



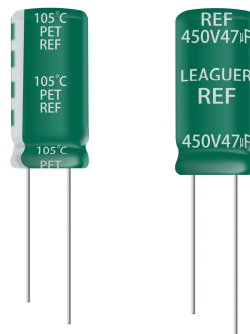
鋁電解電容器

Aluminum Electrolytic Capacitor

REF Series 铝电解电容器长寿命品

Long life products of aluminum electrolytic capacitor

- LED 照明用 For LED Lighting
- 寿命: +105 °C 12000~20000 小时 Life time: +105 °C 12000~20000Hrs
- 符合 RoHS 指令 RoHS compliance



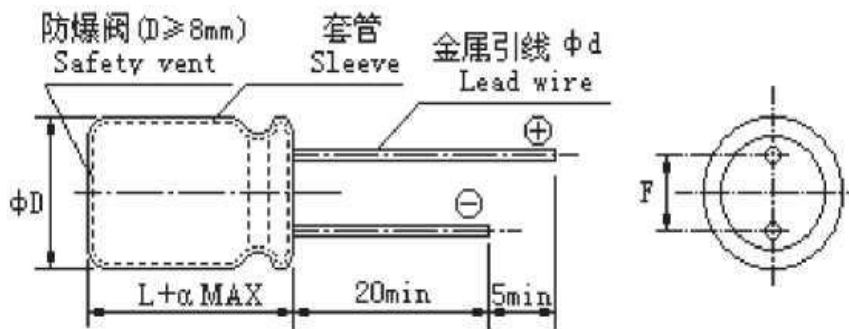
主要技术性能 Specifications

项目 Items	特 性 Characteristics																									
使用温度范围 Operating Temperature Range	-40~+105°C	-25~+105°C																								
额定电压范围 Rated Voltage Range	160 ~ 400V. DC	450V. DC																								
标称电容量允许偏差 Capacitance Tolerance	±20% (120Hz, 20°C)																									
漏电流(20°C) Leakage Current	CV≤1000																									
	CV>1000																									
	I=0.1CV+40µA (1minute) I=0.03CV+15µA (5minutes)	I=0.04CV+100µA (1 minute) I=0.02CV+25µA (5 minutes)																								
	I=Leakage Current(µA)	C=Capacitance(µF) V=Rated Voltage(Vdc)																								
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耐久性 Load Life	+105°C施加额定电压 12000~20000 小时, 恢复 16 小时后, 电容器应满足要求 After applying rated voltage for 12000~20000 hours at +105°C and then resumed 16 hours. The capacitor shall meet the following limits.																									
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高温贮存 Shelf Life	+105°C, 1000 小时, 然后按 JISC5101-4 第 4.1 项预处理后测量。 After storage for 1000 hours at +105 °C, the capacitor shall be preconditioned by applying voltage according to Item4.1 of JISC5101-4.																									
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■ 额定纹波电流的频率系数 Frequency coefficient of rated ripple current

频率 (Hz) CAP (μF)	120	1K	10K	100K≤
1~5.6μF	1.0	1.6	1.8	2.0
6.8~18μF	1.0	1.5	1.7	1.9
22~68μF	1.0	1.4	1.6	1.8

■ 外形图及尺寸 Case size table



mm

ΦD±0.5	6.3	8	10	12.5 or 13	16	18
L	11	9、12	9, 12, 16, 20	20, 25, 32	20, 25, 32	20, 25, 32
F±0.5	2.5	3.5	5.0		7.5	
Φd±0.05	0.5		0.6		0.8	
a	2.0					

REF Series

■ 规格壳号、最大允许纹波电流

Standard sizes & Maximum permissible ripple current

wv CAP (μF)	160V		200V		250V	
	Size	Ripple	Size	Ripple	Size	Ripple
2.2			6.3x11	36	6.3x11	36
3.3			6.3x11	42	6.3x11	42
4.7			6.3x11	49	8x9	53
5.6	6.3x11	52	8x9	56	8x12	62
6.8			8x9	62	8x12	68
8.2			8x9	66	10x9	76
10	8x9	70	8x12	80	10x13	90
12			10x9	88	10x13	97
15	8x12 10x9	92 95				
18			10x13	113	10x16	127
22	10x13	121				
27			10x16	149		
33	10x16	158				

wv CAP (μF)	400V		450V	
	Size	Ripple	Size	Ripple
1	6.3x11	24		
2.2	8x9 8x12	36 40		
3.3	8x12 10x9	47 48		
4.7	10x13	61	10x16 10x20	54 66
6.8	10x16	85	10x20	84
8.2			10x20	84
10			13x20	135
15			13x25	180
22			13x25 16x20	240 292
33			16x25 18x20	392 312
47			18x25	480
68			18x32	520

I~额定纹波电流 Rated ripple current: (mA, 105°C)