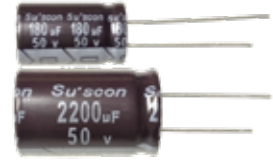


# MC series

- Low Impedance and E.S.R., high ripple current resistance, 2000~3000 hours long life at 105°C
- Suitable for output return circuit of switching power supply for IT products.
- RoHS Compliance
- 低阻抗、耐高紋波，105°C 2000~3000小時壽命。
- 適用於電腦之開關電源供應器的輸出迴路。



## SPECIFICATIONS

Items 項目	Characteristics 特性											
Capacitance Tolerance 靜電容量誤差	± 20%(120Hz,20°C)											
Operating Temperature Range 適用溫度範圍	-40 ~ +105°C						-25 ~ +105°C					
Rated Voltage Range 額定電壓範圍	6.3 ~ 400VDC						450VDC					
Leakage Current 洩漏電流	WV≤100V I≤0.01CV or 3 (µA) ( After 2 minutes application of DC rated voltage, at 20 °C) WV > 100V I≤0.03CV +20 (µA) ( After 5 minutes application of DC rated voltage, at 20 °C)											
Dissipation Factor 散逸因素( tan δ)	Measurement Frequency: 120Hz. Temperature: 20°C											
	Rated Voltage(V)	6.3	10	16	25	35	50	63	100	160~250	350	400~450
	tan δ(Max)	0.20	0.17	0.16	0.14	0.12	0.10	0.08	0.08	0.15	0.20	0.25
When nominal capacitance over 1000µF, tanδ shall be added 0.02 to the listed value with increase of every 1000µF .												
Low Temperature Stability 低溫特性 Impedance Ratio(Max) 阻抗比率(最大值)	Measurement Frequency: 120Hz.											
	Rated Voltage(V)	6.3	10	16	25	35	50	63~100		160~350		400~450
	Z(-25°C)/Z(20°C)	4	3	2	2	2	2	2		3		6
	Z(-40°C)/Z(20°C)	8	6	4	3	3	3	3		6		12
Load Life 負荷壽命	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for 3,000 hours(ΦD≤8:2,000 hours) at 105°C.											
	Capacitance Change	Within ± 20% of Initial Value										
	tan δ	200% or less of Initial Specified Value										
	Leakage Current	Initial Specified Value or less										
Shelf Life 放置壽命	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4.											
	Capacitance Change	Within ± 20% of Initial Value										
	tan δ	200% or less of Initial Specified Value										
	Leakage Current	Initial Specified Value or less										
Standards 參照標準	IEC 60384-4(JIS C5101-4)											

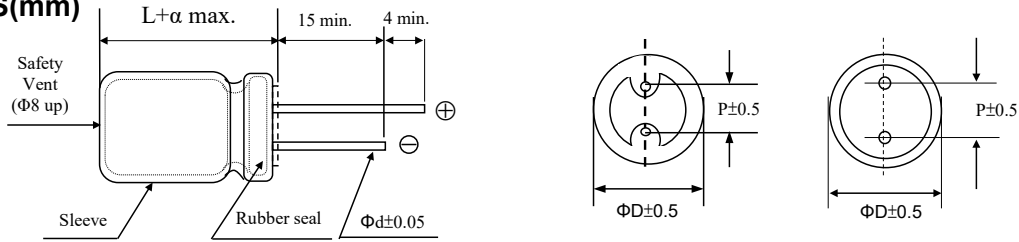
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## Frequency Coefficient of Permissible Ripple Current

Capacitance (µF)	Frequency (Hz)				
	50	120	1K	10K	100K
0.47 ~ 100	0.45	0.55	0.75	0.90	1.00
220 ~ 1000	0.60	0.70	0.85	0.95	1.00
1500 ~ 15000	0.70	0.80	0.95	0.98	1.00
2.2 ~ 330	0.55	0.65	0.80	0.90	1.00

# MC series

**DIMENSIONS(mm)**



$\Phi D$	5	6.3	8	10	12.5	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
$\Phi d$	0.5	0.5	0.5	0.6	0.6	0.8	0.8

$\alpha$	(L < 20) 1.5
	(L $\geq$ 20) 2.0

**STANDARD RATINGS**

DxL(mm), R.C : (mA rms) at 105 C, 100kHz , IMP:( $\Omega$  max) at 20 C, 100kHz.

