

TLV SERIES

UPGRADE

Load Life : 105°C 2000~5000 hours, Low Impedance

•AEC-Q200.

RoHS
compliance



◆SPECIFICATIONS

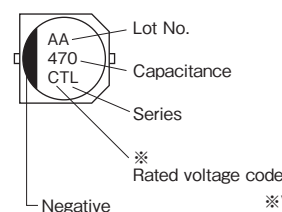
Items	Characteristics																																										
Category Temperature Range	-55~+105℃																																										
Rated Voltage Range	6.3~63Vdc																																										
Capacitance Tolerance	±20%(20℃,120Hz)																																										
Leakage Current(MAX)	I=0.01CV or 3μA whichever is greater.(After 2 minutes application of rated voltage) I=Leakage Current(μA) C=Capacitance (μF) V=Rated Voltage(Vdc)																																										
Dissipation Factor(MAX) (tanδ)	<table><tr><td>Rated Voltage (Vdc)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</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><td>0.10</td><td>0.09</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 1000μF.								Rated Voltage (Vdc)	6.3	10	16	25	35	50	63	tanδ	0.26	0.19	0.16	0.14	0.12	0.10	0.09																			
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Endurance	After applying rated voltage for specified time at 105℃, the capacitor shall meet the following requirements. <table><tr><td>Capacitance Change</td><td colspan="7">Within ±30% of the initially measured value.</td></tr><tr><td>Dissipation Factor</td><td colspan="7">Not more than 200% of the specified value. (φ8.φ10:300%)</td></tr><tr><td>Leakage Current</td><td colspan="7">Not more than the specified value.</td></tr></table> <table><tr><td rowspan="2">Case Size</td><td colspan="2">Life Time (hrs)</td></tr><tr><td>6.3~50Vdc</td><td>63Vdc</td></tr><tr><td>φD≤10</td><td>5000</td><td>2000</td></tr><tr><td>φD≥12.5</td><td colspan="2">5000</td></tr></table>								Capacitance Change	Within ±30% of the initially measured value.							Dissipation Factor	Not more than 200% of the specified value. (φ8.φ10:300%)							Leakage Current	Not more than the specified value.							Case Size	Life Time (hrs)		6.3~50Vdc	63Vdc	φD≤10	5000	2000	φD≥12.5	5000	
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Low Temperature Stability Impedance Ratio(MAX)	<table><tr><td>Rated Voltage (Vdc)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td></tr><tr><td>Z(-25℃)/Z(20℃)</td><td>2</td><td>2</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><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><td>3</td><td>3</td></tr></table> (120Hz)								Rated Voltage (Vdc)	6.3	10	16	25	35	50	63	Z(-25℃)/Z(20℃)	2	2	2	2	2	2	2	Z(-40℃)/Z(20℃)	3	3	3	3	3	3	3	Z(-55℃)/Z(20℃)	4	4	4	3	3	3	3			
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Z(-40℃)/Z(20℃)	3	3	3	3	3	3	3																																				
Z(-55℃)/Z(20℃)	4	4	4	3	3	3	3																																				

◆MULTIPLIER FOR RIPPLE CURRENT

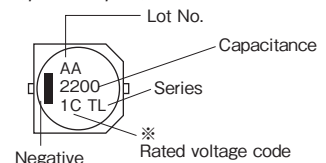
Frequency (Hz)	120	1k	10k	100k≤
Coefficient				
33μF	0.45	0.75	0.90	1.00
47~150μF	0.50	0.80	0.95	1.00
220~10000μF	0.60	0.85	0.95	1.00

◆MARKING

〈φ8,φ10〉



〈φ12.5~φ18〉



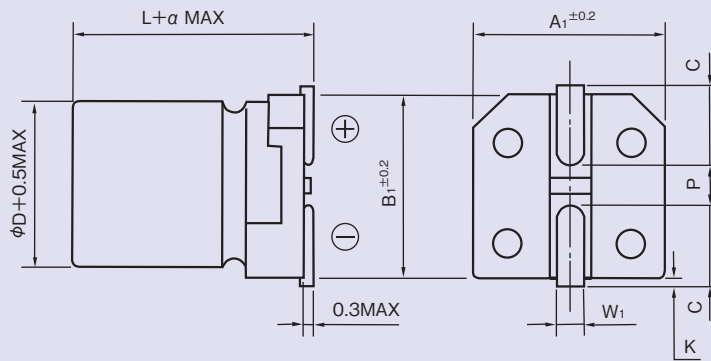
◆PART NUMBER

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

Rated Voltage (Vdc)	6.3	10	16	25	35	50	63
Voltage code	φD≤10 φD≥12.5	j 0J	A 1A	C 1C	E 1E	V 1V	H 1H

◆ 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 φDXL(mm), Rated Ripple Current(mA r.m.s./105°C,100kHz), Impedance(Ω MAX/20°C, 100kHz)

Vdc	Cap (μF)	Size (φDXL)	Ripple	Impedance
6.3	2200	12.5×13.5	1100	0.065
	3300	12.5×16	1400	0.055
	4700	16×16.5	1800	0.045
	6800	16×21.5	2330	0.029
	10000	18×21.5	2640	0.028
10	1000	10×10.5	850	0.08
	2200	12.5×16	1400	0.055
	3300	16×16.5	1800	0.045
	4700	18×16.5	2060	0.044
	6800	18×21.5	2640	0.028
16	470	8×10.5	600	0.16
	680	10×10.5	850	0.08
	1500	12.5×13.5	1100	0.065
	2200	16×16.5	1800	0.045
	3300	18×16.5	2060	0.044
	4700	16×21.5	2330	0.029
25	220	8×10.5	600	0.16
	330	8×10.5	600	0.16
	470	10×10.5	850	0.08
	1000	12.5×13.5	1100	0.065
	1500	16×16.5	1800	0.045
	2200	18×16.5	2060	0.044
	3300	18×21.5	2640	0.028
35	100	8×10.5	600	0.16
	100	10×10.5	850	0.08
	150	8×10.5	600	0.16
	220	8×10.5	600	0.16
	330	10×10.5	850	0.08
	470	12.5×13.5	1100	0.065
	680	12.5×13.5	1100	0.065
	1000	16×16.5	1800	0.045
	1500	18×16.5	2060	0.044
	2200	16×21.5	2330	0.029

Vdc	Cap (μF)	Size (φDXL)	Ripple	Impedance
50	100	8×10.5	350	0.34
	150	10×10.5	670	0.18
	220	10×10.5	670	0.18
	330	12.5×13.5	900	0.12
	390	12.5×13.5	900	0.12
	470	12.5×16	1200	0.1
	470	16×16.5	1610	0.075
	560	16×16.5	1610	0.075
	680	16×16.5	1610	0.075
	820	18×16.5	1700	0.07
	1000	18×16.5	1700	0.07
	1000	16×21.5	2000	0.05
63	1300	16×21.5	2000	0.05
	1500	18×21.5	2200	0.045
	33	8×10.5	250	0.65
	47	8×10.5	250	0.65
	68	8×10.5	250	0.65
	68	10×10.5	400	0.35
	100	10×10.5	400	0.35
	150	12.5×13.5	800	0.17
	220	12.5×13.5	800	0.17
	330	12.5×16	1000	0.14
	470	16×16.5	1410	0.12
	680	18×16.5	1690	0.11
	680	16×21.5	1790	0.08
	1000	18×21.5	1960	0.07