

產品特點 Features

High ripple current and high reliability.
Low equivalent series resistance ESR.
Load life with ripple current: 5,000 hours.
高紋波高可靠性的高頻低阻85℃加長壽命品5000H



規格書 SPECIFICATIONS

項目 Item	特性參數 Characteristics																						
使用溫度範圍 Operating Temperature Range	-40 to +85℃		-25 to +85℃																				
額定電壓範圍 Rated Working Voltage Range	160 to 250V		385 to 450V																				
容量範圍 Nominal Capacitance Range	47 to 2200 μ F																						
容量允許偏差 Capacitance Tolerance	± 20% at 120Hz, +20℃																						
漏電流 Leakage Current	I ≤3 √CV (μ A) after 5 minutes application of rated working voltage at +20℃																						
損耗角正切值(20℃,120Hz) tan δ (120Hz, +20℃)	<table><tr><td>Working Voltage (V)</td><td>160~420</td><td>450</td></tr><tr><td>tan δ (max.)</td><td>0.15</td><td>0.20</td></tr></table>					Working Voltage (V)	160~420	450	tan δ (max.)	0.15	0.20												
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低溫特性 Low Temperature Characteristics	Impedance ratio max. at 120Hz <table><tr><td>Working Voltage (V)</td><td>160</td><td>200</td><td>250</td><td>385</td><td>400~450</td></tr><tr><td>Z-25℃ / Z+20℃</td><td>3</td><td>3</td><td>3</td><td>5</td><td>8</td></tr><tr><td>Z-40℃ / Z+20℃</td><td>15</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>					Working Voltage (V)	160	200	250	385	400~450	Z-25℃ / Z+20℃	3	3	3	5	8	Z-40℃ / Z+20℃	15	-	-	-	-
Working Voltage (V)	160	200	250	385	400~450																		
Z-25℃ / Z+20℃	3	3	3	5	8																		
Z-40℃ / Z+20℃	15	-	-	-	-																		
高溫負荷特性 High Temperature Loading	85℃條件下施加額定電壓與額定紋波5000H後取出，待產品恢復至常溫後測試 Test time : 5,000 hours Test temperature:+85℃ Test conditions:Rated DC working voltage with rated ripple current Post test requirements at +20℃ <table><tr><td>Leakage current</td><td colspan="5">≤ Initial specified value</td></tr><tr><td>Cap. change</td><td colspan="5">within ± 20% of the initial measured value</td></tr><tr><td>tan δ</td><td colspan="5">≤200% of the initial specified value</td></tr></table>					Leakage current	≤ Initial specified value					Cap. change	within ± 20% of the initial measured value					tan δ	≤200% of the initial specified value				
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高溫貯存特性 Shelf Life	在85℃不加電壓存放1000H後取出，待產品恢復常溫後測試 At +85℃ no voltage applied after 1,000 hours and then being stabilized at +20℃ the capacitors shall meet the following limits <table><tr><td>Leakage current</td><td colspan="5">≤ Initial specified value</td></tr><tr><td>Cap. change</td><td colspan="5">within ± 15% of the initial measured value</td></tr><tr><td>tan δ</td><td colspan="5">≤150% of the initial specified value</td></tr></table>					Leakage current	≤ Initial specified value					Cap. change	within ± 15% of the initial measured value					tan δ	≤150% of the initial specified value				
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參考國際標準 Industrial Standard	JIS C – 5101-4 (IEC 60384-4)																						

紋波電流修正系數 RIPPLE CURRENT MULTIPLIER

Frequency Coefficient

Coefficient \ Freq. (Hz)	60	120	1k	10k~50k
Rated Voltage				
160~250V	0.80	1.00	1.15	1.47
385~450V	0.80	1.00	1.15	1.47