Cap ( $\mu F$ )	V	6.3			10			16			25		
		Item	D x L	R.C.	IMP	D x L	R.C.	IMP	D x L	R.C.	IMP	D x L	R.C.
33											5x11	155	0.800
39											5x11	175	0.650
47								5x11	155	0.800	6.3x11	210	0.550
56								5x11	175	0.650	6.3x11	235	0.440
68					5x11	155	0.800	6.3x11	220	0.500	6.3x11	260	0.336
82					5x11	175	0.650	6.3x11	240	0.420	6.3x11	285	0.330
100		5x11	200	0.620	6.3x11	200	0.420	6.3x11	255	0.370	8x11.5	360	0.220
220		6.3x11	275	0.320	8x11.5	360	0.220	8x11.5	550	0.140	8x14	600	0.100
270		6.3x11	320	0.250	8x11.5	420	0.185	8x15	650	0.140	8x20	750	0.095
330		8x11.5	530	0.180	8x11.5	550	0.140	10x12.5	750	0.100	10x16	800	0.069
470		10x12.5	750	0.140	10x12.5	750	0.100	10x16	800	0.085	10x20	1050	0.064
680		10x16	950	0.100	10x16	800	0.085	10x20	1050	0.064	12.5x20	1370	0.049
1000		10x16	950	0.069	10x20	1080	0.065	12.5x20	1360	0.039	12.5x25	1600	0.038
2200		10x25	1450	0.043	12.5x25	1650	0.038	12.5x30	2050	0.028	12.5x40	2300	0.024
3300		12.5x25	1750	0.035	12.5x35	2100	0.028	12.5x40	2360	0.024	16x35.5	2600	0.019
3900		12.5x30	1910	0.034	12.5x40	2360	0.024	16x31.5	2470	0.022	16x40	2950	0.019
4700		12.5x35	2050	0.028	16x31.5	2370	0.024	16x35.5	2600	0.019	18x40	3500	0.019
6800		16x31.5	2300	0.024	16x35.5	2600	0.019	18x35.5	2900	0.019			
8200		16x35.5	2650	0.021	18x35.5	2900	0.019	18x40	3500	0.017			
10000		18x31.5	2850	0.019	18x40	3500	0.018						
15000		18x40	3500	0.019									

MC

# MC series

## STANDARD RATINGS

DxL(mm), R.C : (mA rms) at 105 C 100kHz , IMP:(Ω max) at 20 C ,100kHz.

Cap (μF)	V	35			50			63			100		
		Item	D x L	R.C.	IMP	D x L	R.C.	IMP	D x L	R.C.	IMP	D x L	R.C.
47					8x11.5	320	0.350	8x11.5	450	0.300	10x25	850	0.350
68			360	0.220	8x11.5	450	0.250	8x15	550	0.220	12.5x20	1100	0.240
100		8x11.5	450	0.140	10x16	850	0.200	10x20	700	0.170	12.5x25	1250	0.180
220		10x16	880	0.069	10x20	1100	0.100	12.5x20	1300	0.150	16x31.5	1850	0.071
330		10x20	1100	0.044	12.5x20	1300	0.095	12.5x25	1400	0.070	18x40	2350	0.049
470		12.5x20	1370	0.039	12.5x25	1450	0.070	12.5x35	1650	0.047			
680		12.5x25	1600	0.038	12.5x35	1800	0.040	16x31.5	2000	0.037			
1000		12.5x30	1930	0.029	16x31.5	2100	0.034	18x31.5	2200	0.034			
2200		16x35.5	2550	0.019	18x40	2800	0.025						
3300		18x40	3150	0.019									

Cap (μF)	V	160			200			250		
		Item	D x L	R.C.	IMP	D x L	R.C.	IMP	D x L	R.C.
2.2								8x11.5	85	13.0
3.3		8x11.5	85	11.0	8x11.5	90	11.0	8x11.5	97	11.0
4.7		8x11.5	90	6.50	8x11.5	100	6.10	10x12.5	112	4.30
10		10x12.5	144	4.30	10x12.5	168	3.80	10x16	240	3.50
22		10x16	200	3.00	10x20	372	2.70	12.5x20	388	2.80
33		10x20	450	2.50	10x25	480	2.30	12.5x20	495	2.20
47		12.5x20	580	2.00	12.5x20	584	2.00	12.5x25	650	1.80
68		12.5x20	680	1.05	12.5x25	788	0.980	16x25	810	0.900
100		16x25	1028	0.900	16x25	1030	0.900	16x31.5	1124	0.850
220		16x35.5	1160	0.800	18x31.5	1208	0.750	18x40	1200	0.700
330		18x35.5	1480	0.700						

Cap (μF)	V	400			450		
		Item	D x L	R.C.	IMP	D x L	R.C.
2.2		8x11.5	65	7.60	10x12.5	75	9.50
3.3		10x12.5	88	5.20	10x16	100	7.90
4.7		10x16	128	3.85	10x20	115	6.20
10		10x20	156	3.10	12.5x20	224	3.70
22		12.5x25	280	2.10	16x25	460	1.00
33		12.5x25	460	1.78	16x25	488	0.950
47		16x25	580	1.36	16x31.5	680	0.850
68		16x31.5	960	0.960	16x31.5	750	0.710
100		18x35.5	1000	0.780	18x40	880	0.430

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