

- Miniaturized, High Ripple, Low Impedance.
- 小型化尺寸、高紋波、低阻抗

■ SPECIFICATIONS 規格表

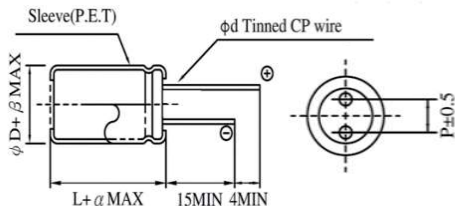
Item	Performance Characteristics 特性																													
Operating Temperature Range 工作溫度範圍	-40 ~ +105°C																													
Voltage Range 額定電壓範圍	6.3 ~ 100V																													
Capacitance Tolerance 靜電容量容許差	±20% at 120Hz, 20°C																													
Leakage Current 漏電流	After 2 minutes application of rated voltage, leakage current is lower than 0.01CV or 3(μA), whichever is greater. I = 0.01CV或3(μA) 以下(2分鐘) I = Leakage Current (漏電流) C = Capacitance (靜電容量) V = Rated Voltage (額定電壓)																													
Tangent of loss angle 損失角正切值	For capacitance of more than 1000 μF, add 0.02 for every increase of 1000 μF 對於超過1000 μF產品，每增加1000 μF，其值增加0.02 <table border="1"> <thead> <tr> <th>Rated voltage (V) 額定電壓</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Tanδ (MAX)</td> <td>0.22</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> <td>0.08</td> </tr> </tbody> </table> (Frequency : 120Hz , Temperature : 20°C)	Rated voltage (V) 額定電壓	6.3	10	16	25	35	50	63	100	Tanδ (MAX)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08											
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	ZT/Z 20 (MAX)	3	3	3	3	3	3	3	3																					
Endurance 耐久性	After applying rated voltage with rated ripple current for specified time at 105°C, the capacitors shall meet the following requirements. 在105°C環境中，不超過額定電壓的範圍內疊加額定紋波電流，連續加載表內時間後，符合下列要求 <table border="1"> <thead> <tr> <th>Case size 鋁殼尺寸</th> <th>Life time 時間(hrs)</th> <th>Capacitance Change 靜電容量變化率</th> <th>Within ±25% of initial Value(6.3V、10V:±30%) 初期值的±25%以內(6.3V、10V:±30%)</th> </tr> </thead> <tbody> <tr> <td>φD≤6.3</td> <td>5000</td> <td>Tangent of loss angle (Tanδ) 損失角正切值</td> <td>Not exceeding 200% of initial specified value 規格值200%以下</td> </tr> <tr> <td>φD≥8</td> <td>6000</td> <td>Leakage current 漏電流</td> <td>Not exceeding of initial specified value 規格值以下</td> </tr> </tbody> </table>	Case size 鋁殼尺寸	Life time 時間(hrs)	Capacitance Change 靜電容量變化率	Within ±25% of initial Value(6.3V、10V:±30%) 初期值的±25%以內(6.3V、10V:±30%)	φD≤6.3	5000	Tangent of loss angle (Tanδ) 損失角正切值	Not exceeding 200% of initial specified value 規格值200%以下	φD≥8	6000	Leakage current 漏電流	Not exceeding of initial specified value 規格值以下																	
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Shelf Life 高溫無負荷	After storing the capacitors under no load at 105 °C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20 °C, they shall meet the specified values for the endurance characteristics listed above. 在105°C下無負荷放置1000小時後，在20 °C下依據JIS C 5101-4 4.1項進行電壓處理後，將滿足以上耐久性的特性值																													

■ Frequency Coefficient of Allowable Ripple Current 容許紋波電流的頻率係數

V	Frequency	120Hz	1KHz	10KHz	100KHz ~
	Cap(μF)				
6.3~100	4.7~1000	0.60	0.87	0.95	1.00
	1200~8200	0.75	0.90	0.95	1.00

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■ RADIAL LEAD TYPE 尺寸圖



ΦD	5	6.3	8	10	12.5	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
φd	0.5	0.5	0.6	0.6	※0.6	0.8	0.8
β	0.5	0.5	0.5	0.5	0.5	0.5	0.5
α	L < 20 : 1.5						
	L ≥ 20 : 2.0						

※In case L ≥ 35 for the φ12.5 dia. unit, lead dia. φd = 0.8mm

■ DIMENSIONS 尺寸

Rated Ripple Current (mA r.m.s. at 105°C, 100KHz)

