0	0.6
2.2	13.0	12.0	6.0	10.0	0.6
0.68	18.0	11.0	5.0	15.0	0.8
1.0	18.0	11.0	5.0	15.0	0.8
1.5	18.0	11.0	5.0	15.0	0.8
1.8	18.0	11.0	5.0	15.0	0.8
2.2	18.0	11.0	5.0	15.0	0.8
3.3	18.0	12.0	6.0	15.0	0.8
4.7	18.0	13.5	7.5	15.0	0.8
6.8	18.0	14.5	8.5	15.0	0.8
10.0	18.0	19.0	11.0	15.0	0.8
3.3	26.5	16.0	7.0	22.0	0.8
4.7	26.5	16.0	7.0	22.0	0.8
6.8	26.5	16.0	7.0	22.0	0.8
10.0	26.5	17.0	8.5	22.0	0.8
15.0	26.5	20.0	11.0	22.0	0.8
4.7	32.0	18.0	9.0	27.0	0.8
6.8	32.0	18.0	9.0	27.0	0.8
10.0	32.0	18.0	9.0	27.0	0.8
15.0	32.0	18.0	9.0	27.0	0.8
22.0	32.0	22.0	13.0	27.0	0.8
33.0	32.0	24.5	15.0	27.0	0.8

100Vdc (63Vac)					
Cn (μF)	W max	H max	T max	P	d
0.22	10.5	8.5	3.5	7.5	0.5
0.33	10.5	9.0	4.0	7.5	0.6
0.47	10.5	9.0	4.0	7.5	0.6
0.68	10.5	11.0	5.0	7.5	0.6
1.0	10.5	12.0	6.0	7.5	0.6
0.10	13.0	9.0	4.0	10.0	0.6
0.15	13.0	9.0	4.0	10.0	0.6
0.22	13.0	9.0	4.0	10.0	0.6
0.33	13.0	9.0	4.0	10.0	0.6
0.47	13.0	9.0	4.0	10.0	0.6
0.68	13.0	9.0	4.0	10.0	0.6
1.0	13.0	11.0	5.0	10.0	0.6
1.5	13.0	12.0	6.0	10.0	0.6
0.33	18.0	11.0	5.0	15.0	0.8
0.47	18.0	11.0	5.0	15.0	0.8
0.68	18.0	11.0	5.0	15.0	0.8
1.0	18.0	11.0	5.0	15.0	0.8
1.5	18.0	12.0	6.0	15.0	0.8
1.8	18.0	12.0	6.0	15.0	0.8
2.2	18.0	12.0	6.0	15.0	0.8
3.3	18.0	13.5	7.5	15.0	0.8
4.7	18.0	14.5	8.5	15.0	0.8
1.5	26.5	15.0	6.0	22.0	0.8
1.8	26.5	15.0	6.0	22.0	0.8
2.2	26.5	15.0	6.0	22.0	0.8
3.3	26.5	15.0	6.0	22.0	0.8
4.7	26.5	16.0	7.0	22.0	0.8
6.8	26.5	18.5	10.0	22.0	0.8
10.0	26.5	22.0	12.0	22.0	0.8
4.7	32.0	18.0	9.0	27.0	0.8
6.8	32.0	18.0	9.0	27.0	0.8
10.0	32.0	20.0	11.0	27.0	0.8

CL23 series

■ 外形尺寸 Dimensions (mm)

250Vdc (160Vac)

Cn (μF)	W max	H max	T max	P	d
0.068	10.5	8.5	3.5	7.5	0.5
0.10	10.5	8.5	3.5	7.5	0.5
0.15	10.5	9.0	4.0	7.5	0.6
0.22	10.5	11.0	5.0	7.5	0.6
0.27	10.5	12.0	6.0	7.5	0.6
0.33	10.5	12.0	6.0	7.5	0.6
0.033	13.0	9.0	4.0	10.0	0.6
0.047	13.0	9.0	4.0	10.0	0.6
0.068	13.0	9.0	4.0	10.0	0.6
0.10	13.0	9.0	4.0	10.0	0.6
0.15	13.0	9.0	4.0	10.0	0.6
0.22	13.0	11.0	5.0	10.0	0.6
0.33	13.0	11.0	5.0	10.0	0.6
0.47	13.0	12.0	6.0	10.0	0.6
0.10	18.0	11.0	5.0	15.0	0.8
0.15	18.0	11.0	5.0	15.0	0.8
0.22	18.0	11.0	5.0	15.0	0.8
0.33	18.0	11.0	5.0	15.0	0.8
0.47	18.0	11.0	5.0	15.0	0.8
0.68	18.0	12.0	6.0	15.0	0.8
1.0	18.0	13.5	7.5	15.0	0.8
1.5	18.0	14.5	8.5	15.0	0.8
0.47	26.5	15.0	6.0	22.0	0.8
0.68	26.5	15.0	6.0	22.0	0.8
1.0	26.5	15.0	6.0	22.0	0.8
1.5	26.5	16.0	7.0	22.0	0.8
1.8	26.5	16.0	7.0	22.0	0.8
2.2	26.5	17.0	8.5	22.0	0.8
3.3	26.5	20.0	11.0	22.0	0.8
1.5	32.0	18.0	9.0	27.0	0.8
1.8	32.0	18.0	9.0	27.0	0.8
2.2	32.0	18.0	9.0	27.0	0.8
3.3	32.0	18.0	9.0	27.0	0.8
4.7	32.0	20.0	11.0	27.0	0.8
6.8	32.0	22.0	13.0	27.0	0.8

400Vdc (200Vac)

Cn (μF)	W max	H max	T max	P	d
0.022	10.5	8.5	3.5	7.5	0.5
0.033	10.5	8.5	3.5	7.5	0.5
0.047	10.5	9.0	4.0	7.5	0.6
0.068	10.5	11.0	5.0	7.5	0.6
0.10	10.5	12.0	6.0	7.5	0.6
0.010	13.0	9.0	4.0	10.0	0.6
0.015	13.0	9.0	4.0	10.0	0.6
0.022	13.0	9.0	4.0	10.0	0.6
0.033	13.0	9.0	4.0	10.0	0.6
0.047	13.0	9.0	4.0	10.0	0.6
0.056	13.0	9.0	4.0	10.0	0.6
0.068	13.0	11.0	5.0	10.0	0.6

400Vdc (200Vac)

Cn (μF)	W max	H max	T max	P	d
0.10	13.0	11.0	5.0	10.0	0.6
0.15	13.0	12.0	6.0	10.0	0.6
0.047	18.0	11.0	5.0	15.0	0.8
0.068	18.0	11.0	5.0	15.0	0.8
0.10	18.0	11.0	5.0	15.0	0.8
0.15	18.0	11.0	5.0	15.0	0.8
0.22	18.0	12.0	6.0	15.0	0.8
0.33	18.0	13.5	7.5	15.0	0.8
0.47	18.0	14.5	8.5	15.0	0.8
0.68	18.0	16.0	10.0	15.0	0.8
0.22	26.5	15.0	6.0	22.0	0.8
0.33	26.5	15.0	6.0	22.0	0.8
0.47	26.5	15.0	6.0	22.0	0.8
0.68	26.5	16.0	7.0	22.0	0.8
1.0	26.5	18.5	10.0	22.0	0.8
1.5	26.5	22.0	12.0	22.0	0.8
0.68	32.0	18.0	9.0	27.0	0.8
1.0	32.0	18.0	9.0	27.0	0.8
1.5	32.0	20.0	11.0	27.0	0.8

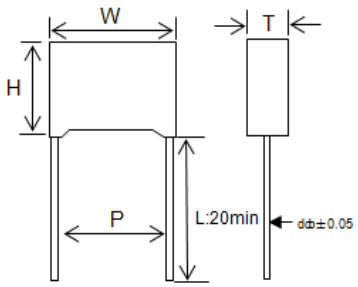
630Vdc (220Vac)@

Cn (μF)	W max	H max	T max	P	d
0.0047	10.5	8.5	3.5	7.5	0.5
0.0068	10.5	8.5	3.5	7.5	0.5
0.010	10.5	8.5	3.5	7.5	0.5
0.015	10.5	9.0	4.0	7.5	0.6
0.022	10.5	11.0	5.0	7.5	0.6
0.033	10.5	12.0	6.0	7.5	0.6
0.0047	13.0	9.0	4.0	10.0	0.6
0.0068	13.0	9.0	4.0	10.0	0.6
0.010	13.0	9.0	4.0	10.0	0.6
0.015	13.0	9.0	4.0	10.0	0.6
0.022	13.0	9.0	4.0	10.0	0.6
0.033	13.0	11.0	5.0	10.0	0.6
0.047	13.0	11.0	5.0	10.0	0.6
0.068	13.0	12.0	6.0	10.0	0.6
0.033	18.0	11.0	5.0	15.0	0.8
0.047	18.0	11.0	5.0	15.0	0.8
0.068	18.0	11.0	5.0	15.0	0.8
0.10	18.0	12.0	6.0	15.0	0.8
0.15	18.0	13.5	7.5	15.0	0.8
0.22	18.0	16.0	10.0	15.0	0.8
0.33	18.0	19.0	11.0	15.0	0.8
0.10	26.5	15.0	6.0	22.0	0.8
0.15	26.5	15.0	6.0	22.0	0.8
0.22	26.5	16.0	7.0	22.0	0.8
0.33	26.5	16.0	7.0	22.0	0.8
0.47	26.5	17.0	8.5	22.0	0.8
0.68	26.5	22.0	12.0	22.0	0.8

CL23B series

塑料外壳金属化聚酯膜叠片式电容器（P=5.0 ）
Box-type metallized polyester film capacitor(Stacked version)

■ 外形图 Outline Drawing



■ 特点

- 金属化聚酯膜，叠片式结构
- 塑料外壳（UL94 V-0），阻燃环氧填充
- 抗脉冲能力强

■ 主要用途

- 旁路，隔直，耦合，退耦
- 脉冲，定时，电路振荡器
- LCD 监控器整流，汽车直流马达抑制干扰

■ Features

- Metallized polyester film, stacked construction
- Plastic case（UL94 V-0），Epoxy resin sealing
- High dv/dt ability

■ Typical Applications:

- By-passing, blocking, coupling, decoupling,
- Pulse logic, timing, oscillator circuits.
- Inverter for LCD monitors, automotive DC motor suppression

■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 7332 (IEC 60384-2)		
气候类别 Climatic Category	55/125/56		
额定温度 Rated temperature	85℃		
工作温度范围 Operating temperature	-55℃~125℃ (+85℃ to +125℃: decreasing factor 1.25% per ℃ for VR(dc))		
额定电压 Rated Voltage	50/63V, 100V, 250V, 400V, 500V, 630V, 700V		
电容量范围 Capacitance Range	0.0010μF ~ 2.2μF		
电容量偏差 Capacitance Tolerance	±5%(J), ±10%(K), ±20%(M)		
耐电压 Voltage Proof	1.4UR (5s)		
损耗角正切 Dissipation Factor	≤1.0% (20℃,1kHz)		
绝缘电阻 Insulation Resistance	UR≤100V ≥15 000MΩ, CR≤0.33μF ≥5 000s, CR>0.33μF (20℃,100V,1min) UR>100V ≥30 000MΩ, CR≤0.33μF ≥10 000s, CR>0.33μF (20℃,100V,1min)		
最大脉冲爬升速率 Maximum Pulse Rise Time (dv/dt) 若实际工作电压 U 比额定电压 UR 低，电容器可工作在更高的 dv/dt 场合。这样 dv/dt 允许值为右表值乘 UR/U。	UR(V)	dv/dt (V/μs)	
		Patterm Ⅰ	Patterm Ⅱ
	50/63	250	75
	100	300	85
	250	400	100
	400	600	150
	500	700	200
	630	800	200
	700	--	250

CL23B series

产品代码说明

ORDER INFORMATION

KLS10	- CL23B	- XXX	- X	- XX	- XX
Pos.No.	Product Name: Metallized Polyester Film Capacitor(MEF)	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% J=± 5%	Rated Voltage 100=100VDC 250=250VDC 400=400VDC	Pitch P10=10mm P15=15mm

CL23B series

■ 外形尺寸 Dimensions (mm) Patterm Ⅱ(reduced size)

50Vdc (30Vac)/63Vdc(40Vac)#					
Cn (μF)	W max	H max	T max	P	d
0.15	7.2	6.5	2.5	5.0	0.5
0.18	7.2	6.5	2.5	5.0	0.5
0.22	7.2	6.5	2.5	5.0	0.5
0.27	7.2	6.5	2.5	5.0	0.5
0.33	7.2	7.5	3.5	5.0	0.5
0.39	7.2	7.5	3.5	5.0	0.5
0.47	7.2	7.5	3.5	5.0	0.5
0.56	7.2	9.5	4.5	5.0	0.6
0.68	7.2	9.5	4.5	5.0	0.6
0.82	7.2	9.5	4.5	5.0	0.6
1.0	7.2	10.0	5.0	5.0	0.6
1.5	7.2	11.0	6.0	5.0	0.6
2.2	7.2	11.0	6.0	5.0	0.6

100Vdc 63Vac)					
Cn (μF)	W max	H max	T max	P	d
0.10	7.2	6.5	2.5	5.0	0.5
0.12	7.2	6.5	2.5	5.0	0.5
0.15	7.2	7.5	3.5	5.0	0.5
0.18	7.2	7.5	3.5	5.0	0.5
0.22	7.2	7.5	3.5	5.0	0.5
0.27	7.2	9.5	4.5	5.0	0.6
0.33	7.2	9.5	4.5	5.0	0.6
0.39	7.2	9.5	4.5	5.0	0.6
0.47	7.2	10.0	5.0	5.0	0.6
0.56	7.2	10.0	5.0	5.0	0.6
0.68	7.2	11.0	6.0	5.0	0.6
0.82	7.2	11.0	6.0	5.0	0.6
1.0	7.2	11.0	6.0	5.0	0.6

250Vdc(140Vac)					
Cn (μF)	W max	H max	T max	P	d
0.022	7.2	6.5	2.5	5.0	0.5
0.027	7.2	6.5	2.5	5.0	0.5
0.033	7.2	6.5	2.5	5.0	0.5
0.039	7.2	7.5	3.5	5.0	0.5
0.047	7.2	7.5	3.5	5.0	0.5
0.056	7.2	7.5	3.5	5.0	0.5
0.068	7.2	7.5	3.5	5.0	0.5
0.082	7.2	9.5	4.5	5.0	0.6
0.10	7.2	9.5	4.5	5.0	0.6
0.12	7.2	9.5	4.5	5.0	0.6
0.15	7.2	10.0	5.0	5.0	0.6
0.18	7.2	11.0	6.0	5.0	0.6
0.22	7.2	11.0	6.0	5.0	0.6

400Vdc(160Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0056	7.2	6.5	2.5	5.0	0.5
0.0068	7.2	6.5	2.5	5.0	0.5
0.0082	7.2	6.5	2.5	5.0	0.5
0.010	7.2	6.5	2.5	5.0	0.5
0.012	7.2	6.5	2.5	5.0	0.5
0.015	7.2	7.5	3.5	5.0	0.5
0.018	7.2	7.5	3.5	5.0	0.5
0.022	7.2	7.5	3.5	5.0	0.5
0.027	7.2	7.5	3.5	5.0	0.5
0.033	7.2	9.5	4.5	5.0	0.6
0.039	7.2	9.5	4.5	5.0	0.6
0.047	7.2	9.5	4.5	5.0	0.6
0.051	7.2	10.0	5.0	5.0	0.6
0.056	7.2	11.0	6.0	5.0	0.6
0.068	7.2	11.0	6.0	5.0	0.6
0.082	7.2	11.0	6.0	5.0	0.6
0.10	7.2	11.0	6.0	5.0	0.6

CL23B series

■ 外形尺寸 Dimensions (mm)　Patterm Ⅱ(reduced size)

500/630Vdc (220Vac)#					
Cn (μF)	W max	H max	T max	P	d
0.0018	7.2	6.5	2.5	5.0	0.5
0.0022	7.2	6.5	2.5	5.0	0.5
0.0027	7.2	6.5	2.5	5.0	0.5
0.0033	7.2	6.5	2.5	5.0	0.5
0.0039	7.2	6.5	2.5	5.0	0.5
0.0047	7.2	6.5	2.5	5.0	0.5
0.0056	7.2	7.5	3.5	5.0	0.5
0.0068	7.2	7.5	3.5	5.0	0.5
0.0082	7.2	7.5	3.5	5.0	0.5
0.010	7.2	7.5	3.5	5.0	0.5
0.012	7.2	9.5	4.5	5.0	0.6
0.015	7.2	9.5	4.5	5.0	0.6
0.018	7.2	9.5	4.5	5.0	0.6
0.022	7.2	10.0	5.0	5.0	0.6
0.027	7.2	11.0	6.0	5.0	0.6
0.033	7.2	11.0	6.0	5.0	0.6

700Vdc (250Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0010	7.2	6.5	2.5	5.0	0.5
0.0012	7.2	6.5	2.5	5.0	0.5
0.0015	7.2	6.5	2.5	5.0	0.5
0.0018	7.2	6.5	2.5	5.0	0.5
0.0022	7.2	6.5	2.5	5.0	0.5
0.0027	7.2	6.5	2.5	5.0	0.5
0.0033	7.2	7.5	3.5	5.0	0.5
0.0039	7.2	7.5	3.5	5.0	0.5
0.0047	7.2	7.5	3.5	5.0	0.5
0.0056	7.2	7.5	3.5	5.0	0.5
0.0068	7.2	7.5	3.5	5.0	0.5
0.0082	7.2	9.5	4.5	5.0	0.6
0.010	7.2	9.5	4.5	5.0	0.6
0.012	7.2	9.5	4.5	5.0	0.6
0.015	7.2	10.0	5.0	5.0	0.6
0.018	7.2	10.0	5.0	5.0	0.6
0.022	7.2	11.0	6.0	5.0	0.6

■ 外形尺寸 Dimensions (mm)　Patterm Ⅰ

50Vdc (30Vac)/63Vdc(40Vac)#					
Cn (μF)	W max	H max	T max	P	d
0.0010	7.2	6.5	2.5	5.0	0.5
0.0012	7.2	6.5	2.5	5.0	0.5
0.0015	7.2	6.5	2.5	5.0	0.5
0.0018	7.2	6.5	2.5	5.0	0.5
0.0022	7.2	6.5	2.5	5.0	0.5
0.0027	7.2	6.5	2.5	5.0	0.5
0.0033	7.2	6.5	2.5	5.0	0.5
0.0039	7.2	6.5	2.5	5.0	0.5
0.0047	7.2	6.5	2.5	5.0	0.5
0.0056	7.2	6.5	2.5	5.0	0.5
0.0068	7.2	6.5	2.5	5.0	0.5
0.0082	7.2	6.5	2.5	5.0	0.5
0.010	7.2	6.5	2.5	5.0	0.5
0.012	7.2	6.5	2.5	5.0	0.5
0.015	7.2	6.5	2.5	5.0	0.5
0.018	7.2	6.5	2.5	5.0	0.5
0.022	7.2	6.5	2.5	5.0	0.5
0.027	7.2	6.5	2.5	5.0	0.5
0.033	7.2	6.5	2.5	5.0	0.5

50Vdc (30Vac)/63Vdc(40Vac)#					
Cn (μF)	W max	H max	T max	P	d
0.039	7.2	6.5	2.5	5.0	0.5
0.047	7.2	6.5	2.5	5.0	0.5
0.056	7.2	6.5	2.5	5.0	0.5
0.068	7.2	6.5	2.5	5.0	0.5
0.082	7.2	6.5	2.5	5.0	0.5
0.10	7.2	6.5	2.5	5.0	0.5
0.12	7.2	6.5	2.5	5.0	0.5
0.15	7.2	7.5	3.5	5.0	0.5
0.18	7.2	7.5	3.5	5.0	0.5
0.22	7.2	7.5	3.5	5.0	0.5
0.27	7.2	9.5	4.5	5.0	0.6
0.33	7.2	9.5	4.5	5.0	0.6
0.39	7.2	9.5	4.5	5.0	0.6
0.47	7.2	10.0	5.0	5.0	0.6
0.56	7.2	10.0	5.0	5.0	0.6
0.68	7.2	11.0	6.0	5.0	0.6
0.82	7.2	11.0	6.0	5.0	0.6
1.0	7.2	11.0	6.0	5.0	0.6

CL23B series

■ 外形尺寸 Dimensions (mm) Patterm Ⅰ

100Vdc (63Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0010	7.2	6.5	2.5	5.0	0.5
0.0012	7.2	6.5	2.5	5.0	0.5
0.0015	7.2	6.5	2.5	5.0	0.5
0.0018	7.2	6.5	2.5	5.0	0.5
0.0022	7.2	6.5	2.5	5.0	0.5
0.0027	7.2	6.5	2.5	5.0	0.5
0.0033	7.2	6.5	2.5	5.0	0.5
0.0039	7.2	6.5	2.5	5.0	0.5
0.0047	7.2	6.5	2.5	5.0	0.5
0.0056	7.2	6.5	2.5	5.0	0.5
0.0068	7.2	6.5	2.5	5.0	0.5
0.0082	7.2	6.5	2.5	5.0	0.5
0.010	7.2	6.5	2.5	5.0	0.5
0.012	7.2	6.5	2.5	5.0	0.5
0.015	7.2	6.5	2.5	5.0	0.5
0.018	7.2	6.5	2.5	5.0	0.5
0.022	7.2	6.5	2.5	5.0	0.5
0.027	7.2	6.5	2.5	5.0	0.5
0.033	7.2	6.5	2.5	5.0	0.5
0.039	7.2	6.5	2.5	5.0	0.5
0.047	7.2	6.5	2.5	5.0	0.5
0.056	7.2	6.5	2.5	5.0	0.5
0.068	7.2	6.5	2.5	5.0	0.5
0.082	7.2	6.5	2.5	5.0	0.5
0.10	7.2	7.5	3.5	5.0	0.5
0.12	7.2	9.5	4.5	5.0	0.6
0.15	7.2	9.5	4.5	5.0	0.6
0.18	7.2	9.5	4.5	5.0	0.6
0.22	7.2	10.0	5.0	5.0	0.6
0.27	7.2	10.0	5.0	5.0	0.6
0.33	7.2	11.0	6.0	5.0	0.6
0.39	7.2	11.0	6.0	5.0	0.6
0.47	7.2	11.0	6.0	5.0	0.6
0.56	7.2	11.0	6.0	5.0	0.6

250Vdc (160Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0010	7.2	6.5	2.5	5.0	0.5
0.0012	7.2	6.5	2.5	5.0	0.5
0.0015	7.2	6.5	2.5	5.0	0.5
0.0018	7.2	6.5	2.5	5.0	0.5
0.0022	7.2	6.5	2.5	5.0	0.5
0.0027	7.2	6.5	2.5	5.0	0.5
0.0033	7.2	6.5	2.5	5.0	0.5
0.0039	7.2	6.5	2.5	5.0	0.5
0.0047	7.2	6.5	2.5	5.0	0.5
0.0056	7.2	6.5	2.5	5.0	0.5
0.0068	7.2	6.5	2.5	5.0	0.5
0.0082	7.2	6.5	2.5	5.0	0.5
0.010	7.2	6.5	2.5	5.0	0.5
0.012	7.2	6.5	2.5	5.0	0.5
0.015	7.2	6.5	2.5	5.0	0.5
0.018	7.2	6.5	2.5	5.0	0.5
0.022	7.2	7.5	3.5	5.0	0.5
0.027	7.2	7.5	3.5	5.0	0.5
0.033	7.2	7.5	3.5	5.0	0.5
0.039	7.2	7.5	3.5	5.0	0.5
0.047	7.2	9.5	4.5	5.0	0.6
0.056	7.2	9.5	4.5	5.0	0.6
0.068	7.2	9.5	4.5	5.0	0.6
0.082	7.2	10.0	5.0	5.0	0.6
0.10	7.2	10.0	5.0	5.0	0.6
0.12	7.2	11.0	6.0	5.0	0.6
0.15	7.2	11.0	6.0	5.0	0.6

