

TLV SERIES

105°C Long Life, Low Impedance, Lead Free Reflow Soldering.

◆FEATURES

- Load Life 105°C 5000 hours.
- Lead free Reflow soldering is available.
- Large can-size SMD.
- Prescribe Impedance value at 100kHz.
- RoHS compliance.



◆SPECIFICATIONS

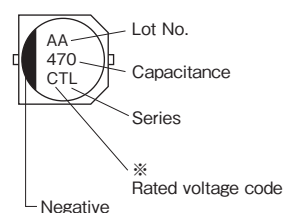
Items	Characteristics																								
Category Temperature Range	-55~+105℃																								
Rated Voltage Range	6.3~35V.DC																								
Capacitance Tolerance	±20%(20℃,120Hz)																								
Leakage Current(MAX)	I=0.01CV or 3μA whichever is greater.(After 2 minutes) I=Leakage Current(μA) C=Capacitance (μF) V=Rated Voltage(V)																								
Dissipation Factor(MAX) (tanδ)	<table><tr><td>Rated Voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td></tr><tr><td>tanδ</td><td>0.26</td><td>0.19</td><td>0.16</td><td>0.14</td><td>0.12</td></tr></table> (20℃,120Hz) When rated capacitance is over 1000μF, tanδ shall be added 0.02 to the listed value with Increase of every 1000 μF.	Rated Voltage (V)	6.3	10	16	25	35	tanδ	0.26	0.19	0.16	0.14	0.12												
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Endurance	After applying rated voltage with rated ripple current for 5000 hours at 105℃, the capacitors shall meet the following requirements. <table><tr><td>Capacitance Change</td><td>Within ±30% of the initially measured value.</td></tr><tr><td>Dissipation Factor</td><td>Not more than 200% of the specified value.</td></tr><tr><td>Leakage Current</td><td>Not more than the specified value.</td></tr></table>	Capacitance Change	Within ±30% of the initially measured value.	Dissipation Factor	Not more than 200% of the specified value.	Leakage Current	Not more than the specified value.																		
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Low Temperature Stability Impedance Ratio(MAX)	<table><tr><td>Rated Voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td></tr><tr><td>Z(-25℃)/Z(20℃)</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z(-40℃)/Z(20℃)</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td></tr><tr><td>Z(-55℃)/Z(20℃)</td><td>4</td><td>4</td><td>4</td><td>3</td><td>3</td></tr></table> (120Hz)	Rated Voltage (V)	6.3	10	16	25	35	Z(-25℃)/Z(20℃)	2	2	2	2	2	Z(-40℃)/Z(20℃)	3	3	3	3	3	Z(-55℃)/Z(20℃)	4	4	4	3	3
Rated Voltage (V)	6.3	10	16	25	35																				
Z(-25℃)/Z(20℃)	2	2	2	2	2																				
Z(-40℃)/Z(20℃)	3	3	3	3	3																				
Z(-55℃)/Z(20℃)	4	4	4	3	3																				

◆MULTIPLIER FOR RIPPLE CURRENT

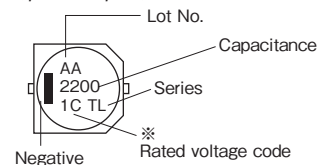
Frequency (Hz)	120	1k	10k	100k≤
Coefficient				
100~150μF	0.50	0.80	0.95	1.00
220~10000μF	0.60	0.85	0.95	1.00

◆MARKING

〈φ8, φ10〉



〈φ12.5~φ18〉



※ Voltage code

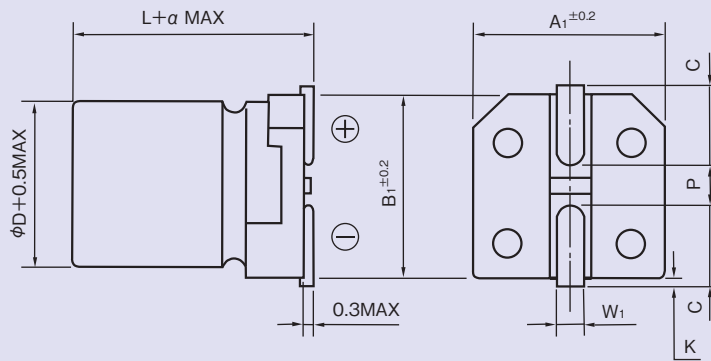
Rated Voltage (V)	6.3	10	16	25	35
φD≤10	j	A	C	E	V
φD≥12.5	0J	1A	1C	1E	1V

◆PART NUMBER

□□□ TLV □□□□□ M □□□ D×L
 Rated Voltage Series Capacitance Capacitance Tolerance Option Case Size

◆DIMENSIONS

(mm)



ϕD	L	A1	B1	C	W1	P	K	α
8	10.5	8.3	8.3	2.9	0.8~1.1	3.1	0.5Max	0
10	10.5	10.3	10.3	3.2	0.8~1.1	4.5	0.5Max	0
12.5	13.5	13	13	4.9	0.8~1.1	4.5	0.7 ± 0.4	0.5
12.5	16	13	13	4.9	0.8~1.1	4.5	0.7 ± 0.4	0.5
16	16.5	17	17	6	1.0~1.6	6.8	0.7 ± 0.4	0.5
16	21.5	17	17	6	1.0~1.6	6.8	0.7 ± 0.4	0.5
18	16.5	19	19	7	1.0~1.6	6.8	0.7 ± 0.4	0.5
18	21.5	19	19	7	1.0~1.6	6.8	0.7 ± 0.4	0.5

◆STANDARD SIZE

Size $\phi D \times L$ (mm), Ripple current (mA r.m.s./105°C, 100kHz), Impedance (Ω MAX/20°C, 100kHz)

V.DC	Cap (μF)	Size ($\phi D \times L$)	Ripple	Impedance	V.DC	Cap (μF)	Size ($\phi D \times L$)	Ripple	Impedance
6.3 (0J)	2200	12.5×13.5	1100	0.065	25 (1E)	220	8×10.5	600	0.16
	3300	12.5×16	1400	0.055		330	8×10.5	600	0.16
	4700	16×16.5	1800	0.045		470	10×10.5	850	0.08
	6800	16×21.5	2330	0.029		1000	12.5×13.5	1100	0.065
	10000	18×21.5	2640	0.028		1500	16×16.5	1800	0.045
10 (1A)	1000	10×10.5	850	0.08		2200	18×16.5	2060	0.044
	2200	12.5×16	1400	0.055		3300	18×21.5	2640	0.028
	3300	16×16.5	1800	0.045	35 (1V)	100	8×10.5	600	0.16
	4700	18×16.5	2060	0.044		100	10×10.5	850	0.08
	6800	18×21.5	2640	0.028		150	8×10.5	600	0.16
16 (1C)	470	8×10.5	600	0.16		220	8×10.5	600	0.16
	680	10×10.5	850	0.08		330	10×10.5	850	0.08
	1500	12.5×13.5	1100	0.065		470	12.5×13.5	1100	0.065
	2200	16×16.5	1800	0.045		680	12.5×13.5	1100	0.065
	3300	18×16.5	2060	0.044		1000	16×16.5	1800	0.045
	4700	16×21.5	2330	0.029		1500	18×16.5	2060	0.044
						2200	16×21.5	2330	0.029