

MA Standard 标准品

- Low ESR, High ripple current.
低阻抗, 高纹波。
- Load life of 2000 hours at 105°C.
105°C 负荷寿命 2000 小时。
- Available for high density surface mounting.
适用于高密度表面组装。
- Lead free reflow soldering condition at 260°C peak correspondence.
可适用于 260°C 高温无铅回流焊。



Specifications 特性表

Items 项目	Condition 测试条件		Characteristics 主要特性	
Rated Voltage Range 额定工作电压范围(V)	---		2.5 ~ 25V _{dc}	
Category Temperature Range 使用温度范围(°C)	---		-55 ~ +105°C	
Capacitance Tolerance 静电容量允许偏差(%)	120Hz/20°C		±20% (M), at 20°C, 120Hz	
Dissipation Factor (Tanδ, DF) 损耗角正切值(%)	120Hz/20°C		Please see the attached characteristics list.	
Leakage Current (※1) 漏电流	Rated Voltage applied, after 2 minutes 施加额定电压 2 分钟后		Please see the attached characteristics list.	
Equivalent series resistance (ESR) 等效串联电阻 (※2)	100KHz to 300KHz/20°C		Please see the attached characteristics list.	
Temperature Characteristics (Max. Impedance Ratio) 高低温特性阻抗比	Based the value at 100KHz, +20°C 基于 20°C, 100KHz 值	-55°C	Z/Z _{20°C}	Less than 1.25
		+105°C	Z/Z _{105°C}	Less than 1.25
Endurance 耐久性	105°C, 2000h, Rated Voltage applied 施加额定电压	ΔC/C(※3)		Within ±20% of the initial capacitance value
		DF		150% or less than the initial specified value
		ESR		150% or less than the initial specified value
		LC		less than or equal to the initial specified value
Damp Heat (Steady State) 高温高湿	60°C, 90 to 95%RH, 1000h, No- applied Voltage 不施加电压	ΔC/C		Within ±20% of the initial capacitance value
		DF		150% or less than the initial specified value
		ESR		150% or less than the initial specified value
		LC		less than or equal to the initial specified value
Resistance to Soldering Heat 耐焊接热	Vapor Phase Soldering 回流焊 (230±5°C, 75S)	ΔC/C		Within ±10% of the initial capacitance value(※3)
		DF		130% or less than the initial specified value
		ESR		130% or less than the initial specified value
		LC		less than or equal to the initial specified value

※1 If any doubt arises, measure the leakage current after the voltage treatment of applying DC rated voltage continuously to the capacitor for 120 minutes at 105°C.

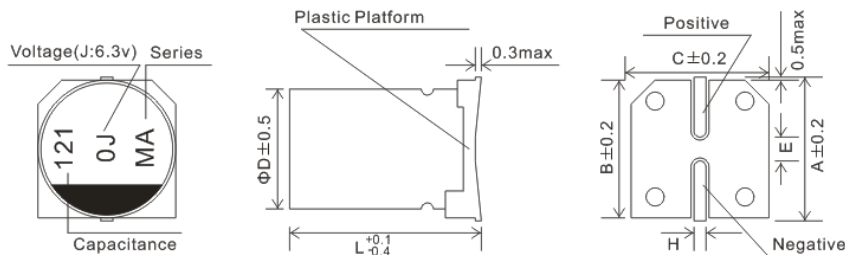
如果有任何疑问, 可以在 105°C 温度下对产品施加额定电压 120 分钟后测试。

※2 ESR should be measured at both of the terminal ends closest where the terminals protrude through the plastic platform. ESR 测试时, 请使测试点尽可能地靠近引线弯曲处

※3 Initial value: The value before test of examination of resistance to soldering. 初始值: 实验投入或焊接前的值