CL23B series

■ 外形尺寸 Dimensions (mm) Patterm Ⅰ

400Vdc (200Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0010	7.2	6.5	2.5	5.0	0.5
0.0012	7.2	6.5	2.5	5.0	0.5
0.0015	7.2	6.5	2.5	5.0	0.5
0.0018	7.2	6.5	2.5	5.0	0.5
0.0022	7.2	6.5	2.5	5.0	0.5
0.0027	7.2	6.5	2.5	5.0	0.5
0.0033	7.2	6.5	2.5	5.0	0.5
0.0039	7.2	6.5	2.5	5.0	0.5
0.0047	7.2	6.5	2.5	5.0	0.5
0.0056	7.2	7.5	3.5	5.0	0.5
0.0068	7.2	7.5	3.5	5.0	0.5
0.0082	7.2	7.5	3.5	5.0	0.5
0.010	7.2	7.5	3.5	5.0	0.5
0.012	7.2	9.5	4.5	5.0	0.6
0.015	7.2	9.5	4.5	5.0	0.6
0.018	7.2	9.5	4.5	5.0	0.6
0.022	7.2	10.0	5.0	5.0	0.6
0.027	7.2	11.0	6.0	5.0	0.6
0.033	7.2	11.0	6.0	5.0	0.6
0.039	7.2	11.0	6.0	5.0	0.6
0.047	7.2	11.0	6.0	5.0	0.6

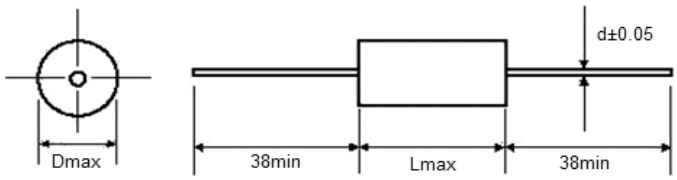
500Vdc (220Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0010	7.2	6.5	2.5	5.0	0.5
0.0012	7.2	6.5	2.5	5.0	0.5
0.0015	7.2	6.5	2.5	5.0	0.5
0.0018	7.2	6.5	2.5	5.0	0.5
0.0022	7.2	6.5	2.5	5.0	0.5
0.0027	7.2	6.5	2.5	5.0	0.5
0.0033	7.2	7.5	3.5	5.0	0.5
0.0039	7.2	7.5	3.5	5.0	0.5
0.0047	7.2	7.5	3.5	5.0	0.5
0.0056	7.2	7.5	3.5	5.0	0.5
0.0068	7.2	9.5	4.5	5.0	0.6
0.0082	7.2	9.5	4.5	5.0	0.6
0.010	7.2	9.5	4.5	5.0	0.6
0.012	7.2	9.5	4.5	5.0	0.6
0.015	7.2	10.0	5.0	5.0	0.6
0.018	7.2	11.0	6.0	5.0	0.6
0.022	7.2	11.0	6.0	5.0	0.6
0.027	7.2	11.0	6.0	5.0	0.6

630Vdc (220Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0010	7.2	6.5	2.5	5.0	0.5
0.0012	7.2	6.5	2.5	5.0	0.5
0.0015	7.2	6.5	2.5	5.0	0.5
0.0018	7.2	7.5	3.5	5.0	0.5
0.0022	7.2	7.5	3.5	5.0	0.5
0.0027	7.2	7.5	3.5	5.0	0.5
0.0033	7.2	7.5	3.5	5.0	0.5
0.0039	7.2	7.5	3.5	5.0	0.5
0.0047	7.2	9.5	4.5	5.0	0.6
0.0056	7.2	9.5	4.5	5.0	0.6
0.0068	7.2	9.5	4.5	5.0	0.6
0.0082	7.2	9.5	4.5	5.0	0.6
0.010	7.2	10.0	5.0	5.0	0.6
0.012	7.2	11.0	6.0	5.0	0.6
0.015	7.2	11.0	6.0	5.0	0.6
0.018	7.2	11.0	6.0	5.0	0.6

CBB20 series

轴向金属化聚丙烯膜电容器
Metallized polypropylene film capacitor(Axial-type)

■ 外形图 Outline Drawing



■ 特点
- 金属化聚丙烯，无感卷绕结构，轴向
- 自愈性能优异
- 外包聚酯胶带纸，两端灌注阻燃性环氧树脂

■ Features
- Metalized Polypropylene film, non-inductive type, axial
- Excellent self-healing property
- Wrapped with polyester adhesive tape and ends filled with Flame retardant epoxy resin

■ 主要用途
- 温度补偿电路
- 定时，振荡电路
- 功率因素校正，开关电源耦合用

■ Typical application
- Temperature compensation circuits
- Time, oscillator circuits
- Power factor correction and coupling capacitor in SMPS applications

■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 10190 (IEC 60384-16)							
气候类别 Climatic Category	40/105/21							
额定温度 Rated temperature	85℃							
工作温度范围 Operating temperature	-40℃~105℃ (+85℃ to +105℃: decreasing factor 1.25% per ℃ for VR(dc))							
额定电压 Rated Voltage	100V/160V, 250V, 400V, 630V, 1000V,1250V							
电容量范围 Capacitance Range	0.0010 ~ 15μF							
电容量偏差 Capacitance Tolerance	±5%(J), ±10% (K), ±20% (M)							
耐电压 Voltage Proof	1.6UR (5s)							
损耗角正切 Dissipation Factor	≤10×10-4(20℃, 1kHz)							
绝缘电阻 Insulation Resistance	≥50 000MΩ, CR≤0.33μF ≥15 000s, CR>0.33μF (20℃,100V,1min)							
最大脉冲爬升速率 Maximum Pulse Rise Time (dv/dt) 若实际工作电压 U 比额定电压 UR 低，电容器可工作在更高的 dv/dt 场合。这样 dv/dt 允许值为右表值乘 UR/U。	UR(V)	dv/dt (V/μs)						
		L=12	L=15	L=19	L=27	L=32	L=42	L=56
	100/160	150	110	80	60	50	35	20
	250	300	220	150	110	90	60	30
	400	460	330	250	180	120	80	45
	630	600	440	300	220	150	100	60
	1000	800	550	400	300	200	150	80
	1250	1000	750	580	400	300	200	100

CBB20 series

产品代码说明

ORDER INFORMATION

KLS10	- CBB20	- XXX	- X	- XX	-P10
Pos.No.	Product Name: Metallized Polypropylene Film Capacitor	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% J=± 5%	Rated Voltage 100=100VDC 250=250VDC	Pitch P10=10mm P15=15mm

CBB20 series

■ 外形尺寸 Dimensions (mm)

100Vdc(60Vac)160Vdc(90Vac)#			
Cn (μF)	D max	L max	d
0.022	5.0	12.0	0.6
0.027	5.0	12.0	0.6
0.033	5.0	12.0	0.6
0.039	5.0	12.0	0.6
0.047	5.0	12.0	0.6
0.056	5.0	12.0	0.6
0.068	5.5	12.0	0.6
0.082	5.0	15.0	0.6
0.10	5.5	15.0	0.6
0.12	6.0	15.0	0.6
0.15	6.5	15.0	0.6
0.18	7.0	15.0	0.8
0.22	7.5	15.0	0.8
0.27	8.5	15.0	0.8
0.33	7.0	19.0	0.8
0.39	7.5	19.0	0.8
0.47	8.0	19.0	0.8
0.56	9.0	19.0	0.8
0.68	8.0	27.0	0.8
0.82	8.5	27.0	0.8
1.0	9.5	27.0	0.8
1.2	10.0	27.0	0.8
1.5	11.5	27.0	0.8
1.8	12.0	27.0	0.8
2.2	12.0	32.0	0.8
2.7	13.0	32.0	0.8
3.3	14.0	32.0	0.8
3.9	15.0	32.0	0.8
4.7	16.5	32.0	1.0
5.6	17.5	32.0	1.0
6.8	17.5	42.0	1.0
8.2	19.0	42.0	1.0
10.0	20.5	42.0	1.0
12.0	19.0	56.0	1.0
15.0	21.0	56.0	1.0

250Vdc(160Vac)			
Cn (μF)	D max	L max	d
0.010	5.0	12.0	0.6
0.012	5.0	12.0	0.6
0.015	5.0	12.0	0.6
0.018	5.0	12.0	0.6
0.022	5.0	12.0	0.6
0.027	5.0	12.0	0.6
0.033	5.5	12.0	0.6
0.039	5.0	15.0	0.6
0.047	5.5	15.0	0.6
0.056	5.5	15.0	0.6
0.068	6.0	15.0	0.6
0.082	6.5	15.0	0.6
0.10	7.0	15.0	0.8
0.12	7.5	15.0	0.8
0.15	8.0	15.0	0.8
0.18	8.5	15.0	0.8
0.22	7.5	19.0	0.8
0.27	8.0	19.0	0.8
0.33	9.0	19.0	0.8
0.39	9.5	19.0	0.8
0.47	8.5	27.0	0.8
0.56	9.0	27.0	0.8
0.68	10.0	27.0	0.8
0.82	10.5	27.0	0.8
1.0	12.0	27.0	0.8
1.2	12.5	27.0	0.8
1.5	12.5	32.0	0.8
1.8	13.5	32.0	0.8
2.2	14.5	32.0	0.8
2.7	16.0	32.0	1.0
3.3	17.5	32.0	1.0
3.9	18.5	32.0	1.0
4.7	18.0	42.0	1.0
5.6	19.5	42.0	1.0
6.8	21.5	42.0	1.0
8.2	23.0	42.0	1.0
10.0	21.5	56.0	1.0
12.0	23.5	56.0	1.0
15.0	25.5	56.0	1.0

400Vdc(200Vac)			
Cn (μF)	D max	L max	d
0.0068	5.0	12.0	0.6
0.0082	5.0	12.0	0.6
0.010	5.0	12.0	0.6
0.012	5.0	12.0	0.6
0.015	5.0	12.0	0.6
0.018	5.5	12.0	0.6
0.022	5.5	12.0	0.6
0.027	5.0	15.0	0.6
0.033	5.5	15.0	0.6
0.039	6.0	15.0	0.6
0.047	6.5	15.0	0.6
0.056	6.5	15.0	0.6
0.068	7.0	15.0	0.8
0.082	7.5	15.0	0.8
0.10	7.0	19.0	0.8
0.12	7.5	19.0	0.8
0.15	8.0	19.0	0.8
0.18	8.5	19.0	0.8
0.22	9.0	19.0	0.8
0.27	10.0	19.0	0.8
0.33	9.0	27.0	0.8
0.39	9.5	27.0	0.8
0.47	10.0	27.0	0.8
0.56	10.5	27.0	0.8
0.68	12.0	27.0	0.8
0.82	13.0	27.0	0.8
1.0	12.5	32.0	0.8
1.2	13.5	32.0	0.8
1.5	15.0	32.0	0.8
1.8	16.0	32.0	1.0
2.2	17.5	32.0	1.0
2.7	19.0	32.0	1.0
3.3	18.5	42.0	1.0
3.9	20.0	42.0	1.0
4.7	21.5	42.0	1.0
5.6	23.5	42.0	1.0
6.8	21.5	56.0	1.0
8.2	23.5	56.0	1.0
10.0	25.5	56.0	1.0

CBB20 series

■ 外形尺寸 Dimensions (mm)

630Vdc(220Vac)@				
Cn (μF)	D max	L max	d	
0.0010	5.0	12.0	0.6	
0.0012	5.0	12.0	0.6	
0.0015	5.0	12.0	0.6	
0.0018	5.0	12.0	0.6	
0.0022	5.0	12.0	0.6	
0.0027	5.0	12.0	0.6	
0.0033	5.0	12.0	0.6	
0.0039	5.0	12.0	0.6	
0.0047	5.0	12.0	0.6	
0.0056	5.0	12.0	0.6	
0.0068	5.5	12.0	0.6	
0.0082	5.0	15.0	0.6	
0.010	5.5	15.0	0.6	
0.012	5.5	15.0	0.6	
0.015	6.0	15.0	0.6	
0.018	6.5	15.0	0.6	
0.022	7.0	15.0	0.8	
0.027	7.5	15.0	0.8	
0.033	7.0	19.0	0.8	
0.039	7.5	19.0	0.8	
0.047	8.0	19.0	0.8	
0.056	8.5	19.0	0.8	
0.068	9.0	19.0	0.8	
0.082	9.5	19.0	0.8	
0.10	8.5	27.0	0.8	
0.12	9.0	27.0	0.8	
0.15	10.0	27.0	0.8	
0.18	10.5	27.0	0.8	
0.22	12.0	27.0	0.8	
0.27	13.0	27.0	0.8	
0.33	12.5	32.0	0.8	
0.39	13.5	32.0	0.8	
0.47	14.5	32.0	0.8	
0.56	15.5	32.0	0.8	
0.68	17.0	32.0	1.0	
0.82	18.0	32.0	1.0	
1.0	17.5	42.0	1.0	
1.2	19.0	42.0	1.0	
1.5	21.0	42.0	1.0	
1.8	22.5	42.0	1.0	
2.2	24.5	42.0	1.0	
2.7	23.0	56.0	1.0	
3.3	25.0	56.0	1.0	

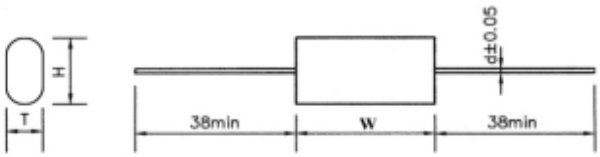
1000Vdc(350Vac)				
Cn (μF)	D max	L max	d	Part number
0.0010	5.0	12.0	0.6	
0.0012	5.0	12.0	0.6	
0.0015	5.0	12.0	0.6	
0.0018	5.5	12.0	0.6	
0.0022	6.0	12.0	0.6	
0.0027	6.0	12.0	0.6	
0.0033	6.5	12.0	0.6	
0.0039	5.5	15.0	0.6	
0.0047	5.5	15.0	0.6	
0.0056	6.5	15.0	0.6	
0.0068	6.5	15.0	0.6	
0.0082	7.0	15.0	0.8	
0.010	7.5	15.0	0.8	
0.012	8.0	15.0	0.8	
0.015	8.5	15.0	0.8	
0.018	7.5	19.0	0.8	
0.022	8.0	19.0	0.8	
0.027	8.5	19.0	0.8	
0.033	9.0	19.0	0.8	
0.039	10.0	19.0	0.8	
0.047	10.5	19.0	0.8	
0.056	9.0	27.0	0.8	
0.068	9.5	27.0	0.8	
0.082	10.5	27.0	0.8	
0.10	11.5	27.0	0.8	
0.12	12.0	27.0	0.8	
0.15	12.0	32.0	0.8	
0.18	13.0	32.0	0.8	
0.22	14.0	32.0	0.8	
0.27	15.0	32.0	0.8	
0.33	16.5	32.0	1.0	
0.39	18.0	32.0	1.0	
0.47	17.5	42.0	1.0	
0.56	19.0	42.0	1.0	
0.68	20.5	42.0	1.0	
0.82	22.0	42.0	1.0	
1.0	20.5	56.0	1.0	
1.2	22.0	56.0	1.0	
1.5	24.5	56.0	1.0	

1200Vdc(400Vac)				
Cn (μF)	D max	L max	d	
0.0010	5.0	12.0	0.6	
0.0012	5.5	12.0	0.6	
0.0015	5.5	12.0	0.6	
0.0018	6.0	12.0	0.6	
0.0022	6.5	12.0	0.6	
0.0027	5.5	15.0	0.6	
0.0033	6.0	15.0	0.6	
0.0039	6.0	15.0	0.6	
0.0047	6.5	15.0	0.6	
0.0056	7.0	15.0	0.8	
0.0068	7.5	15.0	0.8	
0.0082	8.0	15.0	0.8	
0.010	8.5	15.0	0.8	
0.012	7.0	19.0	0.8	
0.015	7.5	19.0	0.8	
0.018	8.0	19.0	0.8	
0.022	8.5	19.0	0.8	
0.027	9.5	19.0	0.8	
0.033	10.5	19.0	0.8	
0.039	9.0	27.0	0.8	
0.047	9.5	27.0	0.8	
0.056	10.0	27.0	0.8	
0.068	11.0	27.0	0.8	
0.082	12.0	27.0	0.8	
0.10	13.0	27.0	0.8	
0.12	12.5	32.0	0.8	
0.15	13.5	32.0	0.8	
0.18	14.5	32.0	0.8	
0.22	16.0	32.0	1.0	
0.27	17.0	32.0	1.0	
0.33	17.0	42.0	1.0	
0.39	18.0	42.0	1.0	
0.47	19.5	42.0	1.0	
0.56	21.0	42.0	1.0	
0.68	20.0	56.0	1.0	
0.82	21.5	56.0	1.0	
1.0	23.0	56.0	1.0	
1.2	25.0	56.0	1.0	
1.5	27.5	56.0	1.0	

CBB20A series

轴向金属化聚丙烯膜电容器
Metallized polypropylene film capacitor(Axial-type)

■ 外形图 Outline Drawing



■ 特点
- 金属化聚丙烯，无感卷绕结构，轴向
- 自愈性能优异
- 外包聚酯胶带纸，两端灌注阻燃性环氧树脂

■ Features
- Metalized Polypropylene film, non-inductive type, axial
- Excellent self-healing property
- Wrapped with polyester adhesive tape and ends filled with Flame retardant epoxy resin

■ 主要用途
- 温度补偿电路
- 定时，振荡电路
- 功率因素校正，开关电源耦合用

■ Typical application
- Temperature compensation circuits
- Time, oscillator circuits
- Power factor correction and coupling capacitor in SMPS applications

■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 10190 (IEC 60384-16)							
气候类别 Climatic Category	40/105/21							
额定温度 Rated temperature	85℃							
工作温度范围 Operating temperature	-40℃~105℃ (+85℃ to +105℃: decreasing factor 1.25% per ℃ for VR(dc))							
额定电压 Rated Voltage	100V/160V, 250V, 400V, 630V, 1000V,1250V							
电容量范围 Capacitance Range	0.0010 ~ 15μF							
电容量偏差 Capacitance Tolerance	±5%(J), ±10% (K), ±20% (M)							
耐电压 Voltage Proof	1.6UR (5s)							
损耗角正切 Dissipation Factor	≤10×10-4(20℃, 1kHz)							
绝缘电阻 Insulation Resistance	≥50 000MΩ, CR≤0.33μF ≥15 000s, CR>0.33μF (20℃,100V,1min)							
最大脉冲爬升速率 Maximum Pulse Rise Time (dv/dt) 若实际工作电压 U 比额定电压 UR 低，电容器可工作在更高的 dv/dt 场合。这样 dv/dt 允许值为右表值乘 UR/U。	UR(V)	dv/dt (V/μs)						
		L=12	L=15	L=19	L=27	L=32	L=42	L=56
	100/160	150	110	80	60	50	35	20
	250	300	220	150	110	90	60	30
	400	460	330	250	180	120	80	45
	630	600	440	300	220	150	100	60
	1000	800	550	400	300	200	150	80
	1250	1000	750	580	400	300	200	100

CBB20A series

产品代码说明 Part number system

ORDER INFORMATION

KLS10	- CBB20A	- XXX	- X	- XX	-P10
Pos.No.	Product Name: Metallized Polypropylene Film Capacitor	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% J=± 5%	Rated Voltage 100=100VDC 250=250VDC	Pitch P10=10mm P15=15mm

CBB20A series

■ 外形尺寸 Dimensions (mm)

100Vdc(60Vac)160Vdc(90Vac)#				
Cn (μF)	T max	H max	L max	d
0.022	4.0	8.0	12.0	0.6
0.027	4.0	8.0	12.0	0.6
0.033	4.0	8.0	12.0	0.6
0.039	4.0	8.0	12.0	0.6
0.047	4.0	8.0	12.0	0.6
0.056	4.0	8.0	12.0	0.6
0.068	4.5	8.5	12.0	0.6
0.082	4.5	9.0	15.0	0.6
0.10	4.5	9.0	15.0	0.6
0.12	4.5	9.0	15.0	0.6
0.15	5.0	9.5	15.0	0.6
0.18	5.5	10.0	15.0	0.8
0.22	6.0	11.0	15.0	0.8
0.27	6.5	11.5	15.0	0.8
0.33	5.0	10.5	19.0	0.8
0.39	5.5	11.5	19.0	0.8
0.47	5.5	13.0	19.0	0.8
0.56	6.0	13.5	19.0	0.8
0.68	6.0	13.0	27.0	0.8
0.82	6.5	14.0	27.0	0.8
1.0	6.5	16.5	27.0	0.8
1.2	7.0	17.5	27.0	0.8
1.5	8.0	18.5	27.0	0.8
1.8	9.0	19.5	27.0	0.8
2.2	8.5	18.5	32.0	0.8
2.7	9.5	19.5	32.0	0.8
3.3	10.5	20.5	32.0	0.8
3.9	11.5	21.5	32.0	0.8
4.7	12.5	23.0	32.0	1.0
5.6	13.5	24.0	32.0	1.0
6.8	12.5	23.0	42.0	1.0
8.2	14.0	24.5	42.0	1.0
10.0	15.5	26.5	42.0	1.0
12.0	14.5	25.0	56.0	1.0
15.0	16.5	27.0	56.0	1.0

250Vdc(160Vac)				
Cn (μF)	T max	H max	L max	d
0.010	4.0	8.0	12.0	0.6
0.012	4.0	8.0	12.0	0.6
0.015	4.0	8.0	12.0	0.6
0.018	4.0	8.0	12.0	0.6
0.022	4.0	8.0	12.0	0.6
0.027	4.0	8.0	12.0	0.6
0.033	4.5	8.5	12.0	0.6
0.039	4.5	8.5	15.0	0.6
0.047	4.5	9.0	15.0	0.6
0.056	5.0	9.5	15.0	0.6
0.068	5.5	9.5	15.0	0.6
0.082	5.5	9.5	15.0	0.6
0.10	5.5	9.5	15.0	0.8
0.12	5.5	9.5	15.0	0.8
0.15	5.5	9.5	15.0	0.8
0.18	5.5	10.0	15.0	0.8
0.22	4.5	9.5	19.0	0.8
0.27	5.0	9.5	19.0	0.8
0.33	5.5	10.0	19.0	0.8
0.39	5.5	11.0	19.0	0.8
0.47	5.5	12.5	27.0	0.8
0.56	5.0	11.0	27.0	0.8
0.68	5.5	13.0	27.0	0.8
0.82	6.5	13.5	27.0	0.8
1.0	6.5	16.5	27.0	0.8
1.2	7.0	17.0	27.0	0.8
1.5	6.5	17.0	32.0	0.8
1.8	7.0	17.5	32.0	0.8
2.2	8.0	18.5	32.0	0.8
2.7	9.0	19.5	32.0	1.0
3.3	10.0	20.5	32.0	1.0
3.9	11.0	21.5	32.0	1.0
4.7	10.0	20.5	42.0	1.0
5.6	11.0	21.5	42.0	1.0
6.8	12.0	23.0	42.0	1.0
8.2	13.5	24.5	42.0	1.0
10.0	13.0	24.0	56.0	1.0
12.0	15.0	25.0	56.0	1.0
15.0	17.0	27.0	56.0	1.0

CBB20A series

■ 外形尺寸 Dimensions (mm)

400Vdc (200Vac)				
Cn (μF)	T max	H max	L max	d
0.0068	4.0	8.0	12.0	0.6
0.0082	4.0	8.0	12.0	0.6
0.010	4.0	8.0	12.0	0.6
0.012	4.0	8.0	12.0	0.6
0.015	4.0	8.0	12.0	0.6
0.018	4.0	8.0	12.0	0.6
0.022	4.0	8.0	12.0	0.6
0.027	4.5	8.5	15.0	0.6
0.033	5.0	9.5	15.0	0.6
0.039	5.0	9.5	15.0	0.6
0.047	5.0	9.5	15.0	0.6
0.056	5.0	9.5	15.0	0.6
0.068	5.5	10.0	15.0	0.8
0.082	6.0	10.5	15.0	0.8
0.10	5.0	9.5	19.0	0.8
0.12	5.5	10.0	19.0	0.8
0.15	6.0	10.5	19.0	0.8
0.18	6.5	11.5	19.0	0.8
0.22	7.5	12.5	19.0	0.8
0.27	8.0	13.5	19.0	0.8
0.33	7.0	14.0	27.0	0.8
0.39	7.5	14.5	27.0	0.8
0.47	8.0	15.0	27.0	0.8
0.56	7.5	18.0	27.0	0.8
0.68	8.5	19.0	27.0	0.8
0.82	9.5	20.0	27.0	0.8
1.0	8.5	19.0	32.0	0.8
1.2	9.5	20.0	32.0	0.8
1.5	10.5	21.0	32.0	0.8
1.8	11.5	22.0	32.0	1.0
2.2	13.0	23.5	32.0	1.0
2.7	14.5	25.0	32.0	1.0
3.3	14.0	24.0	42.0	1.0
3.9	15.0	26.0	42.0	1.0
4.7	16.5	27.5	42.0	1.0
5.6	18.5	29.0	42.0	1.0
6.8	17.0	27.5	56.0	1.0
8.2	19.0	29.5	56.0	1.0
10.0	21.0	31.5	56.0	1.0