Cap(μF)	Item	Size D x L(mm)	Ripple	6.3V 8V		Size D x L(mm)	Ripple	10V 13V	
				Impedance(ΩMAX)				Impedance(ΩMAX)	
				20°C/100KHz	-10°C/100KHz			20°C/100KHz	-10°C/100KHz
150					5 x 11	330	0.24	0.80	
220		5 x 11	330	0.24	0.80				
330					6.3 x 11	500	0.11	0.35	
470		6.3 x 11	500	0.11	0.35				
560		6.3 x 11	500	0.11	0.35				
680					8 x 11.5	900	0.062	0.19	
820		8 x 11.5	900	0.062	0.19	8 x 11.5	900	0.062	0.19
1000		8 x 15	1000	0.060	0.17	8 x 15	1000	0.060	0.17
1200		10 x 12.5	1240	0.045	0.14	10 x 12.5	1240	0.045	0.14
1500		8 x 20	1410	0.033	0.11	8 x 20	1410	0.033	0.11
1800		10 x 16	1650	0.032	0.10	10 x 16	1650	0.032	0.10
2200		10 x 20	1960	0.020	0.060	10 x 20	1960	0.020	0.060
2700						10 x 25	2250	0.018	0.056
3300		10 x 25	2250	0.018	0.056	12.5 x 15	2280	0.028	0.055
		12.5 x 15	2280	0.028	0.055	10 x 30.5	2550	0.016	0.052
3900		10 x 30.5	2550	0.016	0.052	12.5 x 25	2900	0.015	0.038
		12.5 x 20	2480	0.017	0.043	16 x 20	3100	0.016	0.040
4700		12.5 x 25	2900	0.015	0.038	12.5 x 30.5	3280	0.014	0.032
		16 x 20	3100	0.016	0.040	16 x 20	3100	0.016	0.040
5600		12.5 x 30.5	3280	0.014	0.032	12.5 x 35.5	3630	0.013	0.035
		16 x 20	3100	0.016	0.040	16 x 25	3630	0.013	0.035
						18 x 20	3800	0.015	0.040
6800		12.5 x 35.5	3630	0.013	0.035	16 x 30.5	4000	0.012	0.032
		16 x 25	3630	0.013	0.035	18 x 20	3800	0.015	0.040
8200		16 x 25	3630	0.013	0.035				
		18 x 20	3800	0.015	0.040				

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Rated Ripple Current(mA r.m.s. at 105°C,100KHz)

W.V S.V	Item	Size D x L(mm)	Ripple	16V		Size D x L(mm)	Ripple	25V	
				20V				32V	
				Impedance(QMAX)				Impedance(QMAX)	
Cap(μF)			20°C/100KHz	-10°C/100KHz			20°C/100KHz	-10°C/100KHz	
	68					5 x 11	330	0.24	0.80
	100	5 x 11	330	0.24	0.80				
	150					6.3 x 11	500	0.11	0.35
	220	6.3 x 11	500	0.11	0.35	6.3 x 11	500	0.11	0.35
	330					8 x 11.5	900	0.062	0.19
	470	8 x 11.5	900	0.062	0.19	8 x 15	1000	0.060	0.17
						10 x 12.5	1240	0.045	0.14
	560					8 x 20	1410	0.033	0.11
	680	8 x 15	1000	0.060	0.17	8 x 20	1410	0.033	0.11
		10 x 12.5	1240	0.045	0.14	10 x 16	1650	0.032	0.10
	820					10 x 20	1960	0.020	0.060
	1000	8 x 20	1410	0.033	0.11	10 x 20	1960	0.020	0.060
		10 x 16	1650	0.032	0.10	12.5 x 15	2280	0.028	0.055
	1500	10 x 20	1960	0.020	0.060	10 x 25	2250	0.018	0.056
		12.5 x 15	2280	0.028	0.055	12.5 x 20	2480	0.017	0.043
	1800	10 x 25	2250	0.018	0.056	12.5 x 25	2900	0.015	0.038
						16 x 20	3100	0.016	0.040
	2200	10 x 25	2250	0.018	0.056	12.5 x 30.5	3280	0.014	0.032
		12.5 x 20	2480	0.017	0.043	16 x 20	3100	0.016	0.040
	2700	10 x 30.5	2550	0.016	0.052	12.5 x 35.5	3630	0.013	0.035
		12.5 x 25	2900	0.015	0.038	16 x 25	3630	0.013	0.035
	3300	12.5 x 30.5	3280	0.014	0.032	16 x 25	3630	0.013	0.035
	4700	16 x 25	3630	0.013	0.035	16 x 30.5	4000	0.012	0.032

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Rated Ripple Current(mA r.m.s. at 105°C,100KHz)

