

- 115°C Long Life, Low Impedance.
- 115°C長壽命、低阻抗

■ SPECIFICATIONS 規格表

Item	Performance Characteristics 特性										
Operating Temperature Range 工作溫度範圍	-40 ~ +115°C										
Voltage Range 額定電壓範圍	10 ~ 450V										
Capacitance Tolerance 靜電容量容許差	±20% at 120Hz,20°C										
Leakage Current 漏電流	10V ~ 100V : After 1 minute application of rated voltage, leakage current is lower than 0.03CV or 4(μA), whichever is greater. I = 0.03CV或4 (μA) 以下(1分鐘) 160V ~ 450V : CV≤1000 I=0.1CV+40(μA) MAX , CV>1000 I=0.04CV+100(μA) MAX, 1 minute 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										
	Rated voltage (V) 額定電壓	10	16	25	35	50	63	100	160~250	350~450	
	Tanδ (MAX)	0.20	0.16	0.14	0.12	0.10	0.10	0.08	0.20	0.24	
(Frequency : 120Hz , Temperature : 20°C)											
Stability at Low Temperature 溫度特性	Rated voltage (V)		10	16	25	35	50	63	100	160~250	350~450
	Impedance Ratio 阻抗比	Z-25°C/Z+20°C	3	2	2	2	2	2	2	3	6
		ZT/Z 20 (MAX)	4	4	4	4	4	4	4	6	-
(Frequency:120Hz)											
Endurance 耐久性	After applying rated voltage with rated ripple current for specified time at 115°C, the capacitors shall meet the following requirements. 在115°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										
	Case size 鋁殼尺寸	Rated voltage (V)			Capacitance Change 靜電容量變化率		Within ±30% of initialValue(10V ~ 100V) 初期值的±30%以內(10V ~ 100V) Within ±20% of initial Value(160V ~ 450V) 初期值的±20%以內(160V ~ 450V)				
		≤50	63~100	≥160	Tangent of loss angle(Tanδ) 損失角正切值		Not exceeding 300% of initial specified value(10V ~ 100V) 規格值300%以下(10V ~ 100V) Not exceeding 200% of initial specified value(160V ~ 450V) 規格值200%以下(160V ~ 450V)				
		ΦD=8	3000	3000							
		ΦD=10	6000	5000							
		ΦD≥12.5	10000	7000							
Leakage current 漏電流		Not exceeding of initial specified value 規格值以下									
Shelf Life 高溫無負荷	After storing the capacitors under no load at 115 °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115°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 (10V~100V) 容許紋波電流的頻率係數

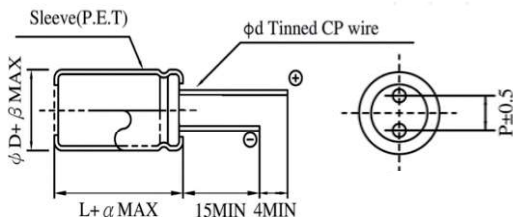
Frequency Cap(μF)	120Hz	300Hz	1KHz	10KHz	100KHz ~
1000 > CV	0.50	0.64	0.83	0.90	1.00
1000 ≤ CV	0.67	0.79	0.91	0.95	1.00

■ Frequency Coefficient of Allowable Ripple Current (160V~450V) 容許紋波電流的頻率係數

Frequency Cap(μF)	50Hz	120Hz	300Hz	1KHz	10KHz	100KHz ~
1000 > CV	0.80	1.00	1.30	1.65	1.75	1.90
1000 ≤ CV	0.85	1.00	1.40	1.70	1.85	2.00

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■ RADIAL LEAD TYPE 尺寸圖



ΦD	8	10	12.5	16	18
P	3.5	5.0	5.0	7.5	7.5
Φd	0.6	0.6	※0.6	0.8	0.8
β	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 115°C,100KHz)

W.V	10V			16V		
S.V	13V			20V		
Item Cap(μF)	Size D x L(mm)	Ripple	Impedance(ΩMAX) 20°C/100KHz	Size D x L(mm)	Ripple	Impedance(ΩMAX) 20°C/100KHz
100				8 x 11.5	350	0.25
220	8 x 11.5	350	0.25	8 x 15	680	0.20
330	8 x 11.5	350	0.25	10 x 12.5	700	0.14
470	8 x 15	680	0.20	8 x 20	970	0.15
	10 x 12.5	700	0.14	10 x 16	975	0.075
560	8 x 20	970	0.15	10 x 20	1250	0.055
	10 x 16	975	0.075			
680	10 x 16	975	0.075	10 x 20	1250	0.055
820	10 x 20	1250	0.055	10 x 25	1500	0.042
1000	10 x 20	1250	0.055	12.5 x 20	1520	0.045
1200	10 x 25	1500	0.042	10 x 30.5	1780	0.028
	12.5 x 20	1520	0.045	12.5 x 25	1870	0.031
1500	12.5 x 20	1520	0.045	12.5 x 25	1870	0.031
1800	12.5 x 25	1870	0.031	12.5 x 30.5	2200	0.026
2200	12.5 x 25	1870	0.031	16 x 20	2550	0.036
2700	12.5 x 30.5	2200	0.026	16 x 25	2800	0.030
3300	16 x 20	2550	0.036	16 x 30.5	3070	0.024
4700	16 x 25	2800	0.030	16 x 35.5	3350	0.021
	18 x 25	3150	0.028	18 x 30.5	3430	0.023