630Vdc (220Vac)@				
Cn (μF)	T max	H max	L max	d
0.0010	4.0	8.0	12.0	0.6
0.0012	4.0	8.0	12.0	0.6
0.0015	4.0	8.0	12.0	0.6
0.0018	4.0	8.0	12.0	0.6
0.0022	4.0	8.0	12.0	0.6
0.0027	4.0	8.0	12.0	0.6
0.0033	4.0	8.0	12.0	0.6
0.0039	4.0	8.0	12.0	0.6
0.0047	4.0	8.0	12.0	0.6
0.0056	4.0	8.0	12.0	0.6
0.0068	4.5	8.5	12.0	0.6
0.0082	4.5	9.0	15.0	0.6
0.010	5.0	9.5	15.0	0.6
0.012	5.5	10.0	15.0	0.6
0.015	5.5	10.0	15.0	0.6
0.018	5.5	10.0	15.0	0.6
0.022	5.5	10.5	15.0	0.8
0.027	6.5	11.0	15.0	0.8
0.033	5.5	10.0	19.0	0.8
0.039	6.0	10.5	19.0	0.8
0.047	6.0	11.5	19.0	0.8
0.056	6.5	12.0	19.0	0.8
0.068	6.5	13.5	19.0	0.8
0.082	7.0	14.5	19.0	0.8
0.10	6.5	13.5	27.0	0.8
0.12	7.0	14.5	27.0	0.8
0.15	7.0	17.0	27.0	0.8
0.18	7.5	18.5	27.0	0.8
0.22	8.5	19.0	27.0	0.8
0.27	9.5	20.0	27.0	0.8
0.33	8.5	19.0	32.0	0.8
0.39	9.0	19.5	32.0	0.8
0.47	10.5	21.0	32.0	0.8
0.56	11.0	22.0	32.0	0.8
0.68	12.5	23.0	32.0	1.0
0.82	13.5	24.5	32.0	1.0
1.0	12.5	23.5	42.0	1.0
1.2	14.0	25.0	42.0	1.0
1.5	16.0	27.0	42.0	1.0
1.8	17.5	28.5	42.0	1.0
2.2	19.5	30.5	42.0	1.0
2.7	18.0	29.0	56.0	1.0
3.3	20.0	31.0	56.0	1.0

CBB20A series

■ 外形尺寸 Dimensions (mm)

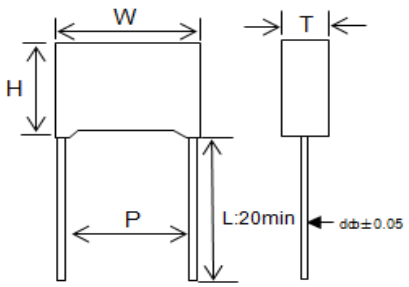
1000Vdc (350Vac)				
Cn (μF)	T max	H max	L max	d
0.0010	4.0	8.0	12.0	0.6
0.0012	4.0	8.0	12.0	0.6
0.0015	4.0	8.0	12.0	0.6
0.0018	4.5	8.5	12.0	0.6
0.0022	4.5	8.5	12.0	0.6
0.0027	4.5	8.5	12.0	0.6
0.0033	4.5	8.5	12.0	0.6
0.0039	5.0	9.0	15.0	0.6
0.0047	5.5	9.5	15.0	0.6
0.0056	5.5	9.5	15.0	0.6
0.0068	5.5	9.5	15.0	0.6
0.0082	5.5	10.0	15.0	0.8
0.010	6.0	10.5	15.0	0.8
0.012	6.5	11.0	15.0	0.8
0.015	7.5	12.0	15.0	0.8
0.018	5.5	10.0	19.0	0.8
0.022	5.5	13.5	19.0	0.8
0.027	6.5	14.5	19.0	0.8
0.033	7.5	14.5	19.0	0.8
0.039	8.0	15.0	19.0	0.8
0.047	8.5	16.0	19.0	0.8
0.056	7.5	15.0	27.0	0.8
0.068	7.5	18.0	27.0	0.8
0.082	8.0	19.0	27.0	0.8
0.10	9.0	20.5	27.0	0.8
0.12	10.0	21.5	27.0	0.8
0.15	9.0	20.5	32.0	0.8
0.18	10.0	21.5	32.0	0.8
0.22	11.0	22.5	32.0	0.8
0.27	13.0	24.0	32.0	0.8
0.33	14.5	25.5	32.0	1.0
0.39	16.0	26.5	32.0	1.0
0.47	14.0	25.0	42.0	1.0
0.56	15.5	26.5	42.0	1.0
0.68	17.0	28.0	42.0	1.0
0.82	19.0	30.0	42.0	1.0
1.0	18.5	29.0	56.0	1.0
1.2	20.0	30.5	56.0	1.0
1.5	23.0	33.0	56.0	1.0

1250Vdc (400Vac)				
Cn (μF)	T max	H max	L max	d
0.0010	4.5	8.5	12.0	0.6
0.0012	4.5	8.5	12.0	0.6
0.0015	4.5	8.5	12.0	0.6
0.0018	4.5	8.5	12.0	0.6
0.0022	4.5	8.5	12.0	0.6
0.0027	5.0	9.5	15.0	0.6
0.0033	5.0	9.5	15.0	0.6
0.0039	5.0	9.5	15.0	0.6
0.0047	5.0	9.5	15.0	0.6
0.0056	5.5	10.0	15.0	0.8
0.0068	6.0	10.5	15.0	0.8
0.0082	6.5	11.0	15.0	0.8
0.010	8.0	12.5	15.0	0.8
0.012	5.5	12.5	19.0	0.8
0.015	6.0	13.0	19.0	0.8
0.018	6.5	13.5	19.0	0.8
0.022	6.5	17.0	19.0	0.8
0.027	7.5	18.0	19.0	0.8
0.033	8.0	18.5	19.0	0.8
0.039	7.0	18.0	27.0	0.8
0.047	8.5	19.0	27.0	0.8
0.056	9.0	20.0	27.0	0.8
0.068	9.5	20.5	27.0	0.8
0.082	10.5	21.5	27.0	0.8
0.10	11.5	23.0	27.0	0.8
0.12	10.5	21.5	32.0	0.8
0.15	11.5	23.0	32.0	0.8
0.18	12.5	24.0	32.0	0.8
0.22	15.0	26.0	32.0	1.0
0.27	16.5	27.5	32.0	1.0
0.33	15.0	25.5	42.0	1.0
0.39	16.5	27.0	42.0	1.0
0.47	18.0	29.0	42.0	1.0
0.56	19.5	30.5	42.0	1.0
0.68	17.5	31.5	56.0	1.0
0.82	19.5	33.5	56.0	1.0
1.0	22.0	36.0	56.0	1.0
1.2	24.5	38.0	56.0	1.0
1.5	27.5	41.5	56.0	1.0

CBB21B series

金属化聚丙烯膜电容器
Metallized polypropylene film capacitor(Box-type)

■ 外形图 Outline Drawing



■ 特点

- 金属聚丙烯膜
- 高频损耗小
- 内部温升小
- 塑料外壳（UL94 V-0），阻燃环氧填充

■ 主要用途

- 广泛应用于高频，直流，交流和脉冲电路中
- 电视机，显示器 校正电路

■ Features

- Metallized polypropylene structure
- Low loss at high frequency
- Small inherent temperature rise
- Plastic case（UL94 V-0），Epoxy resin sealing

■ Typical application

- Widely used in high frequency, DC,AC and pulse circuits
- S-correction circuits for TV sets and monitors

■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 14579(IEC 60384-17)
气候类别 Climatic Category	55/105/56
额定温度 Rated temperature	85℃
工作温度范围 Operating temperature	-40℃~105℃ (+85℃ to +105℃: decreasing factor 1.25% per ℃ for VR(dc))
额定电压 Rated Voltage	160Vdc(90Vac), 250Vdc(160Vac), 400Vdc(220Vac), 630Vdc(250Vac), 1000Vdc(400Vac),1600Vdc(600Vac),2000Vdc(700Vac)
电容量范围 Capacitance Range	0.000560 ~ 15.0μF
电容量偏差 Capacitance Tolerance	±2%(G) ,±3%(H), ±5%(J), ±10% (K), ±20% (M)
耐电压 Voltage Proof	1.6UR (5s)
损耗角正切 Dissipation Factor	≤10×10-4(20℃, 1kHz)
绝缘电阻 Insulation Resistance	≥50 000MΩ, CR≤0.33μF ≥15 000s, CR>0.33μF (20℃,100V,1min)

最大脉冲爬升速率 Maximum Pulse Rise Time (dv/dt)
若实际工作电压 U 比额定电压 UR 低，电容器可工作在更高的 dv/dt 场合。这样 dv/dt 允许值为右表值乘 UR/U。

UR(V)	dv/dt (V/μs)					
	P=5.0	P=7.5	P=10	P=15	P=22	P=27
160	110	310	190	110	65	55
250	270	660	560	310	130	110
400	440	900	780	600	300	130
630	550	1500	1200	900	400	200
1000	--	--	2200	2000	800	--
1600	--	--	--	4500	1800	--
2000	--	--	--	9500	4500	--

CBB21B series

产品代码说明

ORDER INFORMATION

KLS10	- CBB21	- XXX	- X	- XX	-P10
Pos.No.	Product Name: Metallized Polypropylene Film Capacitor	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% J=± 5%	Rated Voltage 100=100VDC 250=250VDC	Pitch P10=10mm P15=15mm

CBB21B series

■ 外形尺寸 Dimensions (mm)

160Vdc (90Vac)					
Cn (μF)	W max	H max	T max	P	d
0.027	7.2	7.5	3.5	5.0	0.5
0.033	7.2	7.5	3.5	5.0	0.5
0.039	7.2	7.5	3.5	5.0	0.5
0.047	7.2	9.5	4.5	5.0	0.6
0.056	7.2	9.5	4.5	5.0	0.6
0.068	7.2	9.5	4.5	5.0	0.6
0.082	7.2	10.0	5.0	5.0	0.6
0.10	7.2	10.0	5.0	5.0	0.6
0.12	7.2	11.0	6.0	5.0	0.6
0.15	7.2	11.0	6.0	5.0	0.6
0.068	10.5	9.0	4.0	7.5	0.6
0.082	10.5	9.0	4.0	7.5	0.6
0.10	10.5	11.0	5.0	7.5	0.6
0.12	10.5	11.0	5.0	7.5	0.6
0.15	10.5	12.0	6.0	7.5	0.6
0.18	10.5	12.0	6.0	7.5	0.6
0.082	13.0	9.0	4.0	10.0	0.6
0.10	13.0	9.0	4.0	10.0	0.6
0.12	13.0	11.0	5.0	10.0	0.6
0.15	13.0	11.0	5.0	10.0	0.6
0.18	13.0	11.0	5.0	10.0	0.6
0.22	13.0	12.0	6.0	10.0	0.6
0.27	13.0	12.0	6.0	10.0	0.6
0.18	18.0	11.0	5.0	15.0	0.8
0.22	18.0	11.0	5.0	15.0	0.8
0.27	18.0	11.0	5.0	15.0	0.8
0.33	18.0	11.0	5.0	15.0	0.8
0.39	18.0	12.0	6.0	15.0	0.8
0.47	18.0	12.0	6.0	15.0	0.8
0.56	18.0	13.5	7.5	15.0	0.8
0.68	18.0	13.5	7.5	15.0	0.8

160Vdc (90Vac)					
Cn (μF)	W max	H max	T max	P	d
0.82	18.0	14.5	8.5	15.0	0.8
1.0	18.0	16.0	10.0	15.0	0.8
1.2	18.0	16.0	10.0	15.0	0.8
1.5	18.0	19.0	11.0	15.0	0.8
1.8	18.0	19.0	11.0	15.0	0.8
0.47	26.5	15.0	6.0	22.0	0.8
0.56	26.5	15.0	6.0	22.0	0.8
0.68	26.5	15.0	6.0	22.0	0.8
0.82	26.5	16.0	7.0	22.0	0.8
1.0	26.5	16.0	7.0	22.0	0.8
1.2	26.5	17.0	8.5	22.0	0.8
1.5	26.5	17.0	8.5	22.0	0.8
1.8	26.5	18.5	10.0	22.0	0.8
2.2	26.5	20.0	11.0	22.0	0.8
2.7	26.5	22.0	12.0	22.0	0.8
3.3	26.5	22.0	12.0	22.0	0.8
1.0	32.0	18.0	9.0	27.0	0.8
1.2	32.0	18.0	9.0	27.0	0.8
1.5	32.0	18.0	9.0	27.0	0.8
1.8	32.0	18.0	9.0	27.0	0.8
2.2	32.0	18.0	9.0	27.0	0.8
2.7	32.0	20.0	11.0	27.0	0.8
3.3	32.0	20.0	11.0	27.0	0.8
3.9	32.0	22.0	13.0	27.0	0.8
4.7	32.0	28.0	14.0	27.0	0.8
5.6	32.0	24.5	15.0	27.0	0.8
6.8	32.0	33.0	18.0	27.0	0.8
8.2	32.0	33.0	18.0	27.0	0.8
10.0	32.0	33.0	18.0	27.0	0.8
12.0	32.0	37.0	22.0	27.0	0.8
15.0	32.0	37.0	22.0	27.0	0.8

CBB21B series

■ 外形尺寸 Dimensions (mm)

250Vdc 160Vac)					
Cn (μF)	W max	H max	T max	P	d
0.012	7.2	7.5	3.5	5.0	0.5
0.015	7.2	7.5	3.5	5.0	0.5
0.018	7.2	7.5	3.5	5.0	0.5
0.022	7.2	7.5	3.5	5.0	0.5
0.027	7.2	7.5	3.5	5.0	0.5
0.033	7.2	7.5	3.5	5.0	0.5
0.039	7.2	7.5	3.5	5.0	0.5
0.047	7.2	9.5	4.5	5.0	0.6
0.056	7.2	9.5	4.5	5.0	0.6
0.068	7.2	10.0	5.0	5.0	0.6
0.082	7.2	10.0	5.0	5.0	0.6
0.10	7.2	11.0	6.0	5.0	0.6
0.12	7.2	11.0	6.0	5.0	0.6
0.027	10.5	9.0	4.0	7.5	0.6
0.033	10.5	9.0	4.0	7.5	0.6
0.039	10.5	9.0	4.0	7.5	0.6
0.047	10.5	9.0	4.0	7.5	0.6
0.056	10.5	9.0	4.0	7.5	0.6
0.068	10.5	9.0	4.0	7.5	0.6
0.082	10.5	11.0	5.0	7.5	0.6
0.10	10.5	11.0	5.0	7.5	0.6
0.12	10.5	11.0	5.0	7.5	0.6
0.15	10.5	12.0	6.0	7.5	0.6
0.18	10.5	12.0	6.0	7.5	0.6
0.033	13.0	9.0	4.0	10.0	0.6
0.039	13.0	9.0	4.0	10.0	0.6
0.047	13.0	9.0	4.0	10.0	0.6
0.056	13.0	9.0	4.0	10.0	0.6
0.068	13.0	9.0	4.0	10.0	0.6
0.082	13.0	9.0	4.0	10.0	0.6
0.10	13.0	11.0	5.0	10.0	0.6
0.12	13.0	11.0	5.0	10.0	0.6
0.15	13.0	11.0	5.0	10.0	0.6
0.18	13.0	12.0	6.0	10.0	0.6
0.22	13.0	12.0	6.0	10.0	0.6
0.10	18.0	11.0	5.0	15.0	0.8
0.12	18.0	11.0	5.0	15.0	0.8
0.15	18.0	11.0	5.0	15.0	0.8

250Vdc 160Vac)					
Cn (μF)	W max	H max	T max	P	d
0.18	18.0	11.0	5.0	15.0	0.8
0.22	18.0	11.0	5.0	15.0	0.8
0.27	18.0	12.0	6.0	15.0	0.8
0.33	18.0	12.0	6.0	15.0	0.8
0.39	18.0	13.5	7.5	15.0	0.8
0.47	18.0	13.5	7.5	15.0	0.8
0.56	18.0	13.5	7.5	15.0	0.8
0.68	18.0	14.5	8.5	15.0	0.8
0.82	18.0	16.0	10.0	15.0	0.8
1.0	18.0	16.0	10.0	15.0	0.8
1.2	18.0	19.0	11.0	15.0	0.8
0.39	26.5	15.0	6.0	22.0	0.8
0.47	26.5	15.0	6.0	22.0	0.8
0.56	26.5	15.0	6.0	22.0	0.8
0.68	26.5	15.0	6.0	22.0	0.8
0.82	26.5	15.0	6.0	22.0	0.8
1.0	26.5	16.0	7.0	22.0	0.8
1.2	26.5	16.0	7.0	22.0	0.8
1.5	26.5	17.0	8.5	22.0	0.8
1.8	26.5	18.5	10.0	22.0	0.8
2.2	26.5	20.0	11.0	22.0	0.8
2.7	26.5	22.0	12.0	22.0	0.8
0.82	32.0	18.0	9.0	27.0	0.8
1.0	32.0	18.0	9.0	27.0	0.8
1.2	32.0	18.0	9.0	27.0	0.8
1.5	32.0	18.0	9.0	27.0	0.8
1.8	32.0	18.0	9.0	27.0	0.8
2.2	32.0	18.0	9.0	27.0	0.8
2.7	32.0	20.0	11.0	27.0	0.8
3.3	32.0	20.0	11.0	27.0	0.8
3.9	32.0	22.0	13.0	27.0	0.8
4.7	32.0	28.0	14.0	27.0	0.8
5.6	32.0	24.5	15.0	27.0	0.8
6.8	32.0	33.0	18.0	27.0	0.8
8.2	32.0	33.0	18.0	27.0	0.8
10.0	32.0	33.0	18.0	27.0	0.8
12.0	32.0	37.0	22.0	27.0	0.8
15.0	32.0	37.0	22.0	27.0	0.8

CBB21B series

■ 外形尺寸 Dimensions (mm)

400Vdc (220Vac)@					
Cn (μF)	W max	H max	T max	P	d
0.0039	7.2	7.5	3.5	5.0	0.5
0.0047	7.2	7.5	3.5	5.0	0.5
0.0056	7.2	7.5	3.5	5.0	0.5
0.0068	7.2	7.5	3.5	5.0	0.5
0.0082	7.2	7.5	3.5	5.0	0.5
0.010	7.2	7.5	3.5	5.0	0.5
0.012	7.2	7.5	3.5	5.0	0.5
0.015	7.2	9.5	4.5	5.0	0.6
0.018	7.2	9.5	4.5	5.0	0.6
0.022	7.2	9.5	4.5	5.0	0.6
0.027	7.2	10.0	5.0	5.0	0.6
0.033	7.2	11.0	6.0	5.0	0.6
0.039	7.2	11.0	6.0	5.0	0.6
0.047	7.2	11.0	6.0	5.0	0.6
0.010	10.5	9.0	4.0	7.5	0.6
0.012	10.5	9.0	4.0	7.5	0.6
0.015	10.5	9.0	4.0	7.5	0.6
0.018	10.5	9.0	4.0	7.5	0.6
0.022	10.5	9.0	4.0	7.5	0.6
0.027	10.5	9.0	4.0	7.5	0.6
0.033	10.5	11.0	5.0	7.5	0.6
0.039	10.5	11.0	5.0	7.5	0.6
0.047	10.5	11.0	5.0	7.5	0.6
0.056	10.5	12.0	6.0	7.5	0.6
0.068	10.5	12.0	6.0	7.5	0.6
0.015	13.0	9.0	4.0	10.0	0.6
0.018	13.0	9.0	4.0	10.0	0.6
0.022	13.0	9.0	4.0	10.0	0.6
0.027	13.0	9.0	4.0	10.0	0.6
0.033	13.0	9.0	4.0	10.0	0.6
0.039	13.0	9.0	4.0	10.0	0.6
0.047	13.0	11.0	5.0	10.0	0.6
0.056	13.0	11.0	5.0	10.0	0.6
0.068	13.0	11.0	5.0	10.0	0.6
0.082	13.0	12.0	6.0	10.0	0.6
0.10	13.0	12.0	6.0	10.0	0.6
0.068	18.0	11.0	5.0	15.0	0.8

400Vdc (220Vac)@					
Cn (μF)	W max	H max	T max	P	d
0.082	18.0	11.0	5.0	15.0	0.8
0.10	18.0	11.0	5.0	15.0	0.8
0.12	18.0	11.0	5.0	15.0	0.8
0.15	18.0	12.0	6.0	15.0	0.8
0.18	18.0	12.0	6.0	15.0	0.8
0.22	18.0	13.5	7.5	15.0	0.8
0.27	18.0	13.5	7.5	15.0	0.8
0.33	18.0	14.5	8.5	15.0	0.8
0.39	18.0	16.0	10.0	15.0	0.8
0.47	18.0	16.0	10.0	15.0	0.8
0.56	18.0	19.0	11.0	15.0	0.8
0.68	18.0	19.0	11.0	15.0	0.8
0.18	26.5	15.0	6.0	22.0	0.8
0.22	26.5	15.0	6.0	22.0	0.8
0.27	26.5	15.0	6.0	22.0	0.8
0.33	26.5	15.0	6.0	22.0	0.8
0.39	26.5	16.0	7.0	22.0	0.8
0.47	26.5	16.0	7.0	22.0	0.8
0.56	26.5	17.0	8.5	22.0	0.8
0.68	26.5	17.0	8.5	22.0	0.8
0.82	26.5	18.5	10.0	22.0	0.8
1.0	26.5	20.0	11.0	22.0	0.8
1.2	26.5	22.0	12.0	22.0	0.8
1.5	26.5	22.0	12.0	22.0	0.8
0.56	32.0	18.0	9.0	27.0	0.8
0.68	32.0	18.0	9.0	27.0	0.8
0.82	32.0	18.0	9.0	27.0	0.8
1.0	32.0	18.0	9.0	27.0	0.8
1.2	32.0	20.0	11.0	27.0	0.8
1.5	32.0	20.0	11.0	27.0	0.8
1.8	32.0	22.0	13.0	27.0	0.8
2.2	32.0	24.5	15.0	27.0	0.8
2.7	32.0	28.0	14.0	27.0	0.8
3.3	32.0	33.0	18.0	27.0	0.8
3.9	32.0	33.0	18.0	27.0	0.8
4.7	32.0	37.0	22.0	27.0	0.8
5.6	32.0	37.0	22.0	27.0	0.8

CBB21B series

■ 外形尺寸 Dimensions (mm)

630Vdc (250Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0010	7.2	7.5	3.5	5.0	0.5
0.0012	7.2	7.5	3.5	5.0	0.5
0.0015	7.2	7.5	3.5	5.0	0.5
0.0018	7.2	7.5	3.5	5.0	0.5
0.0022	7.2	7.5	3.5	5.0	0.5
0.0027	7.2	7.5	3.5	5.0	0.5
0.0033	7.2	7.5	3.5	5.0	0.5
0.0039	7.2	9.5	4.5	5.0	0.6
0.0047	7.2	9.5	4.5	5.0	0.6
0.0056	7.2	10.0	5.0	5.0	0.6
0.0068	7.2	10.0	5.0	5.0	0.6
0.0082	7.2	11.0	6.0	5.0	0.6
0.010	7.2	11.0	6.0	5.0	0.6
0.012	7.2	11.0	6.0	5.0	0.6
0.0010	10.5	9.0	4.0	7.5	0.6
0.0012	10.5	9.0	4.0	7.5	0.6
0.0015	10.5	9.0	4.0	7.5	0.6
0.0018	10.5	9.0	4.0	7.5	0.6
0.0022	10.5	9.0	4.0	7.5	0.6
0.0027	10.5	9.0	4.0	7.5	0.6
0.0033	10.5	9.0	4.0	7.5	0.6
0.0039	10.5	9.0	4.0	7.5	0.6
0.0047	10.5	9.0	4.0	7.5	0.6
0.0056	10.5	9.0	4.0	7.5	0.6
0.0068	10.5	9.0	4.0	7.5	0.6
0.0082	10.5	9.0	4.0	7.5	0.6
0.010	10.5	9.0	4.0	7.5	0.6
0.012	10.5	9.0	4.0	7.5	0.6
0.015	10.5	11.0	5.0	7.5	0.6
0.018	10.5	11.0	5.0	7.5	0.6
0.022	10.5	11.0	5.0	7.5	0.6
0.027	10.5	12.0	6.0	7.5	0.6
0.033	10.5	12.0	6.0	7.5	0.6
0.0010	13.0	9.0	4.0	10.0	0.6
0.0012	13.0	9.0	4.0	10.0	0.6
0.0015	13.0	9.0	4.0	10.0	0.6
0.0018	13.0	9.0	4.0	10.0	0.6
0.0022	13.0	9.0	4.0	10.0	0.6
0.0027	13.0	9.0	4.0	10.0	0.6
0.0033	13.0	9.0	4.0	10.0	0.6
0.0039	13.0	9.0	4.0	10.0	0.6
0.0047	13.0	9.0	4.0	10.0	0.6
0.0056	13.0	9.0	4.0	10.0	0.6
0.0068	13.0	9.0	4.0	10.0	0.6
0.0082	13.0	9.0	4.0	10.0	0.6
0.010	13.0	9.0	4.0	10.0	0.6
0.012	13.0	9.0	4.0	10.0	0.6

