

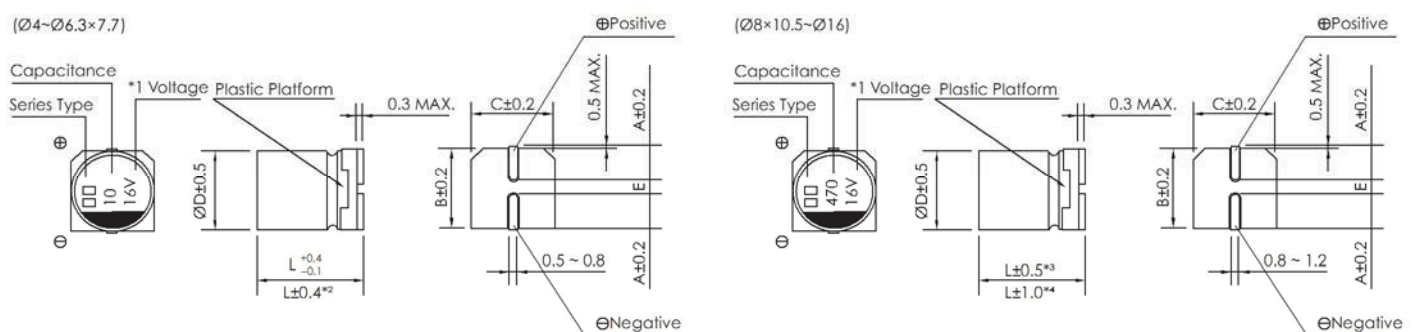
TKZ Series EXTRA LOW IMPEDANCE SMD ELECTROLYTIC CAPACITOR

Extra low impedance with temperature range -55~+105°C
 Comply with the RoHS directive

SPECIFICATIONS

Items	Characteristics																																						
Operation Temperature Range	-55 ~ +105°C																																						
Voltage Range	6.3 ~ 50V																																						
Capacitance Range	4.7 ~ 4700µF																																						
Capacitance Tolerance	±20% at 120Hz, 20°C																																						
Leakage Current	Leakage current (∅4~∅10) ≤0.01CV or 3µA, whichever is greater (after 2 minutes application of rated voltage) Leakage current (∅12.5~∅16) ≤0.03CV or 4µA, whichever is greater (after 1 minute application of rated voltage)																																						
Dissipation Factor (tan δ)	Measurement frequency: 120Hz, Temperature : 20°C <table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td rowspan="2">tan δ (max.)</td> <td>∅4~∅10</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.12</td> </tr> <tr> <td>∅12.5~∅16</td> <td>0.26</td> <td>0.22</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> </tr> </tbody> </table>	Rated Voltage (V)	6.3	10	16	25	35	50	tan δ (max.)	∅4~∅10	0.22	0.19	0.16	0.14	0.12	0.12	∅12.5~∅16	0.26	0.22	0.18	0.16	0.14	0.12																
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Load Life	After 3000 hrs. (1000 hrs. for ∅4~∅6.3×5.8, 2000 hrs. for ∅6.3×7.7 & ∅8) application of the rated voltage at 105°C, they meet the characteristics listed below. <table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>Within ±25% of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>200% or less of initial specified value</td> </tr> <tr> <td>Leakage Current</td> <td>initial specified value or less</td> </tr> </tbody> </table>	Capacitance Change	Within ±25% of initial value	Dissipation Factor	200% or less of initial specified value	Leakage Current	initial specified value or less																																
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Shelf Life	After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life characteristics listed above.																																						
Resistance to Soldering Heat	After reflow soldering and restored at room temperature, they meet the characteristics listed below. <table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>Within ±10% of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>initial specified value or less</td> </tr> <tr> <td>Leakage Current</td> <td>initial specified value or less</td> </tr> </tbody> </table>	Capacitance Change	Within ±10% of initial value	Dissipation Factor	initial specified value or less	Leakage Current	initial specified value or less																																
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Marking	Black print on the case top.																																						

DRAWING (Unit: mm)



*1. Voltage mark for 6.3V is [6V]
 *2. Applicable to ∅6.3×7.7
 *3. Applicable to ∅8×10.5~∅10
 *4. Applicable to ∅12.5~∅16



DIMENSIONS (Unit: mm)