Cap(μF)	Item	Size D x L(mm)	Ripple	35V 44V		50V 63V			
				Impedance(QMAX)		Size D x L(mm)	Ripple	Impedance(QMAX)	
				20°C/100KHz	-10°C/100KHz			20°C/100KHz	-10°C/100KHz
4.7						5 x 11	180	1.20	3.00
10						5 x 11	180	1.20	3.00
22		5 x 11	330	0.24	0.80	5 x 11	238	0.34	1.18
27						5 x 11	238	0.34	1.18
33						5 x 11	238	0.34	1.18
47		5 x 11	330	0.24	0.80	6.3 x 11	385	0.14	0.50
56						6.3 x 11	385	0.14	0.50
82						8 x 11.5	525	0.074	0.22
100		6.3 x 11	500	0.11	0.35	8 x 11.5	724	0.074	0.22
120						8 x 15	950	0.061	0.18
150						10 x 12.5	979	0.061	0.18
220		8 x 11.5	900	0.062	0.19	8 x 20	1250	0.046	0.16
270						10 x 16	1370	0.042	0.12
330		10 x 12.5	1240	0.045	0.14	10 x 20	1580	0.030	0.090
390		8 x 20	1410	0.033	0.11	10 x 20	1870	0.028	0.085
470		10 x 16	1650	0.032	0.10	12.5 x 15	1730	0.069	0.10
560		10 x 20	1960	0.020	0.060	12.5 x 20	2050	0.027	0.068
560		10 x 20	1960	0.020	0.060	12.5 x 25	2410	0.023	0.059
680		10 x 20	1960	0.020	0.060	12.5 x 30.5	2860	0.021	0.052
680		12.5 x 15	2280	0.028	0.055				
820		10 x 25	2250	0.018	0.056	12.5 x 35.5	2960	0.019	0.051
1000		12.5 x 20	2480	0.017	0.043	16 x 20	2730	0.023	0.059
1000		12.5 x 20	2480	0.017	0.043	16 x 25	3010	0.021	0.056
1200		10 x 30.5	2550	0.016	0.052	16 x 30.5	3215	0.020	0.053
1200		12.5 x 25	2900	0.015	0.038				
1500		12.5 x 30.5	3280	0.014	0.032	16 x 35.5	3420	0.019	0.050
1800		16 x 20	3100	0.016	0.040	18 x 35.5	4200	0.019	0.050
2200		16 x 25	3630	0.013	0.035	18 x 35.5	4310	0.019	0.050

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Rated Ripple Current(mA r.m.s. at 105°C,100KHz)

W.V S.V	63V 79V				100V 125V			
Cap(μF)	Item Size D x L(mm)	Ripple	Impedance(ΩMAX)		Size D x L(mm)	Ripple	Impedance(ΩMAX)	
			20°C/100KHz	-10°C/100KHz			20°C/100KHz	-10°C/100KHz
4.7					5 x 11	105	4.0	9.0
5.6					5 x 11	120	3.0	8.1
6.8					5 x 11	140	2.0	7.0
8.2					5 x 11	163	1.4	5.6
10	5 x 11	110	2.10	2.85	6.3 x 11	215	0.98	3.8
18	5 x 11	173	0.88	3.5	6.3 x 11	267	0.57	2.3
22	5 x 11	185	0.80	1.7	6.3 x 11	300	0.55	2.1
33					8 x 11.5	462	0.36	1.4
47	6.3 x 11	278	0.35	1.4	8 x 15	585	0.25	1.0
56					10 x 12.5	624	0.23	0.96
68	8 x 11.5	450	0.25	1.0	8 x 20	735	0.19	0.76
82	8 x 11.5	475	0.25	1.0	10 x 16	780	0.17	0.72
100	8 x 15	688	0.16	0.64	10 x 20	1040	0.12	0.52
120	10 x 12.5	725	0.15	0.60	12.5 x 15	975	0.13	0.43
150	8 x 20	861	0.12	0.48	10 x 20	1170	0.11	0.47
180	10 x 16	998	0.11	0.44	12.5 x 20	1430	0.085	0.31
220	10 x 16	998	0.11	0.44	12.5 x 25	1620	0.060	0.23
270	10 x 20	1200	0.078	0.31	12.5 x 30.5	1950	0.051	0.21
330	12.5 x 15	1200	0.082	0.27	16 x 20	1750	0.058	0.21
390	10 x 25	1410	0.069	0.28	12.5 x 35.5	2140	0.043	0.17
470	10 x 30.5	1640	0.065	0.25	16 x 25	2210	0.044	0.16
560	12.5 x 20	1570	0.060	0.19	18 x 20	1950	0.054	0.18
680	12.5 x 25	1990	0.043	0.14	16 x 30.5	2400	0.033	0.12
820	12.5 x 30.5	2410	0.035	0.13	18 x 25	2270	0.038	0.13
1000	16 x 20	2100	0.043	0.14	16 x 35.5	2600	0.029	0.10
1200	12.5 x 35.5	2620	0.033	0.11	18 x 30.5	2470	0.031	0.11
1500	16 x 25	2730	0.032	0.096	16 x 40	2860	0.027	0.090
1800	18 x 20	2500	0.038	0.10	18 x 35.5	2860	0.027	0.084
2200	16 x 30.5	2860	0.024	0.068	18 x 40	3510	0.026	0.076
2700	16 x 30.5	2990	0.024	0.068				
3300	18 x 25	2800	0.031	0.084				
3900	16 x 35.5	3040	0.021	0.057				
4700	18 x 30.5	3300	0.025	0.068				
5600	16 x 40	3570	0.019	0.057				
6800	18 x 35.5	3570	0.020	0.057				
8200	18 x 40	3670	0.018	0.049				