630Vdc (250Vac)					
Cn (μF)	W max	H max	T max	P	d
0.015	13.0	9.0	4.0	10.0	0.6
0.018	13.0	9.0	4.0	10.0	0.6
0.022	13.0	11.0	5.0	10.0	0.6
0.027	13.0	11.0	5.0	10.0	0.6
0.033	13.0	11.0	5.0	10.0	0.6
0.039	13.0	12.0	6.0	10.0	0.6
0.047	13.0	12.0	6.0	10.0	0.6
0.027	18.0	11.0	5.0	15.0	0.8
0.033	18.0	11.0	5.0	15.0	0.8
0.039	18.0	11.0	5.0	15.0	0.8
0.047	18.0	11.0	5.0	15.0	0.8
0.056	18.0	11.0	5.0	15.0	0.8
0.068	18.0	12.0	6.0	15.0	0.8
0.082	18.0	12.0	6.0	15.0	0.8
0.10	18.0	13.5	7.5	15.0	0.8
0.12	18.0	13.5	7.5	15.0	0.8
0.15	18.0	13.5	7.5	15.0	0.8
0.18	18.0	14.5	8.5	15.0	0.8
0.22	18.0	16.0	10.0	15.0	0.8
0.27	18.0	19.0	11.0	15.0	0.8
0.33	18.0	19.0	11.0	15.0	0.8
0.082	26.5	15.0	6.0	22.0	0.8
0.10	26.5	15.0	6.0	22.0	0.8
0.12	26.5	15.0	6.0	22.0	0.8
0.15	26.5	15.0	6.0	22.0	0.8
0.18	26.5	15.0	6.0	22.0	0.8
0.22	26.5	16.0	7.0	22.0	0.8
0.27	26.5	17.0	8.5	22.0	0.8
0.33	26.5	17.0	8.5	22.0	0.8
0.39	26.5	18.5	10.0	22.0	0.8
0.47	26.5	18.5	10.0	22.0	0.8
0.56	26.5	20.0	11.0	22.0	0.8
0.68	26.5	22.0	12.0	22.0	0.8
0.33	32.0	18.0	9.0	27.0	0.8
0.39	32.0	18.0	9.0	27.0	0.8
0.47	32.0	18.0	9.0	27.0	0.8
0.56	32.0	20.0	11.0	27.0	0.8
0.68	32.0	20.0	11.0	27.0	0.8
0.82	32.0	20.0	11.0	27.0	0.8
1.0	32.0	22.0	13.0	27.0	0.8
1.2	32.0	24.5	15.0	27.0	0.8
1.5	32.0	28.0	14.0	27.0	0.8
1.8	32.0	33.0	18.0	27.0	0.8
2.2	32.0	33.0	18.0	27.0	0.8
2.7	32.0	37.0	22.0	27.0	0.8
3.3	32.0	37.0	22.0	27.0	0.8

CBB21B series

■ 外形尺寸 Dimensions (mm)

1000Vdc (400Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0010	13.0	9.0	4.0	10.0	0.6
0.0012	13.0	9.0	4.0	10.0	0.6
0.0015	13.0	9.0	4.0	10.0	0.6
0.0018	13.0	9.0	4.0	10.0	0.6
0.0022	13.0	9.0	4.0	10.0	0.6
0.0027	13.0	9.0	4.0	10.0	0.6
0.0033	13.0	9.0	4.0	10.0	0.6
0.0039	13.0	9.0	4.0	10.0	0.6
0.0047	13.0	11.0	5.0	10.0	0.6
0.0056	13.0	11.0	5.0	10.0	0.6
0.0068	13.0	11.0	5.0	10.0	0.6
0.0082	13.0	12.0	6.0	10.0	0.6
0.010	13.0	12.0	6.0	10.0	0.6
0.0022	18.0	11.0	5.0	15.0	0.8
0.0027	18.0	11.0	5.0	15.0	0.8
0.0033	18.0	11.0	5.0	15.0	0.8
0.0039	18.0	11.0	5.0	15.0	0.8
0.0047	18.0	11.0	5.0	15.0	0.8
0.0056	18.0	11.0	5.0	15.0	0.8
0.0068	18.0	11.0	5.0	15.0	0.8
0.0082	18.0	11.0	5.0	15.0	0.8
0.010	18.0	11.0	5.0	15.0	0.8
0.012	18.0	11.0	5.0	15.0	0.8
0.015	18.0	12.0	6.0	15.0	0.8
0.018	18.0	12.0	6.0	15.0	0.8
0.022	18.0	13.5	7.5	15.0	0.8
0.027	18.0	13.5	7.5	15.0	0.8
0.033	18.0	14.5	8.5	15.0	0.8
0.039	18.0	16.0	10.0	15.0	0.8
0.047	18.0	16.0	10.0	15.0	0.8
0.056	18.0	19.0	11.0	15.0	0.8
0.068	18.0	19.0	11.0	15.0	0.8
0.018	26.5	15.0	6.0	22.0	0.8
0.022	26.5	15.0	6.0	22.0	0.8
0.027	26.5	15.0	6.0	22.0	0.8
0.033	26.5	15.0	6.0	22.0	0.8
0.039	26.5	15.0	6.0	22.0	0.8
0.047	26.5	16.0	7.0	22.0	0.8
0.056	26.5	16.0	7.0	22.0	0.8
0.068	26.5	17.0	8.5	22.0	0.8
0.082	26.5	17.0	8.5	22.0	0.8
0.10	26.5	18.5	10.0	22.0	0.8
0.12	26.5	22.0	12.0	22.0	0.8
0.15	26.5	22.0	12.0	22.0	0.8

1600Vdc (600Vac)					
Cn (μF)	W max	H max	T max	P	d
0.00056	18.0	11.0	5.0	15.0	0.8
0.00062	18.0	11.0	5.0	15.0	0.8
0.00068	18.0	11.0	5.0	15.0	0.8
0.00082	18.0	11.0	5.0	15.0	0.8
0.0010	18.0	11.0	5.0	15.0	0.8
0.0012	18.0	11.0	5.0	15.0	0.8
0.0015	18.0	11.0	5.0	15.0	0.8
0.0018	18.0	11.0	5.0	15.0	0.8
0.0022	18.0	11.0	5.0	15.0	0.8
0.0027	18.0	11.0	5.0	15.0	0.8
0.0033	18.0	11.0	5.0	15.0	0.8
0.0039	18.0	11.0	5.0	15.0	0.8
0.0047	18.0	11.0	5.0	15.0	0.8
0.0056	18.0	12.0	6.0	15.0	0.8
0.0068	18.0	12.0	6.0	15.0	0.8

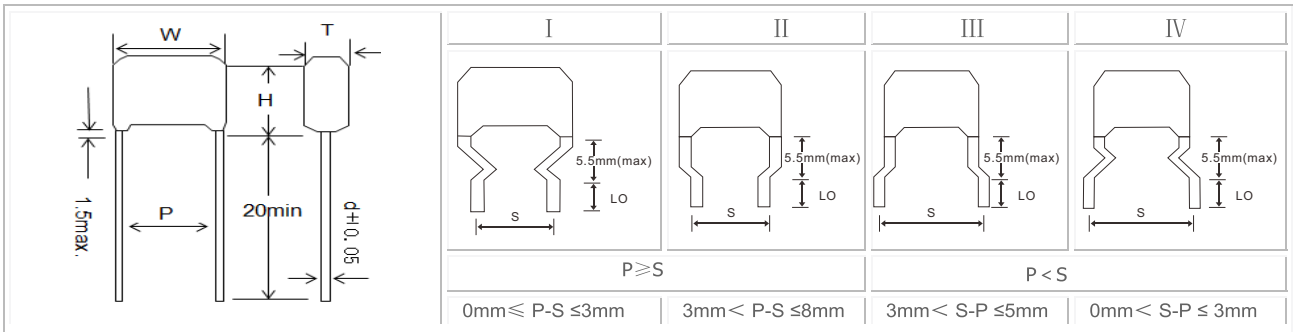
1600Vdc (600Vac)					
Cn (μF)	W max	H max	T max	P	d
0.0082	18.0	12.0	6.0	15.0	0.8
0.010	18.0	12.0	6.0	15.0	0.8
0.012	18.0	12.0	6.0	15.0	0.8
0.015	18.0	13.5	7.5	15.0	0.8
0.018	18.0	13.5	7.5	15.0	0.8
0.022	18.0	14.5	8.5	15.0	0.8
0.027	18.0	16.0	10.0	15.0	0.8
0.033	18.0	16.0	10.0	15.0	0.8
0.039	18.0	19.0	11.0	15.0	0.8
0.047	18.0	19.0	11.0	15.0	0.8
0.015	26.5	15.0	6.0	22.0	0.8
0.018	26.5	15.0	6.0	22.0	0.8
0.022	26.5	15.0	6.0	22.0	0.8
0.027	26.5	16.0	7.0	22.0	0.8
0.033	26.5	16.0	7.0	22.0	0.8
0.039	26.5	17.0	8.5	22.0	0.8
0.047	26.5	18.5	10.0	22.0	0.8
0.056	26.5	18.5	10.0	22.0	0.8
0.068	26.5	22.0	12.0	22.0	0.8
0.082	26.5	22.0	12.0	22.0	0.8
0.10	26.5	22.0	12.0	22.0	0.8

2000Vdc (700Vac)					
Cn (μF)	W max	H max	T max	P	d
0.00056	18.0	11.0	5.0	15.0	0.8
0.0018	18.0	11.0	5.0	15.0	0.8
0.00068	18.0	11.0	5.0	15.0	0.8
0.00062	18.0	11.0	5.0	15.0	0.8
0.0010	18.0	11.0	5.0	15.0	0.8
0.00082	18.0	11.0	5.0	15.0	0.8
0.0015	18.0	11.0	5.0	15.0	0.8
0.0012	18.0	11.0	5.0	15.0	0.8
0.0022	18.0	11.0	5.0	15.0	0.8
0.0027	18.0	11.0	5.0	15.0	0.8
0.0033	18.0	11.0	5.0	15.0	0.8
0.0039	18.0	11.0	5.0	15.0	0.8
0.0047	18.0	11.0	5.0	15.0	0.8
0.0056	18.0	12.0	6.0	15.0	0.8
0.0068	18.0	12.0	6.0	15.0	0.8
0.0082	18.0	13.5	7.5	15.0	0.8
0.010	18.0	13.5	7.5	15.0	0.8
0.012	18.0	14.5	8.5	15.0	0.8
0.015	18.0	14.5	8.5	15.0	0.8
0.018	18.0	16.0	10.0	15.0	0.8
0.022	18.0	19.0	11.0	15.0	0.8
0.0068	26.5	15.0	6.0	22.0	0.8
0.0082	26.5	15.0	6.0	22.0	0.8
0.010	26.5	15.0	6.0	22.0	0.8
0.012	26.5	15.0	6.0	22.0	0.8
0.015	26.5	15.0	6.0	22.0	0.8
0.018	26.5	16.0	7.0	22.0	0.8
0.022	26.5	17.0	8.5	22.0	0.8
0.027	26.5	17.0	8.5	22.0	0.8
0.033	26.5	18.5	10.0	22.0	0.8
0.039	26.5	18.5	10.0	22.0	0.8
0.047	26.5	22.0	12.0	22.0	0.8
0.056	26.5	22.0	12.0	22.0	0.8

CBB81 series

High-voltage metallized polypropylene film/foil capacitor

■ 外形图 Outline Drawing



■ 特点

- 金属化聚丙烯膜箔式，卷绕结构
- 损耗小，内部温升小
- 负电容量温度系数
- 阻燃环氧粉末包封(94/V-0)

■ Features

- Metallized polypropylene film/foil, wound construction
- Low loss and small inherent temperature rise
- Negative temperature coefficient of capacitance
- Flame retardant epoxy resin powder coating (UL94/V-0)

■ 主要用途

- 大屏幕显示器及彩电行逆程电路
- 适用于高脉冲，大电流电路
- 适用于电子镇流器

■ Typical Applications

- Horizontal resonance circuits of large screen monitor and colour TV
- Suitable for high pulse and high current loading circuit
- Suitable for electronic ballast

■ 技术要求 Specifications

引用标准 Reference Standard	GB/T 14579 (IEC 60384-17)
气候类别 Climatic Category	40/105/21
额定温度 Rated temperature	85℃
工作温度范围 Operating temperature	-40℃~105℃ (+85℃ to +105℃: decreasing factor 1.25% per ℃ for VR(dc))
额定电压 Rated Voltage	100V/160V, 250V, 400V, 630V, 1000V/1250V
电容量范围 Capacitance Range	0.0010 ~ 0.1μF
电容量偏差 Capacitance Tolerance	±3%(H), ±5%(J), ±10% (K)
耐电压 Voltage Proof	1.75UR (5s)
损耗角正切 Dissipation Factor	≤10×10-4(20℃, 1kHz)
绝缘电阻 Insulation Resistance	≥50 000MΩ, CR (20℃,100V,1min)

最大脉冲爬升速率 Maximum Pulse Rise Time (dv/dt)
若实际工作电压 U 比额定电压 UR 低，电容器可工作在更高的 dv/dt 场合。这样 dv/dt 允许值为右表值乘 UR/U。

UR(V)	dv/dt (V/μs) Pattern I				
	P=15	P=20	P=22	P=25	P=27
800	15000	14000	12000	--	--
1000/1200	30000	20000	--	15000	--
1600/2000	36000	22000	--	16000	12000

UR(V)	dv/dt (V/μs) Pattern Ⅱ P=15
630/800	11000
1000/1250	28000
1600	32000
2000	35000
2500	40000

CBB81 series

产品代码说明 Part number system

ORDER INFORMATION

KLS10	- CBB81	- XXX	- X	- XX	-P10
Pos.No.	Product Name: Metallized Polypropylene Film Capacitor	CAPACITANCE IN 3DIGITS 332=0.0033uF 104= 0.1uF 474= 0.47uF 105= 1uF	TOL. K= ± 10% J=± 5%	Rated Voltage 100=100VDC 250=250VDC	Pitch P10=10mm P15=15mm

CBB81 series

■ 外形尺寸 Dimensions (mm) Patten Ⅱ (Reduced sizes)

630V/800Vdc (400Vac)#						
Cn (μF)	W max	H max	T max	P	d	
0.0010	18.0	10.1	5.7	15.0	0.8	
0.0012	18.0	10.5	6.0	15.0	0.8	
0.0015	18.0	11.0	6.5	15.0	0.8	
0.0016	18.0	11.6	6.4	15.0	0.8	
0.0018	18.0	11.9	6.7	15.0	0.8	
0.0020	18.0	12.2	7.0	15.0	0.8	
0.0022	18.0	12.5	7.3	15.0	0.8	
0.0024	18.0	12.7	7.5	15.0	0.8	
0.0027	18.0	13.1	7.9	15.0	0.8	
0.0030	18.0	13.5	8.3	15.0	0.8	
0.0033	18.0	13.8	8.6	15.0	0.8	
0.0036	18.0	11.7	6.5	15.0	0.8	
0.0039	18.0	12.0	6.7	15.0	0.8	
0.0043	18.0	12.2	7.0	15.0	0.8	
0.0047	18.0	12.5	7.3	15.0	0.8	
0.0049	18.0	11.9	6.7	15.0	0.8	
0.0051	18.0	12.0	6.8	15.0	0.8	
0.0053	18.0	12.1	6.9	15.0	0.8	
0.0056	18.0	11.5	6.2	15.0	0.8	
0.0060	18.0	11.6	6.4	15.0	0.8	
0.0062	18.0	11.7	6.5	15.0	0.8	
0.0065	18.0	11.8	6.6	15.0	0.8	
0.0068	18.0	12.0	6.8	15.0	0.8	
0.0072	18.0	12.1	6.9	15.0	0.8	
0.0075	18.0	12.2	7.0	15.0	0.8	
0.0078	18.0	12.4	7.1	15.0	0.8	
0.0082	18.0	12.5	7.3	15.0	0.8	
0.0084	18.0	12.6	7.4	15.0	0.8	
0.0091	18.0	12.8	7.6	15.0	0.8	
0.010	18.0	13.2	8.0	15.0	0.8	
0.012	18.0	11.4	6.2	15.0	0.8	
0.015	18.0	12.0	6.8	15.0	0.8	
0.018	18.0	12.6	7.4	15.0	0.8	
0.022	18.0	13.8	8.1	15.0	0.8	
0.024	18.0	14.1	8.4	15.0	0.8	
0.027	18.0	14.6	8.9	15.0	0.8	
0.033	18.0	16.4	9.1	15.0	0.8	
0.036	18.0	16.8	9.5	15.0	0.8	

1000V/1250Vdc (450Vac)#						
Cn (μF)	W max	H max	T max	P	d	Part number
0.0010	18.0	10.1	5.7	15.0	0.8	
0.0012	18.0	10.5	6.0	15.0	0.8	
0.0015	18.0	11.0	6.5	15.0	0.8	
0.0016	18.0	11.6	6.4	15.0	0.8	
0.0018	18.0	11.9	6.7	15.0	0.8	
0.0020	18.0	12.2	7.0	15.0	0.8	
0.0022	18.0	12.5	7.3	15.0	0.8	
0.0024	18.0	12.7	7.5	15.0	0.8	
0.0027	18.0	13.6	7.9	15.0	0.8	
0.0030	18.0	14.0	8.3	15.0	0.8	
0.0033	18.0	14.3	8.6	15.0	0.8	
0.0036	18.0	11.7	6.5	15.0	0.8	
0.0039	18.0	12.0	6.7	15.0	0.8	
0.0043	18.0	12.2	7.0	15.0	0.8	
0.0047	18.0	12.5	7.3	15.0	0.8	
0.0049	18.0	12.6	7.4	15.0	0.8	
0.0051	18.0	12.8	7.5	15.0	0.8	
0.0053	18.0	12.9	7.7	15.0	0.8	
0.0056	18.0	12.1	6.9	15.0	0.8	
0.0060	18.0	12.3	7.1	15.0	0.8	
0.0062	18.0	12.4	7.2	15.0	0.8	
0.0065	18.0	12.6	7.4	15.0	0.8	
0.0068	18.0	12.7	7.5	15.0	0.8	
0.0072	18.0	12.9	7.7	15.0	0.8	
0.0075	18.0	13.5	7.8	15.0	0.8	
0.0078	18.0	13.7	8.0	15.0	0.8	
0.0082	18.0	13.9	8.1	15.0	0.8	
0.0084	18.0	13.9	8.2	15.0	0.8	
0.0091	18.0	14.2	9.0	15.0	0.8	
0.010	18.0	14.6	9.4	15.0	0.8	
0.012	18.0	15.4	10.2	15.0	0.8	
0.015	18.0	14.9	9.7	15.0	0.8	
0.018	18.0	15.7	10.5	15.0	0.8	
0.022	18.0	16.7	11.5	15.0	0.8	

CBB81 series

■ 外形尺寸 Dimensions (mm) Patten Ⅱ (Reduced sizes)

1600Vdc (450Vac)

Cn (μF)	W max	H max	T max	P	d
0.0010	18.0	10.4	6.0	15.0	0.8
0.0012	18.0	10.8	6.4	15.0	0.8
0.0015	18.0	11.3	6.9	15.0	0.8
0.0016	18.0	12.0	6.8	15.0	0.8
0.0018	18.0	12.3	7.1	15.0	0.8
0.0020	18.0	12.7	7.4	15.0	0.8
0.0022	18.0	12.9	7.7	15.0	0.8
0.0024	18.0	13.7	8.0	15.0	0.8
0.0027	18.0	11.4	6.2	15.0	0.8
0.0030	18.0	11.7	6.5	15.0	0.8
0.0033	18.0	11.9	6.7	15.0	0.8
0.0036	18.0	11.4	6.2	15.0	0.8
0.0039	18.0	11.6	6.4	15.0	0.8
0.0043	18.0	11.8	6.6	15.0	0.8
0.0047	18.0	12.1	6.9	15.0	0.8
0.0049	18.0	12.2	7.0	15.0	0.8
0.0051	18.0	12.3	7.1	15.0	0.8
0.0053	18.0	12.4	7.2	15.0	0.8
0.0056	18.0	12.6	7.4	15.0	0.8
0.0060	18.0	12.8	7.6	15.0	0.8
0.0062	18.0	12.9	7.7	15.0	0.8
0.0065	18.0	13.6	7.9	15.0	0.8
0.0068	18.0	13.7	8.0	15.0	0.8
0.0072	18.0	13.9	8.2	15.0	0.8
0.0075	18.0	14.1	8.4	15.0	0.8
0.0078	18.0	14.2	9.0	15.0	0.8
0.0082	18.0	14.4	9.2	15.0	0.8
0.0084	18.0	14.5	9.3	15.0	0.8
0.0091	18.0	14.9	9.6	15.0	0.8
0.010	18.0	15.3	10.0	15.0	0.8
0.012	18.0	16.1	10.9	15.0	0.8

2000Vdc (500Vac)

Cn (μF)	W max	H max	T max	P	d
0.0010	18.0	10.4	6.0	15.0	0.8
0.0012	18.0	10.8	6.4	15.0	0.8
0.0015	18.0	11.3	6.9	15.0	0.8
0.0016	18.0	12.0	6.8	15.0	0.8
0.0018	18.0	12.3	7.1	15.0	0.8
0.0020	18.0	12.7	7.4	15.0	0.8
0.0022	18.0	12.9	7.7	15.0	0.8
0.0024	18.0	11.8	6.6	15.0	0.8
0.0027	18.0	12.1	6.9	15.0	0.8
0.0030	18.0	12.4	7.2	15.0	0.8
0.0033	18.0	12.7	7.5	15.0	0.8
0.0036	18.0	12.2	7.0	15.0	0.8
0.0039	18.0	12.4	7.2	15.0	0.8
0.0043	18.0	12.7	7.5	15.0	0.8
0.0047	18.0	13.5	7.8	15.0	0.8
0.0049	18.0	13.7	8.0	15.0	0.8
0.0051	18.0	13.8	8.1	15.0	0.8
0.0053	18.0	13.9	8.2	15.0	0.8
0.0056	18.0	14.2	8.4	15.0	0.8
0.0060	18.0	14.4	9.2	15.0	0.8
0.0062	18.0	14.5	9.3	15.0	0.8
0.0065	18.0	14.7	9.5	15.0	0.8
0.0068	18.0	14.9	9.7	15.0	0.8
0.0072	18.0	15.2	9.9	15.0	0.8
0.0075	18.0	15.3	10.1	15.0	0.8
0.0078	18.0	15.5	10.3	15.0	0.8
0.0082	18.0	15.7	10.5	15.0	0.8
0.0084	18.0	15.8	10.6	15.0	0.8
0.0091	18.0	16.2	11.0	15.0	0.8
0.010	18.0	16.7	11.5	15.0	0.8

2500Vdc(500Vac)

Cn (μF)	W max	H max	T max	P	d
0.0010	18.0	10.4	6.0	15.0	0.8
0.0012	18.0	10.8	6.4	15.0	0.8
0.0015	18.0	11.3	6.9	15.0	0.8
0.0016	18.0	12.0	6.8	15.0	0.8
0.0018	18.0	12.3	7.1	15.0	0.8
0.0020	18.0	12.7	7.4	15.0	0.8
0.0022	18.0	12.9	7.7	15.0	0.8
0.0024	18.0	11.8	6.6	15.0	0.8
0.0027	18.0	12.1	6.9	15.0	0.8
0.0030	18.0	12.4	7.2	15.0	0.8
0.0033	18.0	12.7	7.5	15.0	0.8
0.0036	18.0	13.5	7.8	15.0	0.8
0.0039	18.0	13.8	8.1	15.0	0.8

2500Vdc(500Vac)

Cn (μF)	W max	H max	T max	P	d
0.0043	18.0	14.1	8.4	15.0	0.8
0.0047	18.0	14.5	9.3	15.0	0.8
0.0049	18.0	14.6	9.4	15.0	0.8
0.0051	18.0	14.8	9.6	15.0	0.8
0.0053	18.0	15.0	9.7	15.0	0.8
0.0056	18.0	15.2	10.0	15.0	0.8
0.0060	18.0	15.5	10.3	15.0	0.8
0.0062	18.0	15.6	10.4	15.0	0.8
0.0065	18.0	15.9	10.6	15.0	0.8
0.0068	18.0	16.1	10.9	15.0	0.8
0.0072	18.0	16.3	11.1	15.0	0.8
0.0075	18.0	16.5	11.3	15.0	0.8
0.0078	18.0	16.7	11.5	15.0	0.8