∅D x L	4 x 5.8	5 x 5.8	6.3 x 5.8	6.3 x 7.7	8 x 10.5	10 x 10.5	10 x 13.5	12.5 x 13.5	12.5 x 16	16 x 16.5
A	2.0	2.2	2.6	2.6	3.0	3.3	3.3	4.9	4.9	5.8
B	4.3	5.3	6.6	6.6	8.4	10.4	10.4	13.0	13.0	17.0
C	4.3	5.3	6.6	6.6	8.4	10.4	10.4	13.0	13.0	17.0
E ± 0.2	1.0	1.4	1.9	1.9	3.1	4.7	4.7	4.7	4.7	6.4
L	5.8	5.8	5.8	7.7	10.5	10.5	13.5	13.5	16.0	16.5

DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT & IMPEDANCE

•Case size ∓D μL(mm), impedance (:) at 20 ∓ 100KHz, ripple current (mA rms) at 105 ∓ 100KHz

μF	WV Code	6.3			10			16		
		0006			0010			0016		
10	106							4 x 5.8	1.8	80
15	156							4 x 5.8	1.8	80
22	226	4 x 5.8	1.8	80	4 x 5.8	1.8	80	5 x 5.8 (4 x 5.8)	0.76 (1.8)	150 (80)
33	336	5 x 5.8 (4 x 5.8)	0.76 (1.8)	150 (80)	5 x 5.8 (4 x 5.8)	0.76 (1.8)	150 (80)	6.3 x 5.8 (5 x 5.8)	0.44 (0.76)	230 (150)
47	476	5 x 5.8 (4 x 5.8)	0.76 (1.8)	150 (80)	6.3 x 5.8 (5 x 5.8)	0.44 (0.76)	230 (150)	6.3 x 5.8 (5 x 5.8)	0.44 (0.76)	230 (150)
56	566	5 x 5.8	0.76	150	6.3 x 5.8	0.44	230	6.3 x 5.8	0.44	230
68	686	6.3 x 5.8 (5 x 5.8)	0.44 (0.76)	230 (150)	6.3 x 5.8	0.44	230	6.3 x 7.7 (6.3 x 5.8)	0.34 (0.44)	280 (230)
100	107	6.3 x 5.8 (5 x 5.8)	0.44 (0.76)	230 (150)	6.3 x 7.7 (6.3 x 5.8)	0.34 (0.44)	280 (230)	6.3 x 7.7 (6.3 x 5.8)	0.34 (0.44)	280 (230)
150	157	6.3 x 5.8	0.44	230	6.3 x 7.7	0.34	280	6.3 x 7.7	0.34	280
220	227	6.3 x 7.7 (6.3 x 5.8)	0.34 (0.44)	280 (230)	6.3 x 7.7	0.34	280	8 x 10.5 (6.3 x 7.7)	0.17 (0.34)	450 (280)
330	337	6.3 x 7.7	0.34	280	8 x 10.5	0.17	450	10 x 10.5 (8 x 10.5)	0.09 (0.17)	670 (450)
470	477	8 x 10.5	0.17	450	8 x 10.5	0.17	450	10 x 10.5 (8 x 10.5)	0.09 (0.17)	670 (450)
680	687	10 x 10.5 (8 x 10.5)	0.09 (0.17)	670 (450)	10 x 10.5	0.09	670	10 x 13.5 (10 x 10.5)	0.075 (0.09)	800 (670)
1000	108	10 x 10.5 (8 x 10.5)	0.09 (0.17)	670 (450)	10 x 10.5	0.09	670	16 x 16.5 (12.5 x 16) (12.5 x 13.5)	0.055 (0.06) (0.065)	1350 (1050) (900)
1500	158	10 x 13.5 (10 x 10.5)	0.075 (0.09)	800 (670)	12.5 x 13.5	0.065	900	16 x 16.5	0.055	1350
2200	228	12.5 x 13.5	0.065	900	12.5 x 16	0.060	1050	16 x 16.5	0.055	1350
3300	338	12.5 x 16	0.060	1050	16 x 16.5	0.055	1350			
4700	478	16 x 16.5	0.055	1350						