※4 Please refer to page 9 for flow soldering conditions. 请参照第 9 页的回流焊接条件

Drawing(Unit: mm) 外形图



Size 尺寸	4x5.5	5x6	6.3x5.5	6.3x6	8x7	8x12	10x8	10x10	10x10.7
φD	4.0	5.0	6.3	6.3	8.0	8.0	10.0	10.0	10.0
L	5.4	5.9	5.4	5.9	6.9	11.9	7.9	9.9	12.6
A	5.0	6.0	7.3	7.3	9.0	9.0	11.0	11.0	11.0
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	10.3
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	10.3
E	1.0	1.6	2.1	2.1	3.2	3.2	4.6	4.6	4.6
H	0.5-0.8	0.5-0.8	0.5-0.8	0.5-0.8	0.8-1.1	0.8-1.1	0.8-1.1	0.8-1.1	0.8-1.1

Rated ripple current multipliers(Unit: mm) 额定纹波修正系数

Frequency 频率 (Hz)	120Hz ≤ f < 1KHz	1KHz ≤ f < 10KHz	10KHz ≤ f < 100KH	100KHz ≤ f < 300K
Coefficient 系数	0.05	0.3	0.7	1.00

Note: All design and specifications are for reference only and is subject to change without prior notice. If any doubt about safety for your application, Please contact us immediately for technical assistance before purchase.

注: 以上所提供的设计及特性参数仅供参考, 任何修改不作预先通知, 如有使用上任何疑问, 请在采购前与我们联系, 以便提供技术上的协助。

MA Series

■ Standard ratings 标准品一览表

Rated voltage 额定电压 (V)(code)	Surge Voltage 浪涌电压 (V)	Rated Capacitance 额定容量 (μ F)	Case Size 产品尺寸 Φ D x L(mm)	DF 损失角正切值 (DF,max)	Leakage Current 漏电流 (mA,max)	ESR(m Ω) (at 100kHz 20 $^{\circ}$ C)	Rated Ripple 纹波电流 (mA,rms,at 105 $^{\circ}$ C)
10(1A)	11.5	560	10x12.7	0.12	1120	13	5230
16 (1C)	18.4	3.3	4x5.5	0.12	100	260	660
		22	5x6	0.12	176	45	1210
		33	6.3x6	0.12	106	31	2400
		39	6.3x5.5	0.12	125	31	2400
		39	6.3x6	0.12	125	31	2400
		56	8x7	0.12	179	30	2900
		82	8x7	0.12	262	28	3200
		100	10x8	0.12	320	27	3300
		150	10x8	0.12	480	25	3500
		180	8x12	0.12	576	16	4400
		180	10x8	0.12	576	25	3600
		220	10x10	0.12	704	20	3900
		220	10x12.7	0.12	704	14	5050
		330	10x12.7	0.12	1056	14	5000
20 (1D)	23	10	5x6	0.12	100	120	900
		22	6.3x5.5	0.12	100	50	1700
		22	6.3x6	0.12	88	50	1700
		39	8x7	0.12	156	45	2000
		47	8x7	0.12	188	45	2000
		56	10x8	0.12	224	40	2400
		68	10x8	0.12	272	40	2600
		82	10x8	0.12	328	40	2600
		100	8x12	0.12	400	22	3200
		120	10x10	0.12	480	35	2800
		150	10x12.7	0.12	600	20	4320
25 (1E)	28.7	6.8	6.3x6	0.12	85	80	1200
		10	8x7	0.12	125	60	1600
		22	10x8	0.12	275	50	2200
		33	8x12	0.12	413	30	2800
		47	8x12	0.12	588	30	3000
		47	10x10	0.12	588	45	2400
		56	10x12.7	0.12	700	28	3800

Note1: Case size Φ D x L(mm), ripple current (mA, rms) at 105 $^{\circ}$ C, 100KHz. 尺寸 Φ D x L(mm), 纹波电流於 105 $^{\circ}$ C, 100KHz

Note2: Produce custom product too, which are not found in these tables. 客户定制品不在标准品一览表内