CBB81 series

■ 外形尺寸 Dimensions (mm) Pattern I (High performance

800Vdc					
Cn (μF)	W max	H max	T max	P	d
0.0010	18.0	12.0	7.0	15.0	0.8
0.0012	18.0	12.5	7.0	15.0	0.8
0.0015	18.0	13.0	7.5	15.0	0.8
0.0016	18.0	13.0	8.0	15.0	0.8
0.0018	18.0	13.5	8.0	15.0	0.8
0.0020	18.0	13.5	8.5	15.0	0.8
0.0022	18.0	14.0	9.0	15.0	0.8
0.0024	18.0	14.5	9.0	15.0	0.8
0.0027	18.0	14.5	9.5	15.0	0.8
0.0030	18.0	15.0	10.0	15.0	0.8
0.0033	18.0	15.5	10.0	15.0	0.8
0.0036	18.0	13.0	8.0	15.0	0.8
0.0039	18.0	13.5	8.5	15.0	0.8
0.0043	18.0	14.0	8.5	15.0	0.8
0.0047	18.0	14.0	9.0	15.0	0.8
0.0049	18.0	14.0	9.0	15.0	0.8
0.0051	18.0	14.5	9.0	15.0	0.8
0.0053	18.0	14.5	9.5	15.0	0.8
0.0056	18.0	14.5	9.5	15.0	0.8
0.0060	18.0	15.0	10.0	15.0	0.8
0.0062	18.0	15.0	10.0	15.0	0.8
0.0065	18.0	15.5	10.0	15.0	0.8
0.0068	18.0	15.5	10.5	15.0	0.8
0.0072	18.0	15.5	10.5	15.0	0.8
0.0075	18.0	16.0	10.5	15.0	0.8
0.0078	18.0	16.0	11.0	15.0	0.8
0.0082	18.0	16.5	11.0	15.0	0.8
0.0084	18.0	16.5	11.0	15.0	0.8
0.0091	18.0	17.0	11.5	15.0	0.8
0.010	18.0	17.5	12.0	15.0	0.8
0.012	18.0	13.0	8.0	15.0	0.8
0.015	18.0	14.0	8.5	15.0	0.8
0.018	18.0	14.5	9.5	15.0	0.8
0.022	18.0	15.5	10.0	15.0	0.8
0.024	18.0	15.5	10.5	15.0	0.8
0.027	18.0	16.0	11.0	15.0	0.8
0.033	23.0	16.0	9.5	20.0	0.8
0.036	23.0	16.5	9.5	20.0	0.8
0.039	23.0	16.5	10.0	20.0	0.8
0.047	23.0	17.5	11.0	20.0	0.8
0.056	23.0	18.5	11.5	20.0	0.8
0.068	26.0	19.0	11.0	22.0	0.8
0.082	26.0	20.0	12.0	22.0	0.8
0.10	26.0	21.5	13.0	22.0	0.8

1000/1200Vdc#					
Cn (μF)	W max	H max	T max	P	d
0.0010	18.0	12.0	7.0	15.0	0.8
0.0012	18.0	12.5	7.0	15.0	0.8
0.0015	18.0	13.0	7.5	15.0	0.8
0.0016	18.0	13.0	8.0	15.0	0.8
0.0018	18.0	13.5	8.0	15.0	0.8
0.0020	18.0	13.5	8.5	15.0	0.8
0.0022	18.0	14.0	9.0	15.0	0.8
0.0024	18.0	14.5	9.0	15.0	0.8
0.0027	18.0	14.5	9.5	15.0	0.8
0.0030	18.0	15.0	10.0	15.0	0.8
0.0033	18.0	15.5	10.0	15.0	0.8
0.0036	18.0	13.0	8.0	15.0	0.8
0.0039	18.0	13.5	8.5	15.0	0.8
0.0043	18.0	14.0	8.5	15.0	0.8
0.0047	18.0	14.0	9.0	15.0	0.8
0.0049	18.0	14.0	9.0	15.0	0.8
0.0051	18.0	14.5	9.0	15.0	0.8
0.0053	18.0	14.5	9.5	15.0	0.8
0.0056	18.0	14.5	9.5	15.0	0.8
0.0060	23.0	14.5	7.5	20.0	0.8
0.0062	23.0	14.5	7.5	20.0	0.8
0.0065	23.0	14.5	8.0	20.0	0.8
0.0068	23.0	14.5	8.0	20.0	0.8
0.0072	23.0	15.0	8.0	20.0	0.8
0.0075	23.0	15.0	8.0	20.0	0.8
0.0078	23.0	15.0	8.5	20.0	0.8
0.0082	23.0	15.5	8.5	20.0	0.8
0.0084	23.0	15.5	8.5	20.0	0.8
0.0091	23.0	15.5	9.0	20.0	0.8
0.010	23.0	16.0	9.0	20.0	0.8
0.012	23.0	16.5	10.0	20.0	0.8
0.015	29.0	15.5	9.0	25.0	0.8
0.018	29.0	16.5	9.5	25.0	0.8
0.022	29.0	18.5	10.0	25.0	0.8
0.024	29.0	18.5	10.5	25.0	0.8
0.027	29.0	19.0	11.0	25.0	0.8
0.033	29.0	20.5	12.0	25.0	0.8
0.036	29.0	20.5	12.5	25.0	0.8

CBB81 series

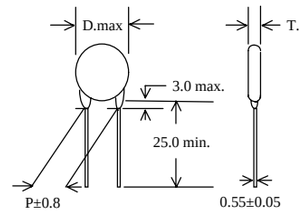
■ 外形尺寸 Dimensions (mm) Pattern I (High performance

1600/2000Vdc #					
Cn (μF)	W max	H max	T max	P	d
0.0010	18.0	12.0	7.0	15.0	0.8
0.0012	18.0	12.5	7.0	15.0	0.8
0.0015	18.0	13.0	7.5	15.0	0.8
0.0016	18.0	13.0	8.0	15.0	0.8
0.0018	18.0	13.5	8.0	15.0	0.8
0.0020	18.0	13.5	8.5	15.0	0.8
0.0022	18.0	14.0	9.0	15.0	0.8
0.0024	18.0	14.5	9.0	15.0	0.8
0.0027	18.0	14.5	9.5	15.0	0.8
0.0030	18.0	15.0	10.0	15.0	0.8
0.0033	18.0	15.5	10.0	15.0	0.8
0.0036	23.0	14.5	9.0	20.0	0.8
0.0039	23.0	15.5	9.0	20.0	0.8
0.0043	23.0	16.0	9.0	20.0	0.8
0.0047	23.0	16.0	9.5	20.0	0.8
0.0049	23.0	16.5	9.5	20.0	0.8
0.0051	23.0	16.5	10.0	20.0	0.8
0.0053	23.0	16.5	10.0	20.0	0.8
0.0056	23.0	17.0	10.0	20.0	0.8
0.0060	23.0	15.5	8.5	20.0	0.8
0.0062	23.0	15.5	9.0	20.0	0.8
0.0065	23.0	15.5	9.0	20.0	0.8
0.0068	23.0	16.0	9.0	20.0	0.8
0.0072	23.0	16.0	9.5	20.0	0.8
0.0075	23.0	16.5	9.5	20.0	0.8
0.0078	23.0	16.5	9.5	20.0	0.8
0.0082	23.0	16.5	10.0	20.0	0.8
0.0084	23.0	16.5	10.0	20.0	0.8
0.0091	23.0	17.0	10.5	20.0	0.8
0.010	29.0	15.5	8.5	25.0	0.8
0.012	29.0	16.0	9.5	25.0	0.8
0.015	29.0	18.0	9.5	25.0	0.8
0.018	29.0	19.0	10.5	25.0	0.8
0.022	29.0	20.0	11.5	25.0	0.8
0.024	29.0	20.5	12.0	25.0	0.8
0.027	31.0	20.5	12.0	27.0	0.8
0.033	31.0	21.5	13.0	27.0	0.8
0.036	31.0	22.0	13.5	27.0	0.8

■ AC. CAPACITORS (Y1:400VAC)

Applications:

● For use in ciruit where alternating, pulsating, intermittent and steady high voltager exist.



Approved/Recognized Type

Related Standard		Certificate NO.	Approved Monogram
CSA (Canada)	CSA-22.2 No.1-98	E187963	c UL us
UL (USA)	UL1414		
VDE (Germany)	EN 132 400 / IEC 60384 -14 (VDE 0565 Teil 1-1)	137027	
SEMKO (Sweden)	EN 132 400 / IEC 60384 -14	312302	
SEV (Switzerland)	EN 132 400 / IEC 60384 -14	03.1244	
FIMKO (Finland)	EN 132 400 / IEC 60384 -14	FI 17334 A1	
NEMKO (Norway)	EN 132 400 / IEC 60384 -14	P03201238	
DEMKO (Denmark)	EN 132 400 / IEC 60384 -14	136122-01	
VDE CB	IEC 60384-14 Table II 2nd (1993)	DE 1-30022	CB

Part Number Configuration :

KLS10-Y1X1 Y5P 102 K 400 P10

(1) (2) (3) (4) (5) (6)

(1) Class Y1

(2) Type code: Y5P,Y5U,Y5V

(3) Rated capacitance

(4) Tolerance on rated capacitance

(5) AC capacitors, safety

(6) Pitch

Specifications:

Operating Temp. Rang	−25℃ to +85℃			
			X1	Y1
	CSA,UL		250 VAC	
	SEMKO, SEV, FIMKO, NEMKO, DEMKO, VDE (0565 Teil 1-1)		400 VAC	400 VAC
Dielectric Withstanding Voltage	Rated Voltage		Test Voltage	
	400 VAC		4000 VAC for 1 min.	
Dissipation Factor (D.F)	Y5P	TAN δ ≦2.5%, measured at 1KHz±10%, 1.0 − 5.0 Vrms, 25℃		
	Y5U	TAN δ ≦2.5%, measured at 1KHz±10%, 1.0 − 5.0 Vrms, 25℃		
	Y5V	TAN δ ≦5.0%, measured at 1KHz±10%, 1.0 − 5.0 Vrms, 25℃		
Capacitance (C)	Range	10 pF to 4700 pF. measured at 1KHz±10%, 1.0 − 5.0 Vrms, 25℃		
	Tolerance	±10%	Y5P	
		±20%	Y5U	
		±20%	Y5V	
Insulation Resistance (I R)	10000 MΩ min, 500 VDC			
Temperature Characteristics	Type Code	Cap. Change	Temp. Range	
	Y5P	±10%, max.	−25℃ to +85℃	
	Y5U	±20%, max.	−25℃ to +85℃	
	Y5V	+30%, −80% max.	−25℃ to +85℃	
	The reference temperature: 25℃			

Y1 SERIES

INTRODUCTION

These Ceramic Disc Capacitors are specifically designed for AC applications and meet the safety requirements of various safety standards agencies.These capacitors are ideal for across the line and line by-pass applications

FEATURES:

⊙Ideal for across the line applictions
⊙Compact size
⊙Cost effective product
⊙Safety standards recognized for AC applications

GENERAL SPECIFICATIONS

Operating temperature range:	- 25 to 85℃
Capacitance range:	10 pF to 4700 pF
Capacitance tolerance:	K=±10% , M=±20%
Rated voltage:	400 VAC. Please refer to table for approval file number.
Temperature coefficient:	±10% for B (Y5P), +30 to −80% for F (Y5V)
Dissipation factor (tan δ):	Y5P: 2.5% max. at 25℃ and 1KHz, 1± 0.2 Vrms. Y5V: 5.0% max. at 25℃ and 1KHz, 1± 0.2 Vrms.
Insulation resistance at 25℃:	10000MΩ at 500VDC for 1 minute.
Dielectric strength:	4000 VAC for 60 seconds - AC400V

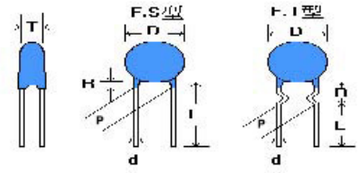
CAPACITANCE AND DIMENSIONS:

When ordering safety standard recognized ceramic capacitors please use the part numbers as noted above

Rated : Y1, X1:AC400V Dielectric strength: 4000Vac

T.C.	CAP.	TOL.	DIMENSION(mm)		
			D max	P	T max
±10% (Y5P)	to 82PF	K ±10%	10PF	9.5±0.8	6.5 6
			6.5	9.5±0.8	6
	100PF		6.5	9.5±0.8	6
	150PF		7.5	9.5±0.8	6
	220PF		7.5	9.5±0.8	6
	330PF		7.5	9.5±0.8	6
	470PF		8.5	9.5±0.8	6
	560PF		9.5	9.5±0.8	6
	680PF		10.5	9.5±0.8	6
	1000PF		11.5	9.5±0.8	6
+30 ~ −80 (Y5V)	1000PF	M ±20%	7.5	9.5±0.8	6
	1500PF		8.5	9.5±0.8	6
	2200PF		9.5	9.5±0.8	6
	3300PF		11.5	9.5±0.8	6
	3900PF		13.5	9.5±0.8	6
	4700PF		13.5	9.5±0.8	6

Dimensions and Tolerance
B= 3.0 mm max for AA
d=0.55 mm ±0.05 mm
P= 9.5 ±0.8 mm
L=3 ~ 25 mm.

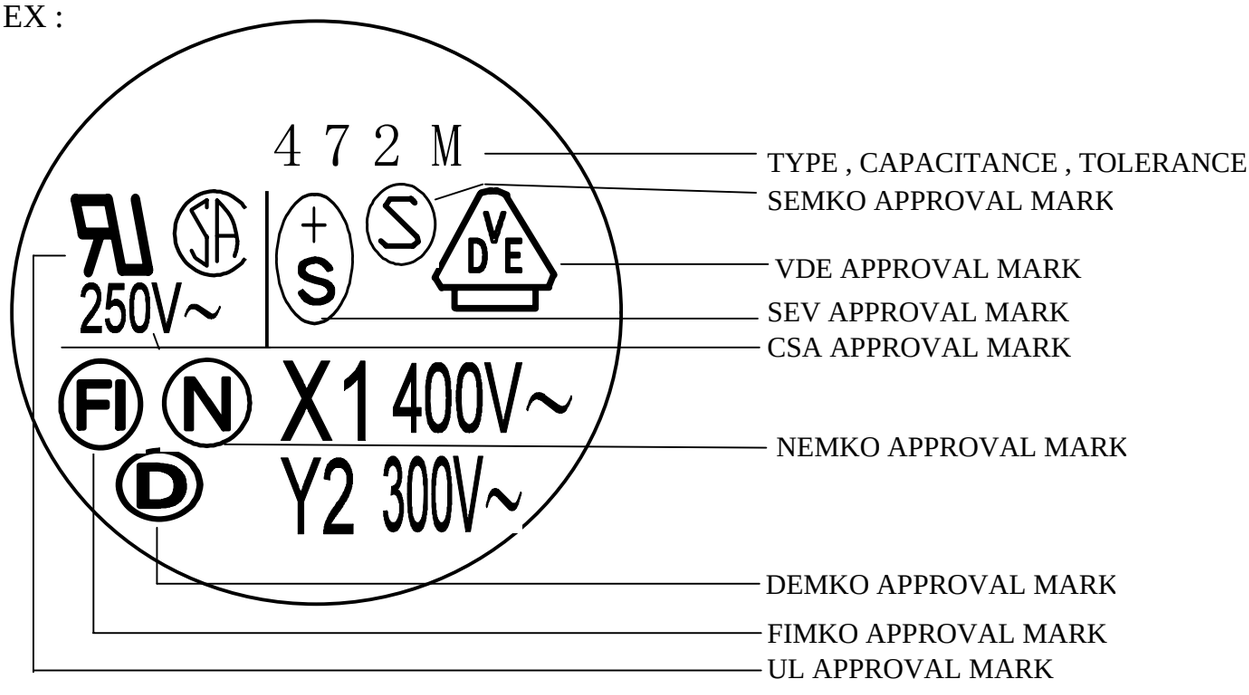


◎ According as customer's request and size.

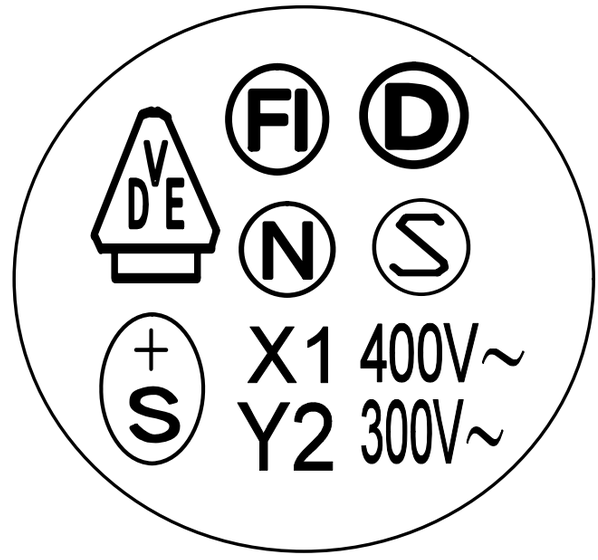
MARKING

VDE APPROVAL MARK		SEMKO APPROVAL MARK	
UL APPROVAL MARK		NEMKO APPROVAL MARK	
FIMKO APPROVAL MARK		DEMKO APPROVAL MARK	
SEV APPROVAL MARK		CSA APPROVAL MARK	
The People's Republic of China APPROVAL MARK		UL AND CSA APPROVAL MARK	
NOMINAL CAPACITANCE	3 - DIGIT - SYSTEM ： 472 = 4700 PF ： 103 = 10000 PF		
CAPACITANCE TOLERANCE	CODE : K＝±10% , M＝±20%		

EX :

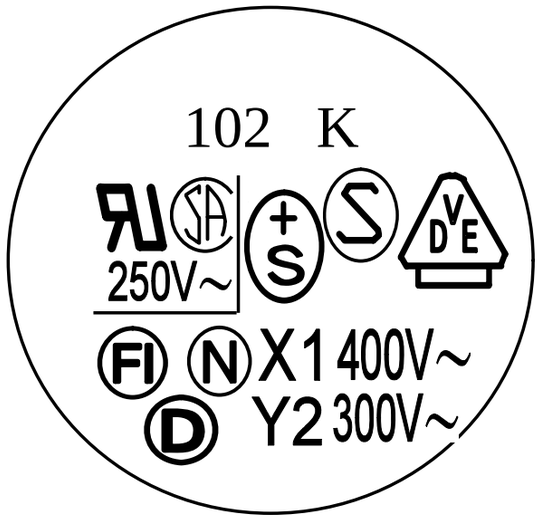


EX1 :雙面

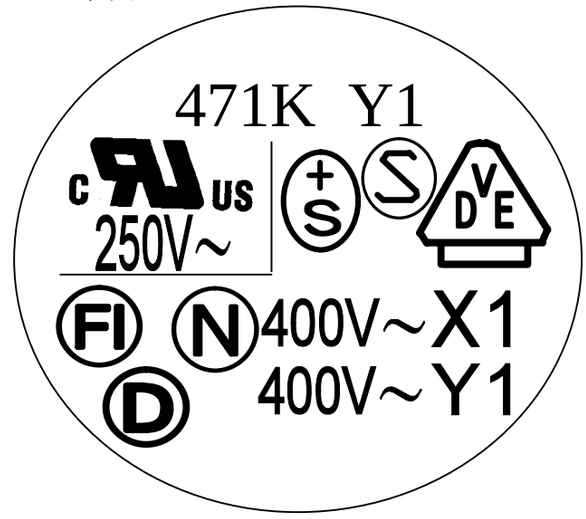


MARKING : (FOR Y1)

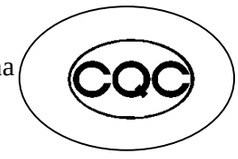
EX3 :單面



EX1 :單面



EX5： Made In
The People's Republic of China
back marking



Approval Standard And Recognized NO.

Safety Standard	Standard NO.	Recognized NO.
CSA (Canada)	CSA-22.2 No.1-98	E187963
UL (USA)	UL1414	
VDE (Germany)	EN / IEC 60384 -14 (VDE 0565 Teil 1-1)	123326
SEMKO (Sweden)	EN 132 400 / IEC 60384 -14	312302
SEV (Switzerland)	EN 132 400 / IEC 60384 -14	03.1245
FIMKO (Finland)	EN 132 400 / IEC 60384 -14	FI 15316 A1
NEMKO (Norway)	EN 132 400 / IEC 60384 -14	P03201239
DEMKO (Denmark)	EN 132 400 / IEC 60384 -14	135948-01/A1
VDE CB	IEC 60384-14 Table II 2nd (1993)	DE 1-07488-A1

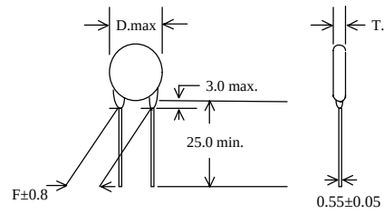
Approval Standard And Recognized NO.

Safety Standard	Standard NO.	Recognized NO.
CSA (Canada)	CSA-22.2 No.1-98	LR 111243-1
UL (USA)	UL1414	E187963
VDE (Germany)	EN / IEC 60384 -14 (VDE 0565 Teil 1-1)	123326
SEMKO (Sweden)	EN 132 400 / IEC 60384 -14	312302
SEV (Switzerland)	EN 132 400 / IEC 60384 -14	03.1245
FIMKO (Finland)	EN 132 400 / IEC 60384 -14	FI 15316 A1
NEMKO (Norway)	EN 132 400 / IEC 60384 -14	P03201239
DEMKO (Denmark)	EN 132 400 / IEC 60384 -14	309805-01
VDE CB	IEC 60384-14 Table II 2nd (1993)	DE 1-07488-A1

■ AC. CAPACITORS (Y2:250VAC AND 400VAC)

Applications:

- For use in ciruit where alternating, pulsating, intermittent and steady high voltager exist.