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■ DIMENSIONS 尺寸

Rated Ripple Current(mA r.m.s. at 115°C,100KHz)

W.V	25V			35V		
S.V	32V			44V		
Item Cap(μF)	Size D x L(mm)	Ripple	Impedance(ΩMAX) 20°C/100KHz	Size D x L(mm)	Ripple	Impedance(ΩMAX) 20°C/100KHz
100	8 x 11.5	350	0.25	8 x 15	680	0.20
220	10 x 12.5	700	0.14	10 x 16	975	0.075
330	10 x 16	975	0.075	10 x 20	1250	0.055
470	10 x 20	1250	0.055	10 x 25	1500	0.042
680	10 x 25	1500	0.042	12.5 x 25	1870	0.031
820	10 x 30.5	1780	0.028	12.5 x 30.5	2200	0.026
1000	12.5 x 20	1520	0.045	16 x 20	2550	0.036
1200	12.5 x 25	1870	0.031	16 x 25	2800	0.030
1500	12.5 x 30.5	2200	0.026	18 x 25	2940	0.028
1800	16 x 20	2550	0.036	16 x 30.5	3070	0.024
2200	16 x 25	2800	0.030	18 x 30.5	3430	0.023
2700	16 x 30.5	3070	0.024	18 x 35.5	3610	0.020
3300	18 x 30.5	3430	0.023	18 x 40	3750	0.018

■ DIMENSIONS 尺寸

Rated Ripple Current(mA r.m.s. at 115°C,100KHz)

W.V	50V			63V		
S.V	63V			79V		
Item Cap(μF)	Size D x L(mm)	Ripple	Impedance(ΩMAX) 20°C/100KHz	Size D x L(mm)	Ripple	Impedance(ΩMAX) 20°C/100KHz
1	8 x 11.5	40	1.95			
2.2	8 x 11.5	55	1.80			
3.3	8 x 11.5	65	1.45			
4.7	8 x 11.5	90	1.13			
10	8 x 11.5	190	0.73			
22	8 x 11.5	265	0.48	8 x 11.5	140	2.21
33	8 x 11.5	310	0.45	8 x 11.5	160	2.18
47	8 x 11.5	455	0.35	8 x 11.5	340	2.10
100	10 x 12.5	580	0.175	10 x 16	700	1.20
220	10 x 16	870	0.140	12.5 x 20	1190	0.60
330	10 x 20	1030	0.095	12.5 x 25	1410	0.45
470	12.5 x 20	1560	0.085	12.5 x 25	1550	0.40
1000	16 x 25	1910	0.080	16 x 30.5	2430	0.15

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Rated Ripple Current(mA r.m.s. at 115°C,100KHz)

W.V		100V	
S.V		125V	
Cap(μF)	Item	Size D x L(mm)	Impedance(ΩMAX) 20°C/100KHz
10		8 x 11.5	2.30
22		8 x 11.5	2.22
33		10 x 12.5	1.55
47		10 x 16	1.10
100		12.5 x 20	0.55
220		16 x 25	0.26
330		16 x 30.5	0.19
470		18 x 30.5	0.16

■ DIMENSIONS 尺寸

Rated Ripple Current(mA r.m.s. at 115°C,120Hz)

W.V		160V		200V		250V	
S.V		200V		250V		300V	
Cap(μF)	Item	Size D x L(mm)	Ripple	Size D x L(mm)	Ripple	Size D x L(mm)	Ripple
10		8 x 15	65	10 x 12.5	70	10 x 16	75
22		10 x 16	110	10 x 20	125	10 x 20	125
33		10 x 20	150	10 x 25	170	12.5 x 20	170
47		10 x 25	200	12.5 x 20	205	12.5 x 25	225
68		12.5 x 20	245	12.5 x 25	270	12.5 x 30.5	295
100		16 x 20	340	16 x 25	370	16 x 30.5	405
150		16 x 25	450	16 x 30.5	495	16 x 35.5	530

■ DIMENSIONS 尺寸

Rated Ripple Current(mA r.m.s. at 115°C,120Hz)

W.V		350V		400V		450V	
S.V		400V		450V		500V	
Cap(μF)	Item	Size D x L(mm)	Ripple	Size D x L(mm)	Ripple	Size D x L(mm)	Ripple
4.7		8 x 15	45	10 x 16	50	10 x 20	55
10		10 x 20	85	10 x 20	90	12.5 x 20	95
22		12.5 x 20	140	12.5 x 25	155	12.5 x 30.5	170
33		12.5 x 25	190	16 x 20	195	16 x 25	215
47		16 x 20	230	16 x 25	255	16 x 30.5	280