牛角電解電容

一覽表 Standard

Voltage (Code)		160V			200V			250V)		
Cap. (μ F)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
150	157							22 x 25	800	0.91
220	227	22 x 25	730	1.10	22 x 25	490	1.10	22 x 30	500	1.20
								25 x 25	490	1.20
330	337	22 x 30	490	1.40	22 x 30	330	1.40	22 x 40	330	1.60
					25 x 25	330	1.50	25 x 30	330	1.60
470	477	22 x 35	350	1.80	22 x 40	240	1.90	25 x 40	240	2.10
					30 x 25	350	1.90	30 x 30	240	2.00
680	687	25 x 35	240	2.40	25 x 40	160	2.50	30 x 40	160	2.70
					30 x 30	160	2.40			
1000	108	30 x 35	160	3.10	30 x 40	120	3.30	35 x 40	120	3.60
					35 x 35	120	3.50			
1500	158	30 x 45	120	4.20	35 x 45	80	4.60			
2200	228	35 x 50	80	5.80						

Maximum Allowable Ripple Current (Arms) at 85°C 120Hz
在85°C 120Hz條件的最大紋波值

Maximum Impedance (m Ω) at 20°C 20kHz
在20°C 20kHz條件的最大Z值

Case Size Φ D x L (mm)
尺寸 Φ D x L (mm)

Voltage (Code)		385V			400V			420V		
Cap. (μ F)	Code	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
68	686	22 x 25	1570	0.61	22 x 25	1570	0.61			
100	107	22 x 30	1070	0.79	22 x 30	1070	0.79	22 x 30	1600	0.79
		25 x 25	1070	0.80	25 x 25	1070	0.80	25 x 25	1600	0.80
120	127				22 x 35	890	0.92	22 x 30	1330	0.94
150	157	22 x 40	720	1.10	22 x 40	720	1.10	22 x 40	1070	1.08
		25 x 30	720	1.00	30 x 25	720	1.10	25 x 35	1070	1.11
180	187				30 x 30	600	1.20	25 x 35	890	1.21
								30 x 30	890	1.26
220	227	25 x 40	490	1.40	25 x 40	490	1.40	25 x 40	730	1.41
		30 x 30	490	1.40	30 x 35	490	1.50	30 x 35	730	1.46
270	277				30 x 35	400	1.60	30 x 35	590	1.62
								35 x 30	590	1.71
330	337	30 x 40	330	1.90	30 x 45	330	2.00	30 x 45	490	1.96
								35 x 35	490	1.98
390	397				30 x 50	280	2.20	30 x 50	410	2.22
470	477	35 x 40	240	2.50	35 x 45	240	2.60	35 x 45	340	2.58
560	567	35 x 45	200	2.80	35 x 50	200	2.90	35 x 50	290	2.93

Maximum Allowable Ripple Current (Arms) at 85°C 120Hz
在85°C 120Hz條件的最大紋波值

Maximum Impedance (m Ω) at 20°C 20kHz
在20°C 20kHz條件的最大Z值

Case Size Φ D x L (mm)
尺寸 Φ D x L (mm)

Voltage (Code)		450V		
Cap. (μ F)	Code	Case Size	Impedance	Ripple Current
47	476	22 x 25	3400	0.51
68	686	22 x 30	2350	0.65
		25 x 25	2350	0.66
100	107	22 x 40	1600	0.88
		25 x 30	1600	0.86
		30 x 25	1600	0.90
150	157	25 x 40	1070	1.20
		30 x 30	1070	1.10
180	187	30 x 35	890	1.30
220	227	30 x 40	730	1.50
270	277	30 x 45	600	1.80
330	337	35 x 40	490	2.10
470	477	35 x 50	350	2.70

Maximum Allowable Ripple Current (Arms) at 85°C 120Hz
在85°C 120Hz條件的最大紋波值

Maximum Impedance (m Ω) at 20°C 20kHz
20°C 20kHz條件的最大Z值

Case Size Φ D x L (mm)
尺寸 Φ D x L (mm)