Approved/Recognized Type

Related Standard		Certificate NO.	Approved Monogram
CSA (Canada)	CSA-22.2 No.1-98	LR 111243-1	
UL (USA)	UL1414	E187963	
VDE (Germany)	EN / IEC 60384 -14 (VDE 0565 Teil 1-1)	123326	
SEMKO (Sweden)	EN 132 400 / IEC 60384 -14	312302	
SEV (Switzerland)	EN 132 400 / IEC 60384 -14	03.1245	
FIMKO (Finland)	EN 132 400 / IEC 60384 -14	FI 15316 A1	
NEMKO (Norway)	EN 132 400 / IEC 60384 -14	P03201239	
DEMKO (Denmark)	EN 132 400 / IEC 60384 -14	135948-01/A1 309805-01	
VDE CB	IEC 60384-14 Table II 2nd (1993)	DE 1-07488-A1	**CB**

Part Number Configuration :

KLS10-Y2X1 Y5P 102 K 400 P10

(1) (2) (3) (4) (5) (6)

(1) Class Y2
(2) Type code: Y5P,Y5U,Y5V
(3) Rated capacitance
(4) Tolerance on rated capacitance
(5) AC capacitors, safety
(6) Pitch

Specifications:

Operating Temp. Rang	－２５℃ ｔｏ ＋８５℃			
			X1	Y2
	CSA,UL		250 VAC	
	SEMKO, SEV, FIMKO, NEMKO, DEMKO, VDE (0565 Teil 1-1)		400 VAC	300 VAC
Dielectric Withstanding Voltage	Rated Voltage		Test Voltage	
	250 VAC 400 VAC		1500 VAC for 1 min. 2600 VAC for 1 min.	
Dissipation Factor (D.F)	Y5P	TAN δ ≦2.5%, measured at 1KHz±10%, 1.0 － 5.0 Vrms, 25℃		
	Y5V	TAN δ ≦5.0%, measured at 1KHz±10%, 1.0 － 5.0 Vrms, 25℃		
Capacitance (C)	Range	10 pF to 10000 pF. measured at 1KHz±10%, 1.0 － 5.0 Vrms, 25℃		
	Tolerance	±10%	Y5P	
		±20%	Y5V	
Insulation Resistance (I R)	10000 MΩ min, 500 VDC			
Temperature Characteristics	Type Code	Cap. Change	Temp. Range	
	Y5P	±10%, max.	－２５℃ ｔｏ ＋８５℃	
	Y5V	＋30%, －80% max.	－２５℃ ｔｏ ＋８５℃	
	The reference temperature: 25℃			

Y2 SERIES

INTRODUCTION

These Ceramic Disc Capacitors are specifically designed for AC applications and meet th safety requirements of various safety standards agencies.These capacitors are ideal for acro the line and line by-pass applications

FEATURES:

⊙Ideal for across the line applictions
⊙Compact size
⊙Cost effective produc
⊙Safety standards recognized for AC application

GENERAL SPECIFICATION S

Operating temperature range:	- 25 to 85℃
Capacitance range:	10 pF to 10000 pF
Capacitance tolerance:	K＝±10% , M＝±20%
Rated voltage:	125 ,250 and 400 VAC. Please refer to table for approval file number.
Temperature coefficient:	±10% for B (Y5P), ＋30 to －80% for F (Y5V)
Dissipation factor (tan δ):	Y5P: 2.5% max. at 25℃ and 1KHz, 1± 0.2 Vrms. Y5V: 5.0% max. at 25℃ and 1KHz, 1± 0.2 Vrms.
Insulation resistance at 25℃:	10000MΩ at 500VDC for 1 minute.
Dielectric strength:	1500 VAC for 60 seconds - AC125V,AC250V 2600 VAC for 60 seconds - AC400V

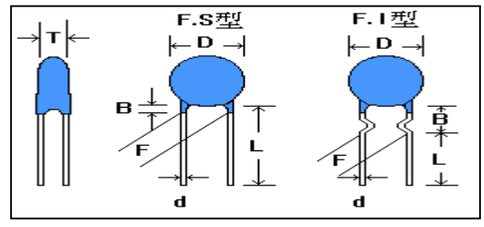
CAPACITANCE AND DIMENSIONS:

When ordering safety standard recognized ceramic capacitors please use the part numbe as noted above

Rated Y2,X1:AC250V AND AC400V Dielectric strength: 1500Vac/2600Vac

T.C.	CAP.	TOL.	DIMENSION(mm)		
			D max	F	T max
±10% (Y5P)	10PF to 82PF	K ±10%	6.5	7.5±0.8	5
	100PF		6.5	7.5±0.8	5
	150PF		6.5	7.5±0.8	5
	220PF		6.5	7.5±0.8	5
	330PF		6.5	7.5±0.8	5
	470PF		6.5	7.5±0.8	5
	560PF		7.5	7.5±0.8	5
	680PF		7.5	7.5±0.8	5
	1000PF		8.5	7.5±0.8	5
＋30 ~ －80% (Y5V)	1000PF	M ±20%	6.5	7.5±0.8	5
	1500PF		7.5	7.5±0.8	5
	2200PF		7.5	7.5±0.8	5
	3300PF		9.5	7.5±0.8	5
	3900PF		9.5	7.5±0.8	5
	4700PF		10.5	7.5±0.8	5
	6800PF		11.5	9.5±0.8	5
	8200PF		13.5	9.5±0.8	5
	10000PF		15	9.5±0.8	5

Dimensions and Tolerance
B＝ 3.0 mm max for AA
d＝0.55 mm ±0.05 mm
F＝ 7.5 or 9.5 ±0.8 mm
L＝3 ~ 25 mm.



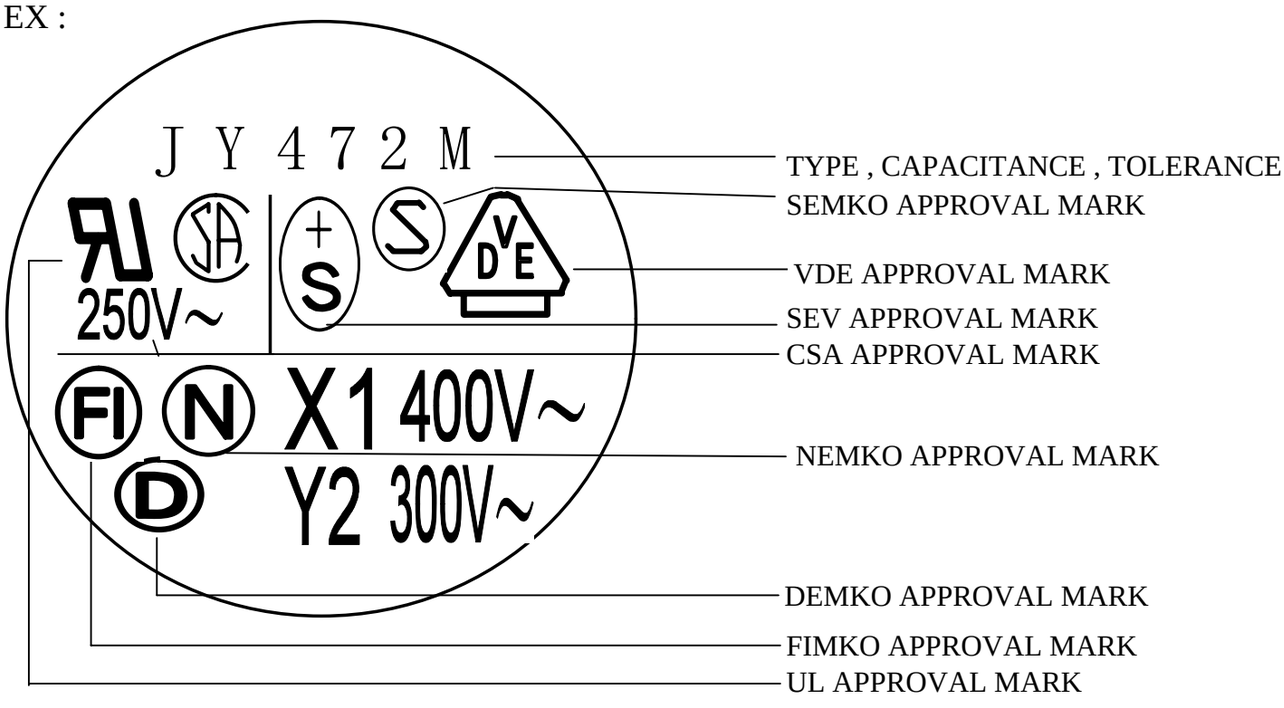
◎ According as customer's request and size.

Y2 , X1 AC250V , AC400V

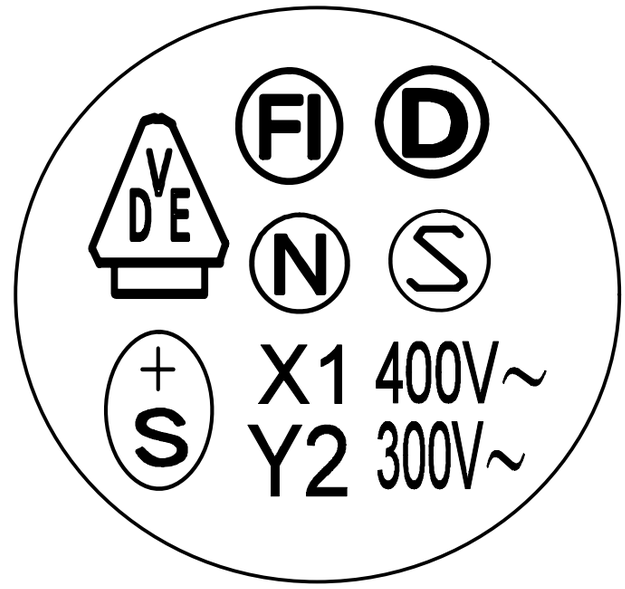
MARKING

VDE APPROVAL MARK		SEMKO APPROVAL MARK	
UL APPROVAL MARK		NEMKO APPROVAL MARK	
FIMKO APPROVAL MARK		DEMKO APPROVAL MARK	
SEV APPROVAL MARK		CSA APPROVAL MARK	
The People's Republic of China APPROVAL MARK		UL AND CSA APPROVAL MARK	
NOMINAL CAPACITANCE	3 - DIGIT - SYSTEM ： 472 = 4700 PF ： 103 = 10000 PF		
CAPACITANCE TOLERANCE	CODE : K＝±10% , M＝±20%		

EX :

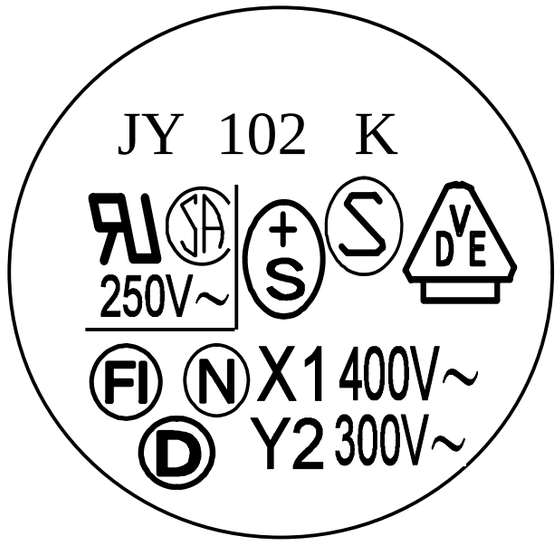


雙面

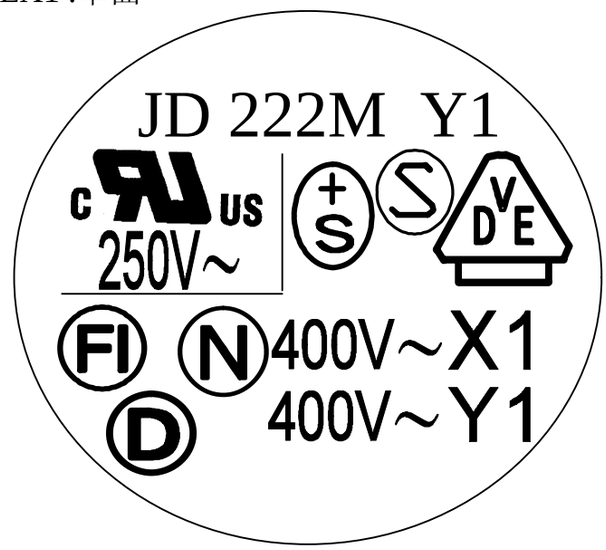


MARKING : (FOR Y1)

單面



EX1 :單面



：　Made In
The People's Republic of China
back marking

LOW VOLTAGE CERAMIC CAPACITOR

Class 1: Tenperature Compensation

1. Linear temperature coeffcient of capacitance.
2. High stability of capacitance.
3. Low loss at wide range of frequency.

Class 2: High Dielectric Constant

1. Non linear temperature coefficient of capacitance.
2. Large capacitance in small sizes.

ORDER INFORMATION :

KLS10-HLS	Y5P	102	K	400	P10
(1)	(2)	(3)	(4)	(5)	(6)

(1) Class HLS
(2) Type code: Y5P,Y5U,Y5V
(3) Rated capacitance
(4) Tolerance on rated capacitance
(5) AC capacitors, safety
(6) Pitch

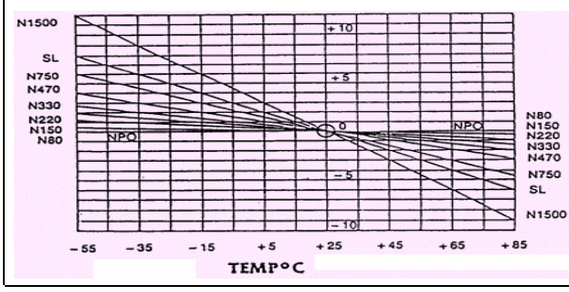
Product Type

1. (T - C) 0.5PF ~ 821PF measured at 1MHz±10%,1.0-5.0V rms, 25℃
2. (HI-K) 100PF ~ 104PF measured at 1KHz±10%,1.0-5.0V rms, 25℃

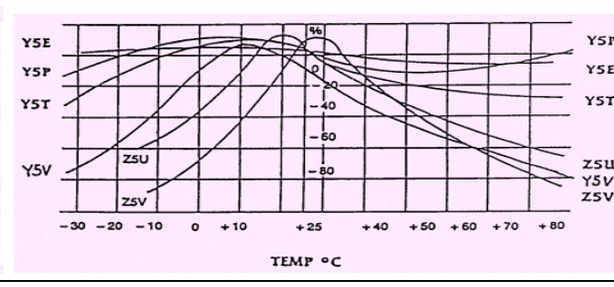
Temp. Range	- 25 ℃ to + 85 ℃					
Working voltage (W.V.)	16V 25V 50VDC					
Test Condition	Rated workimg voltage 16V.25V.50VDC*2 times of the rated voltage (50mA and under) for 1 to 5 seconds					
Insulation Resistance (I R)	10000MΩ min.at rated voltage for 60±5 seconds		Not less than 10,000MΩ or (200/CR)MΩ whichever is the smaller CR:Capacitanse(μF)			
Dissipation factor (DF)	NPO、SL		Y5P	Z5U	Z5V	Y5V
	C ≧ 30 PF Q ≧ 1000		≦2.5%	≦2.5%	≦3.5%	≦5.0%
	C < 30 PF Q ≧ 400 + 20 ×C					
Tolerance	C	D	J	K	M	Z
Code	±0.25 PF	±0.5 PF	± 5 %	± 10 %	± 20 %	+ 80% - 20%
Operating Temp. Range	Type Code	Temperature Coefficient	Temp. Range			
	NPO	± 0 PPM	- 25 ℃ to + 85 ℃			
	SL	+350 ~ -1000 PPM	- 25 ℃ to + 85 ℃			
	Y5P	± 10%	- 25 ℃ to + 85 ℃			
	Y5V	+22% ~ -82%	- 25 ℃ to + 85 ℃			
	Z5U	+22% ~ -56%	- 10 ℃ to + 85 ℃			
	Z5V	+22% ~ -82%	- 10 ℃ to + 85 ℃			
	The reference temperature: 25℃					

Rated Voltage (VDC)	Tenp.char / capacitance range (pF)					Dimension (mm)		
	NPO	SL	Y5P	Z5U	Z5V	D (max)	F (±0.8)	T (max)
CLASS 1~2 50V	0.5 ~ 39	23 ~ 51	101 ~ 821	202 ~ 472	232 ~ 103	5.0	2.5 / 5.0	3.0
	47	51 ~ 221	102 ~ 222	-	333 ~ 473	6.0	2.5 / 5.0	3.0
	51 ~ 101	221 ~ 331	232 ~ 332	205 ~ 103	-	7.0	2.5 / 5.0	3.0
	121 ~ 221	341 ~ 471	342 ~ 682	-	-	9.0	2.5 / 5.0	3.0
	271	501 ~ 681	822 ~ 103	-	-	11.0	2.5 / 5.0	3.0
	331	821 ~ 102	-	-	-	12.0	2.5 / 5.0	3.0

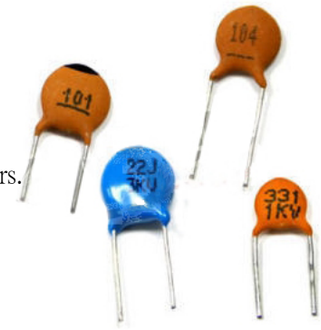
T-C. CHART



HI - K . CHART



LOW VOLTAGE CERAMIC CAPACITOR



Class 3:Semi Conductive

1. Linear temperature coeffcient of capacitance.
2. Low loss at wide range of frequency.
3. Stable capacitance change over the specified temperature.
4. Ulta large capacitance in small sizes.
5. Cost saving py replacing film capacitors.

Product Type

3. (S - C) 682PF ~ 224PF measured at 1KHz±10%, 0.1V rms, 25℃

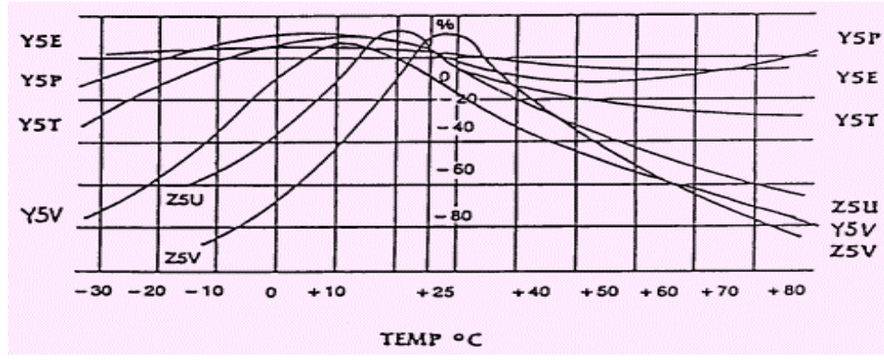
Temp. Range	- 25 ℃ to + 85 ℃				
Working voltage (W.V.)	16V.DC		25V ~ 50V.DC		
Test Condition	Rated workimg voltage 16V.25V.50VDC*2 times of the rated voltage (50mA and under) for 1 to 5 seconds				
Insulation Resistance (I R)	Not less than 100MΩ or (10/CR)MΩ whichever is the smaller CR:Capacitanse(μF)		Not less than 1,000MΩ or (20/CR)MΩ whichever is the smaller CR:Capacitanse(μF)		
Dissipation factor (DF)	Y5U	Y5V	Y5P	Y5U	Y5V
	≦7.5%	≦7.5%	≦5.0%	≦5.0%	≦5.0%
Temperature Coefficient	+22% ~ -56%	+22% ~ -82%	±10%	+22% ~ -56%	+22% ~ -82%
Tolerance	J	K	M	Z	P
Code	± 5 %	± 10 %	± 20 %	+ 80% - 20%	+ 100% - 0%

The reference temperature: 25℃

Rated Voltage (VDC)	Tenp.char / capacitance range (pF)			Dimension (mm)		
	Y5P	Y5U	Y5V	D (max)	F (±0.8)	T (max)
CLASS 3 16V~50V	682 ~ 103	153 ~ 503	333 ~ 403	6.0	2.5 / 5.0	3.0
	153 ~ 223	683 ~ 104	473 ~ 104	7.0	2.5 / 5.0	3.0
	273 ~ 333	104	104	8.0	2.5 / 5.0	3.0
	403 ~ 53	-	154 ~ 224	9.0	2.5 / 5.0	3.0
	683	154 ~ 224	155 ~ 224	10	2.5 / 5.0	3.0
	104	-	-	11	2.5 / 5.0	3.0

The size is usual goods, special request To conferred on the Side.

S-C. CHART



HIGH VOLTAGE CERAMIC CAPACITOR

Class 1: Tenperature Compensation

1. Linear temperature coeffcient of capacitance.
2. High stability of capacitance.
3. Low loss at wide range of frequency.

Class 2: High Dielectric Constant

1. Non linear temperature coefficient of capacitance.
2. Large capacitance in small sizes.

ORDER INFORMATION :

KLS10-HLK	Y5P	102	K	400	P10
(1)	(2)	(3)	(4)	(5)	(6)

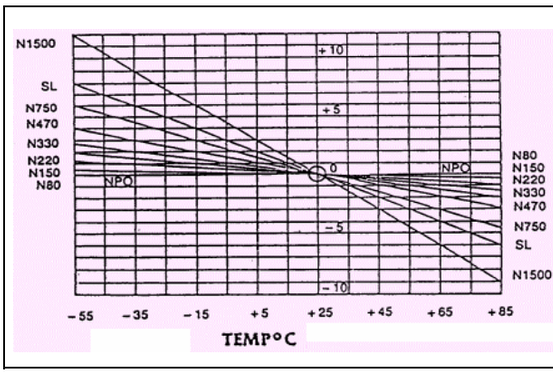
(1) Class HLK
(2) Type code: Y5P,Y5U,Y5V
(3) Rated capacitance
(4) Tolerance on rated capacitance
(5) AC capacitors, safety
(6) Pitch

Product Type

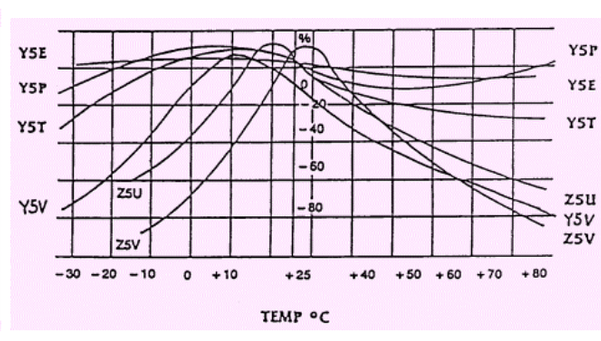
1. (T - C) 0.5PF ~ 821PF measured at 1MHz±10%,1.0-5.0V rms, 25℃
2. (HI-K) 100PF ~ 104PF measured at 1KHz±10%,1.0-5.0V rms, 25℃

Dissipation factor (DF)	NPO、SL		Y5P	Z5U	Z5V	Y5V
	C ≧ 30 PF Q ≧ 1000		≦2.5%	≦2.5%	≦3.5%	≦5.0%
	C < 30 PF Q ≧ 400 + 20×C					
Insulation Resistance (I R)	10000MΩ min.at rated voltage for 60±5 seconds		Not less than 10,000MΩ or (200/CR)MΩ whichever is the smaller CR:Capacitanse(μF)			
Tolerance	C	D	J	K	M	Z
Code	±0.25 PF	±0.5 PF	± 5 %	± 10 %	± 20 %	+ 80% - 20%
Voltage	Working voltage (W.V.)	500V ~ 6.3KV.DC				
	Test Condition	Rated Voltage		Test Voltage	Time	Current
		W.V. ≦ 500V		3.0 × W.V.	1 ~ 5 sec.	< 50 mA
		500V < W.V. ≦ 2KV		2.0 × W.V.	1 ~ 5 sec.	< 50 mA
		2KV < W.V. ≦ 5KV		1.75 × W.V.	1 ~ 5 sec.	< 50 mA
		5KV < W.V. ≦ 6.3KV		1.5 × W.V.	1 ~ 5 sec.	< 50 mA
Operating Temp. Range	Type Code	Temperature Coefficient		Temp. Range		
	NPO	± 0 PPM		- 25 ℃ to + 85 ℃		
	SL	+350 ~ -1000 PPM		- 25 ℃ to + 85 ℃		
	Y5P	± 10%		- 25 ℃ to + 85 ℃		
	Y5V	+22% ~ -82%		- 25 ℃ to + 85 ℃		
	Z5U	+22% ~ -56%		- 10 ℃ to + 85 ℃		
	Z5V	+22% ~ -82%		- 10 ℃ to + 85 ℃		
	The reference temperature: 25℃					

T-C. CHART



HI - K . CHART



■ HIGH VOLTAGE CERAMIC CAPACITOR

TYPE:CLASS 1~2
TYPE: CHAR/CAP VALUE RATED VOLTAGE

Rated Voltage (VDC)	Tenp.char / capacitance range (pF)					Dimension (mm)		
	NPO	SL	Y5P	Z(Y)5U	Z(Y)5V	D (max)	F (±0.8)	T (max)
500V	0.5 ~ 33	1 ~ 100	101 ~ 182	102 ~ 222	102 ~ 502	6.0	5.0 / 7.5	3.0
	47 ~ 56	120 ~ 330	202 ~ 222	242 ~ 332	562 ~ 682	7.0	5.0 / 7.5	3.0
	50 ~ 68	330 ~ 430	-	392 ~ 103	-	8.0	5.0 / 7.5	3.0
	72 ~ 82	-	-	562 ~ 103	822	9.0	5.0 / 7.5	3.0
	-	-	242 ~ 332	153	183 ~ 223	10.0	5.0 / 7.5	3.0
	91 ~ 160	-	-	203 ~ 223	-	11.0	5.0 / 7.5	3.0
	-	-	362 ~ 472	-	-	12.0	5.0 / 7.5	3.0
	-	-	512 ~ 682	-	-	13.0	5.0 / 7.5	3.0
	-	-	822	-	-	14.0	5.0 / 7.5	3.0
	-	-	-	-	333 ~ 104	15.0	5.0 / 7.5	3.0
	-	-	103	-	-	16.0	5.0 / 7.5	3.0
1KV	0.5 ~ 33	47 ~ 68	101 ~ 501	102	102	6.0	5.0 / 7.5	4.0
	36 ~ 47	82 ~ 100	561 ~ 102	122 ~ 222	122 ~ 562	7.0	5.0 / 7.5	4.0
	50 ~ 68	-	122 ~ 152	332 ~ 103	-	8.0	5.0 / 7.5	4.0
	70 ~ 82	151 ~ 271	182 ~ 222	682 ~ 103	682 ~ 822	9.0	5.0 / 7.5	4.0
	100	331	-	-	-	10.0	5.0 / 7.5	4.0
	-	-	212 ~ 302	-	-	11.0	5.0 / 7.5	4.0
	-	391 ~ 471	-	-	-	12.0	5.0 / 7.5	4.0
	-	561 ~ 681	332 ~ 682	-	223 ~ 473	13.0	5.0 / 7.5	4.0
	-	-	822 ~ 103	-	104	17.0	5.0 / 7.5	4.0
2KV	-	-	-	-	102 ~ 122	6.0	5.0 / 7.5	4.0
	-	11 ~ 22	102 ~ 561	-	152 ~ 332	7.0	5.0 / 7.5	4.0
	-	-	681 ~ 122	-	392 ~ 472	8.0	5.0 / 7.5	4.0
	-	-	152 ~ 182	-	502 ~ 682	9.0	5.0 / 7.5	4.0
	-	-	202 ~ 222	-	822	10.0	5.0 / 7.5	4.0
	-	-	272 ~ 332	-	103	12.0	5.0 / 7.5	4.0
	-	-	392 ~ 472	-	-	14.0	5.0 / 7.5	4.0
	-	-	-	-	103	15.0	5.0 / 7.5	4.0
3KV (3F)	10~12	18~39	101~331	-	102	6.0	7.5	5.0
	15	47~51	-	-	-	6.5	7.5	5.0
	18~20	56	-	-	-	7.0	7.5	5.0
	22	68~75	471	-	222	7.5	7.5	5.0
	-	101	681	-	332	8.5	7.5	5.0
	-	-	102	-	-	10.0	7.5	5.0
	-	-	-	-	472	10.5	7.5	5.0
	-	-	-	-	103	14.5	7.5	5.0
4KV (3G)	-	10~82	101~331	471	102	6.5	7.5	6.0
	-	-	471~681	561~102	152~222	7.5	7.5	6.0
	-	-	-	-	332	9.0	7.5	6.0
	-	-	-	222	-	9.5	7.5	6.0
	-	-	102	-	392~472	10.5	7.5	6.0
	-	-	-	332	-	11.0	7.5	6.0
	-	-	-	-	562~682	11.5	7.5	6.0
	-	-	-	-	822	12.5	7.5	6.0
	-	-	-	472	-	13.0	7.5	6.0
	-	-	-	-	103	14.5	7.5	6.0
6KV (3J)	-	10~82	101~151	471	102	7.0	9.5	7.0
	-	-	221~331	561~102	152	8.0	9.5	7.0
	-	-	471~681	152	222	9.0	9.5	7.0
	-	-	-	222	332	11.0	9.5	7.0
	-	-	-	-	392	11.5	9.5	7.0
	-	-	102	-	-	12.0	9.5	7.0
	-	-	-	332	472	13.0	9.5	7.0
	-	-	-	472	-	15.0	9.5	7.0

The size is usual goods, special request To conferred on the Side.