μF	WV Code	25			35			50		
		0025			0035			0050		
4.7	475				4 x 5.8	1.8	80	5 x 5.8 (4 x 5.8)	1.52 (3.0)	85 (60)
10	106	4 x 5.8	1.8	80	5 x 5.8 (4 x 5.8)	0.76 (1.8)	150 (80)	6.3 x 5.8 (5 x 5.8)	0.88 (1.52)	165 (85)
15	156	5 x 5.8	0.76	150	5 x 5.8	0.76	150	6.3 x 5.8	0.88	165
22	226	6.3 x 5.8 (5 x 5.8)	0.44 (0.76)	230 (150)	6.3 x 5.8 (5 x 5.8)	0.44 (0.76)	230 (150)	6.3 x 7.7 (6.3 x 5.8)	0.68 (0.88)	185 (165)
33	336	6.3 x 5.8 (5 x 5.8)	0.44 (0.76)	230 (150)	6.3 x 5.8	0.44	230	6.3 x 7.7	0.68	185
47	476	6.3 x 7.7 (6.3 x 5.8)	0.34 (0.44)	280 (230)	6.3 x 7.7 (6.3 x 5.8)	0.34 (0.44)	280 (230)	6.3 x 7.7	0.68	185
56	566	6.3 x 7.7 (6.3 x 5.8)	0.34 (0.44)	280 (230)	6.3 x 7.7	0.34	280	8 x 10.5 (6.3 x 7.7)	0.34 (0.68)	350 (185)
68	686	6.3 x 7.7	0.34	280	6.3 x 7.7	0.34	280	8 x 10.5	0.34	350
100	107	6.3 x 7.7	0.34	280	8 x 10.5	0.17	450	10 x 10.5 (8 x 10.5)	0.18 (0.34)	670 (350)
150	157	8 x 10.5 (6.3 x 7.7)	0.17 (0.34)	450 (280)	10 x 10.5	0.09	670	10 x 10.5	0.18	670

DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT & IMPEDANCE

•Case size $\varnothing D \times L$ (mm), impedance (Ω) at 20 °C 100KHz, ripple current (mA rms) at 105 °C 100KHz

WV Code		25			35			50		
μF		0025			0035			0050		
220	227	8 × 10.5	0.17	450	10 × 10.5	0.09	670	10 × 13.5 (10 × 10.5)	0.16 (0.18)	750 (670)
330	337	10 × 10.5 (8 × 10.5)	0.09 (0.17)	670 (450)	10 × 10.5	0.09	670	12.5 × 13.5	0.14	800
470	477	10 × 13.5 (10 × 10.5)	0.075 (0.09)	800 (670)	12.5 × 13.5 (10 × 13.5)	0.065 (0.075)	900 (800)	16 × 16.5 (12.5 × 16)	0.10 (0.12)	1150 (900)
680	687	12.5 × 13.5	0.065	900	12.5 × 16 (12.5 × 13.5)	0.060 (0.065)	1050 (900)			
1000	108	16 × 16.5 (12.5 × 16)	0.055 (0.060)	1350 (1050)	16 × 16.5	0.055	1350			
1500	158	16 × 16.5	0.055	1350						

WV Code		100		
μF		0100		
10	106	8 × 10.5	1.8	110

FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

Frequency		50Hz	120Hz	300Hz	1KHz	10KHz~
Coefficient	$\varnothing 4 \sim \varnothing 10$	4.7 ~ 68 μF	0.35	0.50	0.64	0.83
		100 ~ 1500 μF	0.40	0.55	0.70	0.85
	$\varnothing 12.5 \sim \varnothing 16$	~ 680 μF	0.45	0.65	0.80	0.90
		1000 ~ 4700 μF	0.65	0.85	0.95	1.00

HOW TO ORDER

<u>TKZ</u>	<u>A</u>	<u>106</u>	<u>M</u>	<u>0035</u>	<u>0505</u>	<u>R</u>	<u>000</u>
<u>Type</u>	<u>Material Code</u>	<u>Capacitance Code</u>	<u>Tolerance</u>	<u>Rated Voltage</u>	<u>Size Code</u>	<u>Package Code</u>	<u>Suffix Indicate Special Requirement</u>
TKZ	A: Aluminum Cap	pF Code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow) 106 = 10uF 107 = 100uF	M: +/-20%	Code 0035: 35VDC	Code 0505: Size 5x5.8mm	R: Tape & Reel	000: Indicating Standard
				<u>For DC Voltage</u>	<u>Size for TKZ V-chip E-cap</u>		
				0006: 6.3VDC 0035: 35VDC 0050: 50VDC 0100: 100VDC	0405: Size 4x5.4mm 0605: Size 6.3x5.4mm 0607: Size 6.3x7.7mm 1010: Size 10x10.5mm		