■ HIGH VOLTAGE CERAMIC CAPACITOR

Class 1: Tenperature Compensation

1. Linear temperature coeffcient of capacitance.
2. High stability of capacitance.
3. Low loss at wide range of frequency.

Class 2: High Dielectric Constant

1. Non linear temperature coefficient of capacitance.
2. Large capacitance in small sizes.

ORDER INFORMATION :

KLS10-HV16 Y5P 102 K 400 P10
(1) (2) (3) (4) (5) (6)

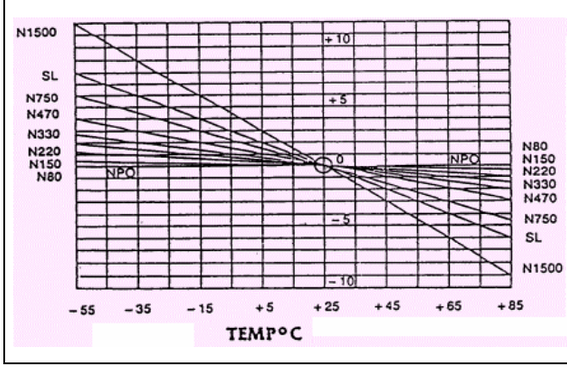
(1) Class HV16
(2) Type code: Y5P,Y5U,Y5V
(3) Rated capacitance
(5) AC capacitors, safety
(6) Pitch

Product Type

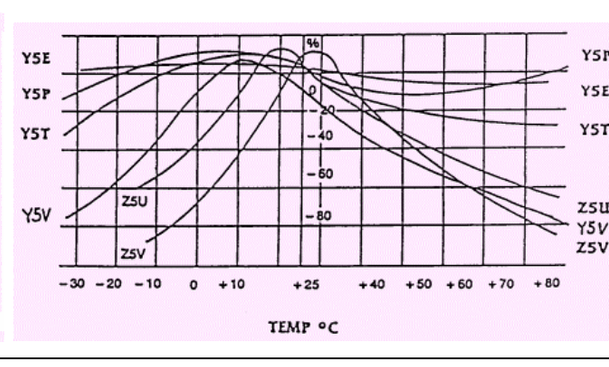
1. (T - C) 0.5PF ~ 82PF measured at 1MHz±10%,1.0-5.0V rms, 25℃
2. (HI-K) 100PF ~ 103PF measured at 1KHz±10%,1.0-5.0V rms, 25℃

Dissipation factor (DF)	NPO、SL		Y5P	Y5U	Z5V	Y5V
	C ≧ 30 PF Q ≧ 1000		≦2.5%	≦2.5%	≦3.5%	≦5.0%
	C ＜ 30 PF Q ≧ 400 ＋ 20 ×C					
Insulation Resistance (I R)	10000MΩ min.at rated voltage for 60±5 seconds		Not less than 10,000MΩ or (200/CR)MΩ whichever is the smaller CR:Capacitanse(μF)			
Tolerance	C	D	J	K	M	Z
Code	±0.25 PF	±0.5 PF	± 5 %	± 10 %	± 20 %	+ 80% - 20%
Voltage	Working voltage (W.V.)	8 ~ 20KV.DC				
	Test Condition	Rated Voltage		Test Voltage	Time	Current
		5KV ＜W.V. ≦ 10KV		1.5 × W.V.	1 ~ 5 sec.	＜ 50 mA
		W.V. ≧ 10KV		1.2 × W.V.	1 ~ 5 sec.	＜ 50 mA
Operating Temp. Range	Type Code	Temperature Coefficient		Temp. Range		
	NPO	± 0 PPM		- 25 ℃ to + 85 ℃		
	SL	+350 ~ -1000 PPM		- 25 ℃ to + 85 ℃		
	Y5P	± 10%		- 25 ℃ to + 85 ℃		
	Y5V	+22% ~ -82%		- 25 ℃ to + 85 ℃		
	Z5U	+22% ~ -56%		- 10 ℃ to + 85 ℃		
	Z5V	+22% ~ -82%		- 10 ℃ to + 85 ℃		
	The reference temperature: 25℃					

T-C. CHART



HI - K . CHART



■ HIGH VOLTAGE CERAMIC CAPACITOR

TYPE:CLASS 1~2

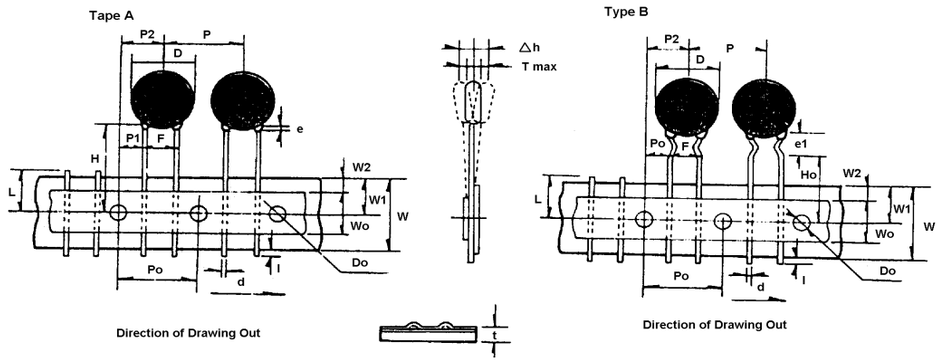
TYPE: CHAR/CAP VALUE RATED VOLTAGE

Rated Voltage (VDC)	Tenp.char / capacitance range (pF)					Dimension (mm)		
	C NPO	S SL	B Y5P	E Y5U	F Y5V	D (max)	F (±1.0)	T (max)
8KV (8K)	-	-	101	-	-	8.0	9.5/12.5	7.0
	-	-	151~221	471	102	9.0	9.5/12.5	7.0
	-	-	471	681~102	-	11.0	9.5/12.5	7.0
	-	-	681	-	222	12.0	9.5/12.5	7.0
	-	-	821	-	332	13.0	9.5/12.5	7.0
	-	-	102	222	-	14.0	9.5/12.5	7.0
	-	-	-	332	472	17.0	9.5/12.5	7.0
	-	-	222	472	682	19.0	9.5/12.5	7.0
	-	-	-	-	103	24.0	9.5/12.5	7.0
10KV (4A)		22	101~221	471	-	10.0	9.5/12.5	9.0
	10			681~821	102	11.0	9.5/12.5	9.0
		33	471	-	-	12.0	9.5/12.5	9.0
	15	47	-	102	-	13.0	9.5/12.5	9.0
	-	-	-	-	222	14.0	9.5/12.5	9.0
	-	68	681~821	-	-	15.0	9.5/12.5	9.0
	-	-	102	222	332	16.0	9.5/12.5	9.0
	-	-	-	-	472	18.0	9.5/12.5	9.0
	-	-	222	-	682	22.0	9.5/12.5	9.0
	-	-	-	-	103	24.0	9.5/12.5	9.0
15KV (4C)	-	-	101~221	-	-	10.0	9.5/12.5	11.0
	-	-	-	471	-	11.0	9.5/12.5	11.0
	-	-	-	681	102	12.0	9.5/12.5	11.0
	-	-	-	821	-	13.0	9.5/12.5	11.0
	-	-	471	102	-	14.0	9.5/12.5	11.0
	-	-	-	-	222	15.0	9.5/12.5	11.0
	-	-	821	-	332	17.0	9.5/12.5	11.0
	-	-	102	222	-	18.0	9.5/12.5	11.0
	-	-	-	-	472	20.0	9.5/12.5	11.0
	-	-	-	-	682	25.0	9.5/12.5	11.0
	-	-	-	-	103	28.0	9.5/12.5	11.0
20KV (4F)	-	-	101~221	-	-	10.0	9.5/12.5	11.0
	-	-	-	681~821	102	13.0	9.5/12.5	11.0
	-	-	471	102	-	15.0	9.5/12.5	11.0
	-	-	-	-	222	16.0	9.5/12.5	11.0
	-	-	681~821	222	332	18.0	9.5/12.5	11.0
	-	-	102	-	-	21.0	9.5/12.5	11.0
	-	-	-	-	472	23.0	9.5/12.5	11.0

The size is usual goods, special request to conferred on the side.

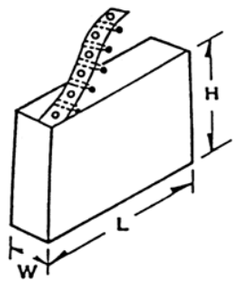
TAPING SPECIFICATIONS

Taping (Radial)-- Lead Spacing F=5.0±0.8



Item		Code	Dimensions (mm)	Item	Code	Dimensions (mm)
Taping Pitch		P	12.7±1.0	Lead Protrusion	l	+0.5~1.0
Guide Pitch		Po	12.7±1.0	Diameter of Feed Hole	Do	4.0±0.3
Lead Spacing		F	5.0±0.8	Diameter of Lead	d	$0.6^{+0.06}_{-0.05}$
Feed Hole Position Capacitor Body		P2	6.35±1.3	Total Thickness of Tape	t	0.7±0.2
Feed Hole Position Capacitor Lead		P1	3.85±0.7	Thickness of Capacitor Body	T	Differ in each product
Diameter Of Diso		D	See table of each series	Alignment to FR. Direction	△h	0±2.0
				Length of Snipped Lead	L	$11.0^{+0}_{-1.0}$
Width Of Base Tape		W	18.0±0.5	Width of Hold-down Tape	Wo	12.5
Feed Hole Vertical Position		W1	$9.0^{+0.75}_{-0.05}$	Hold-down Tape Position	W2	1.5±1.5
Taping Height	For Straight	Ho	16.0±0.5	Coating Extention	e	3.0以下
	For Crimp	H	$20^{+1.5}_{-1.0}$		e1	up to center of crimp

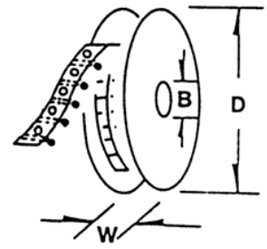
AMMO PACK



H =241±5 mm
L = 332±5 mm
W = 42 ±3 mm

Acceptable to standard radial type cartridge.

REEL

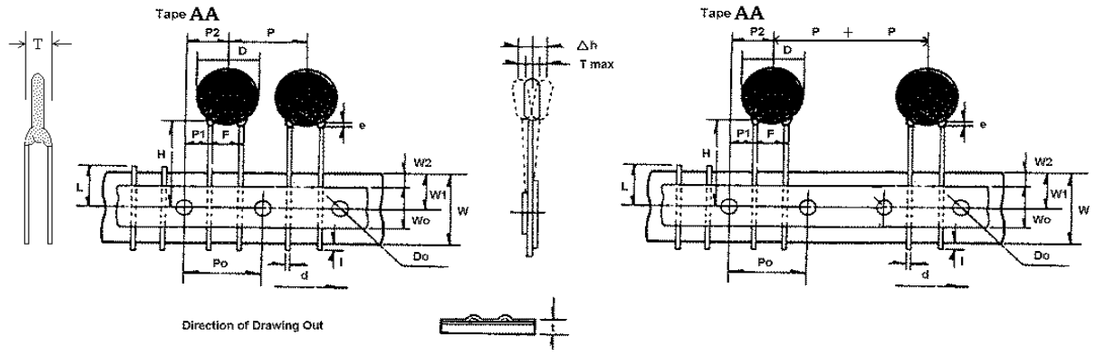


D ≦ 354(13.93)
B ≧ 21(.83')but
≦ 30(1.18"
W ≦ 55(2.16)

Acceptable to standard radial type cartridge with a few extra accessories. Reeled axials are also acceptable to standard axial type cartridge with a few accessories.

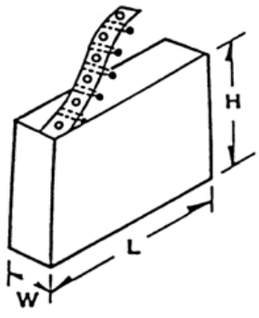
TAPING SPECIFICATIONS

Taping (Radial) -- Lead Spacing F= 5.0 ±0.8 or 7.5±0.8 or 9.5±0.8



Item		Code	Dimensions (mm)	Item	Code	Dimensions (mm)
Taping Pitch		P	12.7±1.0	Lead Protrusion	l	+0.5~1.0
Guide Pitch		Po	12.7±1.0	Diameter of Feed Hole	Do	4.0±0.3
Lead Spacing		F	5.0±0.8 7.5±0.8 9.5±0.8	Diameter of Lead	d	$0.65^{+0.06}_{-0.05}$
Feed Hole Position Capacitor Body		P2	6.35±1.3	Total Thickness of Tape	t	0.7±0.2
Feed Hole Position Capacitor Lead		P1	3.85±0.7	Thickness of Capacitor Body	T	Differ in each product
Diameter Of Diso		D	See table of each series	Alignment to FR. Direction	Δh	0±2.0
				Length of Snipped Lead	L	$11.0^{+0}_{-1.0}$
Width Of Base Tape		W	18.0±0.5	Width of Hold-down Tape	Wo	12.5
Feed Hole Vertical Position		W1	$9.0^{+0.75}_{-0.05}$	Hold-down Tape Position	W2	1.5±1.5
Taping Height	For Straight	Ho	16.0±0.5	Coating Extention	e	3.0以下
	For Crimp	H	$20^{+1.5}_{-1.0}$		e1	up to center of crimp

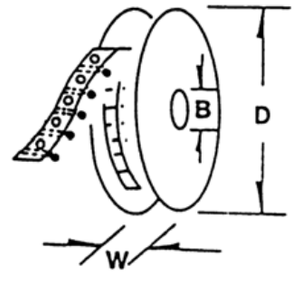
AMMO PACK



H =241±5 mm
L = 332±5 mm
W = 42 ±3 mm

Acceptable to standard radial type cartridge.

REEL



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W ≦ 55(2.16)

Acceptable to standard radial type cartridge with a few extra accessories. Reeled axials are also acceptable to standard axial type cartridge with a few accessories.

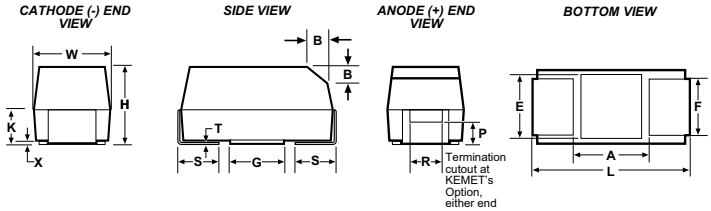
SOLID TANTALUM CHIP CAPACITORS
T491 SERIES - Precision Molded Chip

KEMET®

FEATURES

- Meets or Exceeds EIA Standard 535BAAC
- Taped and Reeled per EIA 481-1
- Symmetrical, Compliant Terminations
- Optional Gold-plated Terminations
- Laser-marked Case
- 100% Surge current test on C, D, E, U, V, X sizes
- Capacitance: 0.1 μF to 1000 μF
- Tolerance: ±10%, ±20%
- Voltage: 3-50 VDC
- Extended Range Values
- New Low Profile Case Sizes

CAPACITOR OUTLINE DRAWING



STANDARD T491 DIMENSIONS
Millimeters (inches)

CASE SIZE		COMPONENT													
KEMET	EIA	L*	W*	H*	K* ± 0.20 ± (.008)	F* ± 0.1 ± (.004)	S* ± 0.3 ± (.012)	B ± 0.15 (Ref) ± (.006)	X (Ref)	P (Ref)	R (Ref)	T (Ref)	A (Min)	G (Ref)	E (Ref)
A	3216-18	3.2 ± 0.2 (.126 ± .008)	1.6 ±0.2 (.063 ±.008)	1.6 ± 0.2 (.063 ± .008)	0.9 (.035)	1.2 (.047)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.4 (.016)	0.4 (.016)	0.13 (.005)	0.8 (.031)	1.1 (.043)	1.3 (.051)
B	3528-21	3.5 ± 0.2 (.138 ± .008)	2.8 ± 0.2 (.110 ± .008)	1.9 ± 0.2 (.075 ± .008)	1.1 (.043)	2.2 (.087)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.5 (.020)	1.0 (.039)	0.13 (.005)	1.1 (.043)	1.8 (.071)	2.2 (.087)
C	6032-28	6.0 ± 0.3 (.236 ± .012)	3.2 ± 0.3 (.126 ± .012)	2.5 ± 0.3 (.098 ± .012)	1.4 (.055)	2.2 (.087)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	2.5 (.098)	2.8 (.110)	2.4 (.094)
D	7343-31	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	2.8 ± 0.3 (.110 ± .012)	1.5 (.059)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)
X	7343-43	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	4.0 ± 0.3 (.157 ± .012)	2.3 (.091)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	1.7 (.067)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5** (.138)	3.5** (.138)
E	7260-38	7.3 ± 0.3 (.287 ± .012)	6.0 ± 0.3 (.236 ± .012)	3.6 ± 0.2 (.142 ± .008)	2.3 (.091)	4.1 (.161)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)

Notes: 1. Metric dimensions govern.
2. (Ref) - Dimensions provided for reference only.
* Mil-C-55365/8 Specified Dimensions
** Round Glue Pad: 2.9 ±0.1mm (0.114" ±0.004") in diameter at KEMET's option

LOW PROFILE T491 DIMENSIONS
Millimeters (inches)

CASE SIZE		COMPONENT										
KEMET	EIA	L	W	H Max.	K Min.	F ± 0.1	S ± 0.3	X (Ref)	T (Ref)	A (Min)	G (Ref)	E (Ref)
R	2012-12	2.0 ± 0.2 (.079 ± .008)	1.3 ± 0.2 (.051 ± .008)	1.2 (.047)	0.3 (.012)	0.9 (.035)	0.5 (.020)	0.05 (.002)	0.13 (.005)	0.8 (.031)	0.5 (.020)	0.8 (.031)
S	3216-12	3.2 ± 0.2 (.126 ± .008)	1.6 ± 0.2 (.063 ± .008)	1.2 (.047)	0.3 (.012)	1.2 (.047)	0.8 (.031)	0.05 (.002)	0.13 (.005)	0.8 (.031)	1.1 (.043)	1.3 (.051)
T	3528-12	3.5 ± 0.2 (.138 ± .008)	2.8 ± 0.2 (.110 ± .008)	1.2 (.047)	0.3 (.012)	2.2 (.087)	0.8 (.031)	0.05 (.002)	0.13 (.005)	1.1 (.043)	1.8 (.071)	2.2 (.087)
U	6032-15	6.0 ± 0.3 (.236 ± .012)	3.2 ± 0.3) (.126 ± .012)	1.5 (.059)	0.5 (.020)	2.2 (.087)	1.3 (.051)	0.05 (.002)	0.13 (.005)	2.5 (.098)	2.8 (.110)	2.4 (.094)
V	7343-20	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	2.0 (.079)	0.9 (.035)	2.4 (.094)	1.3 (.051)	0.05 (.002)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)

Notes: 1. Metric dimensions govern.
2. (Ref) - Dimensions provided for reference only.
3. No dimensions provided for B, P or R because low profile cases do not have a bevel or a notch.

T491 ORDERING INFORMATION

T 491 B 105 M 035 A S*

Tantalum

Series
T491 - Precision Molded

Case Size
A, B, C, D, E, R, S, T, U, V, X

Capacitance Picofarad Code
First two digits represent significant figures.
Third digit specifies number of zeros to follow.

***Part number example: T491B105M035AS (14 digits - no spaces)**

Capacitance Tolerance
M - ± 20%
K - ±10%

Voltage

Failure Rate
A - Not Applicable

Lead Material
S - Standard Solder -Coated (90% Sn/10% Pb)
G - Gold Plated (A, B, C, D, X only)
T - 100% Tin (Sn) Plated and Reflowed

KEMET®

SOLID TANTALUM CHIP CAPACITORS

T491 SERIES—Precision Molded Chip

T491 TANTALUM CHIP CAPACITANCE VALUES
Case Size by Capacitance and Voltage

Standard Capacitance Values

Capacitance		Rated Voltage @ +85°C							
µF	Code	4	6	10	16	20	25	35	50
0.10	104							A	A
0.15	154							A	B
0.22	224							A	B
0.33	334						A	A	B
0.47	474						A	A/B	C
0.68	684					A	A	B	C
1.0	105				A	S/A	B	B	C
1.5	155			A	A	S/A	B	B/C	D
2.2	225		A	A	S/A	A/B	B/C	C	D
3.3	335	A	A	S/A	A/B	B/T	C	C	D
4.7	475	A	S/A	A/B	A/B/T	B/C	C	C/D	D
6.8	685	S/A	A/B	A/B/T	B/C	C/U	C	D	X
10.0	106	A/B	A/B/T	B/C	B/C/U	C/U	D	D	
15.0	156	A/B/T	B/C	B/C/U	C/U	D	D	X	
22.0	226	B/C	B/C/U	C/U	C/D	D/V	D	X	
33.0	336	B/C/U	C/U	C/D/V	D	D	X		
47.0	476	C/U	C/D	D/V	D/V				
68.0	686	C/D	D	D/V		X			
100.0	107	D	D/V	D	X				
150.0	157	D/V	D	X					
220.0	227		X						
330.0	337								
470.0	477								
680.0	687								
1000.0	108								

Extended Capacitance Values

Capacitance		Rated Voltage @ +85°C								
µF	Code	3	4	6	10	16	20	25	35	50
0.10	104									
0.15	154									A
0.22	224									
0.33	334									
0.47	474									B
0.68	684								A	B
1.0	105						R	A	A	V
1.5	155							A		C
2.2	225					R			B	C
3.3	335						A	B	B	
4.7	475				R/S		A	B		
6.8	685			S	S	A	B		C	D
10.0	106		R/S	R/S	S/T/A	T/A	B	C	C/V	X
15.0	156		S	S/T/A	T/A	B	C	C	D	
22.0	226		S/T/A	T/A	T/A/B	U/B	C	V	D	
33.0	336	A	T/A	T/A/B	U/B	U/C		D	X	
47.0	476		T/A/B	U/B	U/C	C	D	D/X		
68.0	686		U/B	U/C	U/C	V/D	D	X		
100.0	107		U/C	B/T/C	V/C	D	X			
150.0	157		C	V/C	V/D	X				
220.0	227		V	C/V/D	D/X					
330.0	337		V/D	D/X	D/X					
470.0	477		D/X	X	E					
680.0	687		D/X	E						
1000.0	108		X/E							

Note that standard values are preferred. Extended values are available for use where size constraints exist. Note that standard values demonstrate inherently lower failure rates than extended values, especially in low impedance applications.

SOLID TANTALUM CHIP CAPACITORS

T491 SERIES - Precision Molded Chip

KEMET®

T491 RATINGS & PART NUMBER REFERENCE

Capacitance µF	Case Size	KEMET Part Number	DC Leakage µA @ 25°C Max	DF % @ +25°C 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
3 Volt Rating at +85°C (2 Volt Rating at +125°C)					
#33.0	*A	T491A336(1)003AS	1.0	6.0	4.0
4 Volt Rating at +85°C (2.7 Volt Rating at +125°C)					
3.3	A	T491A335(1)004AS	0.5	6.0	8.0
4.7	A	T491A475(1)004AS	0.5	6.0	8.0
6.8	A	T491A685(1)004AS	0.5	6.0	6.0
6.8	S	T491S685(1)004AS	0.5	6.0	15.0
10.0	B	T491B106(1)004AS	0.5	6.0	3.5
10.0	A	T491A106(1)004AS	0.5	6.0	6.0
#10.0	*S	T491S106(1)004AS	0.5	6.0	15.0
#10.0	*R	T491R106M004AS	0.5	8.0	10.0
15.0	B	T491B156(1)004AS	0.6	6.0	3.5
15.0	A	T491A156(1)004AS	0.6	6.0	4.0
15.0	T	T491T156(1)004AS	0.6	6.0	5.0
#15.0	*S	T491S156M004AS	0.6	10.0	15.0
22.0	C	T491C226(1)004AS	0.9	6.0	1.8
22.0	B	T491B226(1)004AS	0.9	6.0	3.5
#22.0	*A	T491A226(1)004AS	0.9	6.0	4.0
22.0	*S	T491S226M004AS	0.9	10.0	10.0
#22.0	*T	T491T226(1)004AS	0.9	6.0	5.0
33.0	C	T491C336(1)004AS	1.3	6.0	1.8
33.0	U	T491U336(1)004AS	1.3	6.0	1.8
33.0	B	T491B336(1)004AS	1.3	6.0	3.5
#33.0	*A	T491A336(1)004AS	1.3	6.0	4.0
#33.0	*T	T491T336M004AS	1.3	8.0	5.0
47.0	C	T491C476(1)004AS	1.9	6.0	1.8
47.0	U	T491U476(1)004AS	1.9	6.0	1.8
#47.0	*B	T491B476(1)004AS	1.9	6.0	3.0
#47.0	*A	T491A476M004AS	1.9	12.0	2.5
#47.0	*T	T491T476M004AS	1.9	12.0	6.0
68.0	D	T491D686(1)004AS	2.7	6.0	0.8
68.0	C	T491C686(1)004AS	2.7	6.0	1.6
#68.0	*U	T491U686(1)004AS	2.7	6.0	1.8
#68.0	*B	T491B686(1)004AS	2.7	6.0	3.5
100.0	D	T491D107(1)004AS	4.0	8.0	0.8
#100.0	*C	T491C107(1)004AS	4.0	8.0	1.2
#100.0	*U	T491U107(1)004AS	4.0	10.0	1.8
#100.0	B	T491B107M004AS	4.0	8.0	1.0
150.0	D	T491D157(1)004AS	6.0	8.0	0.8
150.0	V	T491V157(1)004AS	6.0	8.0	0.7
#150.0	*C	T491C157(1)004AS	6.0	8.0	1.2
#220.0	*V	T491V227(1)004AS	8.8	8.0	0.7
#330.0	*D	T491D337(1)004AS	13.2	8.0	0.7
#330.0	*V	T491V337M004AS	13.2	12.0	0.7
#470.0	*X	T491X477(1)004AS	18.8	8.0	0.5
#470.0	*D	T491D477(1)004AS	18.8	8.0	5
#680.0	*X	T491X687M004AS	27.2	12.0	0.5
#680.0	*D	T491D687M004AS	27.2	12.0	0.5
1000.0	*X	T491X108(1)004AS	40.0	12.0	0.5
#1000.0	*E	T491E108M004AS	40.0	15.0	0.2
**6 Volt Rating at +85°C (4 Volt Rating at +125°C)					
2.2	A	T491A225(1)006AS	0.5	6.0	8.0
3.3	A	T491A335(1)006AS	0.5	6.0	8.0
4.7	A	T491A475(1)006AS	0.5	6.0	6.0
4.7	S	T491S475(1)006AS	0.5	6.0	15.0
6.8	B	T491B685(1)006AS	0.5	6.0	3.5
6.8	A	T491A685(1)006AS	0.5	6.0	6.0
#6.8	*S	T491S685(1)006AS	0.5	6.0	15.0
10.0	B	T491B106(1)006AS	0.6	6.0	3.5
10.0	A	T491A106(1)006AS	0.6	6.0	4.0
10.0	T	T491T106(1)006AS	0.6	6.0	5.0
#10.0	*S	T491S106M006AS	0.6	10.0	15.0
#10.0	*R	T491R106M006AS	0.6	8.0	10.0
15.0	C	T491C156(1)006AS	0.9	6.0	1.8
15.0	B	T491B156(1)006AS	0.9	6.0	3.5
#15.0	*A	T491A156(1)006AS	0.9	6.0	4.0
#15.0	*T	T491T156(1)006A5	0.9	6.0	5.0
#15.0	*S	T491S156M006AS	0.9	15.0	10.0
22.0	C	T491C226(1)006AS	1.4	6.0	1.8
22.0	U	T491U226(1)006AS	1.4	6.0	1.8
22.0	B	T491B226(1)006AS	1.4	6.0	3.5
#22.0	*A	T491A226(1)006AS	1.4	6.0	4.0
#22.0	*T	T491T226M006AS	1.4	8.0	5.0
33.0	C	T491C336(1)006AS	2.0	6.0	1.8
33.0	U	T491U336(1)006AS	2.0	6.0	1.8
#33.0	*B	T491B336(1)006AS	2.0	6.0	3.0
#33.0	*A	T491A336M006AS	2.0	12.0	2.5
#33.0	*T	T491T336M006AS	2.0	12.0	6.0
47.0	D	T491D476(1)006AS	2.9	6.0	0.8
47.0	C	T491C476(1)006AS	2.9	6.0	1.6
#47.0	*U	T491U476(1)006AS	2.9	6.0	1.8
#47.0	*B	T491B476(1)006AS	2.9	6.0	3.5
68.0	D	T491D686(1)006AS	4.1	6.0	0.8
#68.0	*C	T491C686(1)006AS	4.1	6.0	1.2
#68.0	*U	T491U686(1)006AS	4.1	10.0	1.8
#68.0	B	T491B686(1)006AS	4.1	8.0	1.0
100.0	D	T491D107(1)006AS	6.0	8.0	0.8
100.0	V	T491V107(1)006AS	6.0	8.0	0.7
#100.0	*C	T491C107(1)006AS	6.0	8.0	1.2
#100.0	*U	T491U107M006AS	6.0	10.0	1.8
#100.0	*B	T491B107M006AS	6.3	15.0	10.0
150.0	D	T491D157(1)006AS	9.0	8.0	0.7
#150.0	*C	T491C157M006AS	9.0	8.0	1.2
#150.0	*V	T491V157(1)006AS	9.0	8.0	0.7
220.0	X	T491X227(1)006AS	13.2	8.0	0.7
#220.0	*D	T491D227(1)006AS	13.2	8.0	0.7
#220.0	C	T491C227M006AS	13.2	10.0	1.2
#220.0	*V	T491V227M006AS	13.2	12.0	0.7
#330.0	*X	T491X337(1)006AS	19.8	8.0	0.5
#330.0	*D	T491D337(1)006AS	19.8	8.0	0.5
#470.0	*X	T491X477(1)006AS	28.2	10.0	0.5
#470.0	D	T491D477M006AS	28.2	12.0	0.5
#680.0	*E	T491E687M006AS	40.8	12.0	0.5

(1) To complete KEMET Part Number, insert M for ±20% tolerance or K for ± 10% tolerance.

#Maximum Capacitance Change @125°C=+15%.

†Maximum Capacitance Change @125°C=+20%.

Capacitance µF	Case Size	KEMET Part Number	DC Leakage µA @ 25°C Max	DF % @ +25°C 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
10 Volt Rating at +85°C (7 Volt Rating at +125°C)					
1.5	A	T491A155(1)010AS	0.5	6.0	8.0
2.2	A	T491A225(1)010AS	0.5	6.0	8.0
3.3	A	T491A335(1)010AS	0.5	6.0	6.0
3.3	S	T491S335(1)010AS	0.5	6.0	15.0
4.7	B	T491B475(1)010AS	0.5	6.0	3.5
4.7	A	T491A475(1)010AS	0.5	6.0	6.0
#4.7	*S	T491S475(1)010AS	0.5	6.0	15.0
#4.7	*R	T491R475M010AS	0.5	8.0	10.0
6.8	B	T491B685(1)010AS	0.7	6.0	3.5
6.8	A	T491A685(1)010AS	0.7	6.0	6.0
6.8	T	T491T685(1)010AS	0.7	6.0	5.0
#6.8	*S	T491S685M010AS	0.7	10.0	15.0
10.0	C	T491C106(1)010AS	1.0	6.0	1.8
10.0	B	T491B106(1)010AS	1.0	6.0	3.5
#10.0	*A	T491A106(1)010AS	1.0	6.0	4.0
#10.0	*T	T491T106(1)010AS	1.0	6.0	5.0
#10.0	*S	T491S106M010AS	1.0	10.0	15.0
15.0	C	T491C156(1)010AS	1.5	6.0	1.8
15.0	U	T491U156(1)010AS	1.5	6.0	1.8
15.0	B	T491B156(1)010AS	1.5	6.0	3.5
#15.0	*A	T491A156(1)010AS	1.5	8.0	6.0
#15.0	*T	T491T156M010AS	1.5	8.0	5.0
22.0	C	T491C226(1)010AS	2.2	6.0	1.8
22.0	U	T491U226(1)010AS	2.2	6.0	1.8
#22.0	*B	T491B226(1)010AS	2.2	6.0	3.0
#22.0	A	T491A226M010AS	2.2	10.0	6.0
#22.0	*T	T491T226M010AS	2.2	12.0	8.0
33.0	D	T491D336(1)010AS	3.3	6.0	0.8
33.0	V	T491V336(1)010AS	3.3	6.0	0.7
33.0	C	T491C336(1)010AS	3.3	6.0	1.6
#33.0	*U	T491U336(1)010AS	3.3	6.0	1.8
#33.0	*B	T491B336(1)010AS	3.3	6.0	3.5
47.0	D	T491D476(1)010AS	4.7	6.0	0.8
47.0	V	T491V476(1)010AS	4.7	6.0	0.7
#47.0	*C	T491C476(1)010AS	4.7	6.0	1.2
#47.0	*U	T491U476(1)010AS	4.7	10.0	2.2
#47.0	B	T491B476M010AS	4.7	8.0	1.0
68.0	D	T491D686(1)010AS	6.8	6.0	0.8
68.0	V	T491V686(1)010AS	6.8	6.0	0.7
#68.0	*C	T491C686(1)010AS	6.8	6.0	1.2
#68.0	*U	T491U686M010AS	6.8	10.0	1.8
100.0	D	T491D107(1)010AS	10.0	8.0	0.7
#100.0	*C	T491C107(1)010AS	10.0	8.0	1.2
#100.0	*V	T491V107(1)010AS	10.0	8.0	0.7
150.0	X	T491X157(1)010AS	15.0	8.0	0.7
#150.0	*D	T491D157(1)010AS	15.0	8.0	0.7
#150.0	*V	T491V157M010AS	15.0	8.0	0.7
#220.0	*X	T491X227(1)010AS	22.0	8.0	0.5
#220.0	*D	T491D227(1)010AS	22.0	8.0	0.5
#330.0	D	T491D337M010AS	3.3	10.0	0.5
#330.0	*X	T491X337(1)010AS	33.0	10.0	0.5
#470.0	*E	T491E477M010AS	47.0	12.0	0.5
16 Volt Rating at +85°C (10 Volt Rating at +125°C)					
1.0	A	T491A105(1)016AS	0.5	4.0	10.0
1.5	A	T491A155(1)016AS	0.5	6.0	8.0
2.2	A	T491A225(1)016AS	0.5	6.0	6.0
2.2	S	T491S225(1)016AS	0.5	6.0	15.0
#2.2	*R	T491R225M016AS	0.5	8.0	25.0
3.3	B	T491B335(1)016AS	0.5	6.0	3.5
3.3	A	T491A335(1)016AS	0.5	6.0	6.0
4.7	B	T491B475(1)016AS	0.8	6.0	3.5
4.7	A	T491A475(1)016AS	0.8	6.0	6.0
4.7	T	T491T475(1)016AS	0.8	6.0	5.0
6.8	C	T491C685(1)016AS	1.1	6.0	1.9
6.8	B	T491B685(1)016AS	1.1	6.0	3.5
#6.8	*A	T491A685(1)016AS	1.1	6.0	7.0
10.0	C	T491C106(1)016AS	1.6	6.0	1.8
10.0	U	T491U106(1)016AS	1.6	6.0	1.8
10.0	B	T491B106(1)016AS	1.6	6.0	3.5
#10.0	A	T491A106M016AS	1.6	10.0	7.0
#10.0	T	T491T106M016AS	1.6	8.0	8.0
15.0	C	T491C156(1)016AS	2.4	6.0	1.8
15.0	U	T491U156(1)016AS	2.4	6.0	1.8
#15.0	*B	T491B156(1)016AS	2.4	6.0	3.0
22.0	D	T491D226(1)016AS	3.6	6.0	0.8
22.0	C	T491C226(1)016AS	3.6	6.0	1.6
#22.0	*U	T491U226(1)016AS	3.5	10.0	3.0
#22.0	*B	T491B226(1)016AS	3.5	6.0	2.2
33.0	D	T491D336(1)016AS	5.3	6.0	0.8
#33.0	*C	T491C336(1)016AS	5.3	6.0	1.2
#33.0	*U	T491U336(1)016AS	5.3	12.0	3.0
47.0	D	T491D476(1)016AS	7.5	6.0	0.8
47.0	V	T491V476(1)016AS	7.5	6.0	0.7
#47.0	*C	T491C476(1)016AS	7.5	6.0	1.2
68.0	*V	T491V686(1)016AS	10.9	6.0	0.7
68.0	*D	T491D686(1)016AS	10.9	6.0	0.7
100.0	X	T491X107(1)016AS	16.0	8.0	0.7
#100.0	*D	T491D107(1)016AS	16.0	8.0	0.7
#150.0	*X	T491X157(1)016AS	24.0	8.0	0.5
20 Volt Rating at +85°C (13 Volt Rating at +125°C)					
0.68	A	T491A684(1)020AS	0.5	4.0	12.0
1.0	A	T491A105(1)020AS	0.5	4.0	10.0
1.0	S	T491S105(1)020AS	0.5	6.0	18.0
#1.0	R	T491R105M020AS	0.2	6.0	20.0

Higher voltage ratings, lower ESR, and tighter capacitance tolerance product may be substituted within the same size at KEMET's option. Voltage substitutions will be marked with the higher voltage rating.

***Extended Values** ****6 Volt product equivalent to 6.3 volt product.**

T491 RATINGS & PART NUMBER REFERENCE

Capacitance µF	Case Size	KEMET Part Number	DC Leakage µA @ 25°C Max	DF % @ +25°C 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
20 Volt Rating at +85°C (13 Volt Rating at +125°C) cont'd					
1.5	A	T491A155(1)020AS	0.5	6.0	8.0
1.5	S	T491S155(1)020AS	0.5	6.0	15.0
2.2	B	T491B225(1)020AS	0.5	6.0	3.5
2.2	A	T491A225(1)020AS	0.5	6.0	7.0
3.3	B	T491B335(1)020AS	0.7	6.0	3.5
#3.3	*A	T491A335(1)020AS	0.7	6.0	7.0
3.3	T	T491T335(1)020AS	0.7	6.0	5.0
4.7	C	T491C475(1)020AS	1.0	6.0	2.4
4.7	B	T491B475(1)020AS	1.0	6.0	3.5
#4.7	*A	T491A475M020AS	1.0	8.0	6.0
6.8	C	T491C685(1)020AS	1.4	6.0	1.9
6.8	U	T491U685(1)020AS	1.4	6.0	1.9
#6.8	*B	T491B685(1)020AS	1.4	6.0	3.5
10.0	C	T491C106(1)020AS	2.0	6.0	1.8
10.0	U	T491U106(1)020AS	2.0	6.0	1.8
#10.0	*B	T491B106(1)020AS	2.0	6.0	3.0
15.0	D	T491D156(1)020AS	3.0	6.0	1.0
15.0	*C	T491C156(1)020AS	3.0	6.0	1.7
22.0	D	T491D226(1)020AS	4.4	6.0	0.8
22.0	V	T491V226(1)020AS	4.4	6.0	0.7
#22.0	*C	T491C226(1)020AS	4.4	6.0	1.2
33.0	D	T491D336(1)020AS	6.6	6.0	0.8
#33.0	*C	T491C336M020AS	6.6	6.0	1.2
†33.0	*V	T491V336M020AS	6.6	8.0	0.7
47.0	*D	T491D476(1)020AS	9.4	6.0	0.7
68.0	X	T491X686(1)020AS	13.6	6.0	0.7
#68.0	*D	T491D686(1)020AS	13.6	8.0	0.7
#100.0	*X	T491X107(1)020AS	20.0	8.0	0.5
25 Volt Rating at +85°C (17 Volt Rating at +125°C)					
0.33	A	T491A334(1)025AS	0.5	4.0	15.0
0.47	A	T491A474(1)025AS	0.5	4.0	14.0
0.68	A	T491A684(1)025AS	0.5	4.0	10.0
1.0	B	T491B105(1)025AS	0.5	4.0	5.0
1.0	*A	T491A105(1)025AS	0.5	4.0	8.0
1.5	B	T491B155(1)025AS	0.5	6.0	5.0
1.5	*A	T491A155(1)025AS	0.5	6.0	10.0
2.2	C	T491C225(1)025AS	0.6	6.0	3.5
2.2	B	T491B225(1)025AS	0.6	6.0	4.5
3.3	C	T491C335(1)025AS	0.9	6.0	2.5
3.3	*B	T491B335(1)025AS	0.9	6.0	3.5
4.7	C	T491C475(1)025AS	1.2	6.0	2.4
#4.7	*B	T491B475M025AS	1.2	6.0	1.5
6.8	C	T491C685(1)025AS	1.7	6.0	1.9
10.0	D	T491D106(1)025AS	2.5	6.0	1.0
10.0	*C	T491C106(1)025AS	2.5	6.0	1.5
15.0	D	T491D156(1)025AS	3.8	6.0	1.0
#15.0	*C	T491C156(1)025AS	3.8	6.0	1.5
22.0	D	T491D226(1)025AS	5.5	6.0	0.8
22.0	*V	T491V226(1)025AS	5.5	6.0	0.7
33.0	X	T491X336(1)025AS	8.3	6.0	0.7
#33.0	*D	T491D336(1)025AS	8.3	6.0	0.7
#47.0	*X	T491X476(1)025AS	11.8	6.0	0.7
†47.0	D	T491D476M025AS	11.8	10.0	0.7
†68.0	X	T491X686M025AS	17.0	8.0	0.7

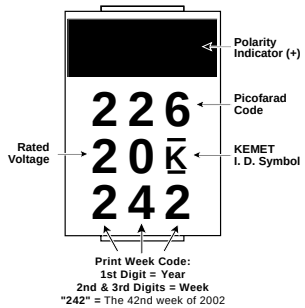
Capacitance µF	Case Size	KEMET Part Number	DC Leakage µA @ 25°C Max	DF % @ +25°C 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
35 Volt Rating at +85°C (23 Volt Rating at +125°C)					
0.10	A	T491A104(1)035AS	0.5	4.0	20.0
0.15	A	T491A154(1)035AS	0.5	4.0	19.0
0.22	A	T491A224(1)035AS	0.5	4.0	18.0
0.33	A	T491A334(1)035AS	0.5	4.0	15.0
0.47	B	T491B474(1)035AS	0.5	4.0	8.0
0.47	A	T491A474(1)035AS	0.5	4.0	14.0
0.68	B	T491B684(1)035AS	0.5	4.0	6.5
0.68	*A	T491A684(1)035AS	0.5	4.0	10.0
1.0	B	T491B105(1)035AS	0.5	4.0	5.0
1.0	*A	T491A105(1)035AS	0.5	4.0	10.0
1.5	C	T491C155(1)035AS	0.5	6.0	4.5
1.5	B	T491B155(1)035AS	0.5	6.0	5.0
2.2	C	T491C225(1)035AS	0.8	6.0	3.5
2.2	*B	T491B225(1)035AS	0.8	6.0	4.0
3.3	C	T491C335(1)035AS	1.2	6.0	2.5
#3.3	B	T491B335M035AS	1.2	6.0	3.5
4.7	D	T491D475(1)035AS	1.7	6.0	1.5
4.7	C	T491C475(1)035AS	1.7	6.0	2.5
6.8	D	T491D685(1)035AS	2.4	6.0	1.3
6.8	*C	T491C685(1)035AS	2.4	6.0	2.0
10.0	D	T491D106(1)035AS	3.5	6.0	1.0
#10.0	*C	T491C106M035AS	3.5	6.0	2.0
#10.0	*V	T491V106(1)035AS	3.5	6.0	2.0
15.0	X	T491X156(1)035AS	5.3	6.0	0.9
15.0	*D	T491D156(1)035AS	5.3	6.0	0.8
22.0	X	T491X226(1)035AS	7.7	6.0	0.7
#22.0	*D	T491D226M035AS	7.7	6.0	0.7
#33.0	*X	T491X336(1)035AS	11.6	6.0	0.6
50 Volt Rating at +85°C (33 Volt Rating at +125°C)					
0.10	A	T491A104(1)050AS	0.5	4.0	20.0
0.15	B	T491B154(1)050AS	0.5	4.0	16.0
0.15	*A	T491A154(1)050AS	0.5	4.0	19.0
0.22	B	T491B224(1)050AS	0.5	4.0	14.0
0.33	B	T491B334(1)050AS	0.5	4.0	10.0
0.47	C	T491C474(1)050AS	0.5	4.0	8.0
0.47	*B	T491B474(1)050AS	0.5	4.0	9.0
0.68	C	T491C684(1)050AS	0.5	4.0	7.0
0.68	*B	T491B684(1)050AS	0.5	4.0	8.0
1.0	C	T491C105(1)050AS	0.5	4.0	5.5
1.0	*V	T491V105M050AS	0.5	4.0	6.0
1.5	D	T491D155(1)050AS	0.8	6.0	3.5
1.5	*C	T491C155(1)050AS	0.8	6.0	4.5
2.2	D	T491D225(1)050AS	1.1	6.0	2.5
2.2	*C	T491C225(1)050AS	1.1	6.0	3.5
3.3	D	T491D335(1)050AS	1.7	6.0	2.0
4.7	D	T491D475(1)050AS	2.4	6.0	1.5
6.8	X	T491X685(1)050AS	3.5	6.0	1.0
6.8	X	T491X685(1)050AS	3.5	6.0	1.0
#6.8	D	T491D685M050AS	3.4	6.0	1.0
#10.0	*X	T491X106M050AS	5.0	6.0	0.7

(1) To complete KEMET Part Number, insert M for ±20% tolerance or K for ±10% tolerance.

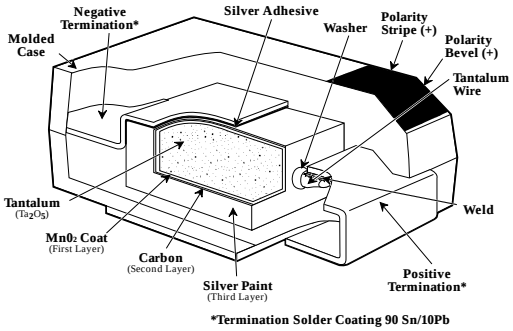
Higher voltage ratings, lower ESR, and tighter capacitance tolerance product may be substituted within the same size at KEMET's option. Voltage substitutions will be marked with the higher voltage rating.

***Extended Values** ****6 Volt product equivalent to 6.3 volt product.**
#Maximum Capacitance Change @ 125°C=+15%.
†Maximum Capacitance Change @ 125°C=+20%.

CAPACITOR MARKINGS
T491 Series — All Case Sizes



CONSTRUCTION



***Termination Solder Coating 90 Sn/10Pb**

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