

**EP Series**

**Lug/Snap-in Terminal Type (插入/自立型) , Long Life Assurance at 105°C(长寿命品)**

**FEATURES 特点**

- 1 . High ripple current,Load life of 5000 hours at 105°C.
- 2 . Used in switching power supplies,inverter.

**SPECIFICATIONS 规格表**

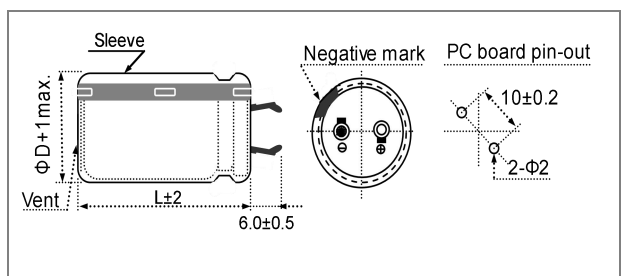
Item 项目	Performance Characteristics 特性参数								
Operation Temperature Range 工作温度范围	-40 to +105°C					-25 to +105°C			
Rated Working Voltage Range 额定电压范围	10 to 100V					160 to 450V			
Capacitance Tolerance 静电容量允许偏差	±20% (120HZ 20°C)								
Leakage Current 漏电流	LC≤3√CV (μA) after 5 minutes application of rated working voltage at +20°C 施加额定工作电压充电5分钟后读数。 [C : 静电容量(μF), V : 额定电压(V)]								
Dissipaom Factor (tan δ) 损失角正切值 (120Hz, +20°C)	Working Voltage(V)	10	16	25	35	50	63	80	100
	tan δ(max.)	0.6	0.45	0.3	0.25	0.2	0.15	0.15	0.15
	Working Voltage(V)	160~250	350~400	450					
	tan δ(max)	0.15	0.2	0.2					
For capacitance value>33000μF,add following calculated value: $\frac{(\text{Rated capacitance})-33000\mu\text{F}}{10000\mu\text{F}} \times 0.1$									
Low Temperature characteristics 温度特性(阻抗比)	Impedance ratio max. at 120 Hz 阻抗比最大值								
	Working Voltage(V)	10~25	35	50	63~100	160	250	400	450
	Z-25°C/Z+20°C	6	6	4	3	6	6	8	8
Z-40°C/Z+20°C	15	10	8	6	-	-	-	-	
High Temperature Loading (Endurance) 高温负荷寿命(耐久性)	Test conditions 试验条件				Post test requirements at +20°C 试验后特性应满足如下要求				
	Duration 持续时间	5,000 hours			Leakage current 漏电流	≤Initial specified value 初始规格值			
	Ambient temp. 环境温度	+105°C			Cap. Change 静电容量变化率	within ±30% of initial measured value 初始测试值的±30%内			
	Applied voltage 施加电压	DC voltage with maximum permissible ripple current specified at +105°C 施加直流电压与额定纹波电流(所加电压峰值[DC+AC]不超过额定工作电压)			D.F.(tan δ) 损失角正切值	≤200% of initial specified value 2倍初始规格值			
Before test requirement: Resumed 16 hours at normal temperature 测试前将电容在常温中放置16小时									
Shelf Life 高温储存寿命	Test conditions 试验条件				Post test requirements at +20°C 试验后特性应满足如下要求				
	Duration 持续时间	1,000 hours			Leakage current 漏电流	≤Initial specified value 初始规格值			
	Ambient temp. 环境温度	+105°C			Cap. Change 静电容量变化率	within ±20% of initial measured value 初始测试值的±20%内			
	Applied voltage 施加电压	(None) 无			D.F.(tan δ) 损失角正切值	≤200% of initial specified value 2倍初始规格值			
◆(Before the measurements, the capacitor shall be pretreated by applying DC working voltage for 30min, after discharged and then stored under standard atmospheric conditions for 24-48 hours) 测试前应将电容在常温中施加工作电压30分钟, 放电后在标准气压下放置24~48小时									
Other 其他	JIS C-5101 (IEC 60384)								

**Multiplier for Ripple Current vs. Frequency  
纹波电流频率修正系数**

If capacitors are used to filter circuits at a frequency other than 120Hz, the maximum ripple current must be multiplied by the figure shown in the table below.

Freq.(Hz)	60	120	1K	10~50K
10~100V	0.90	1.00	1.15	1.25
160~250V	0.80	1.00	1.3	1.43
350~450V	0.80	1.00	1.3	1.43

**CASE SIZE TABLE 尺寸图 (Unit : mm)**



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Voltage(Code)		10V(1A)		16V(1C)		25V(1E)		35V(1V)	
Cap.(μF)	Code	Case Size	R.C	Case Size	R.C	Case Size	R.C	Case Size	R.C
2200	222							22×25	1.1
3300	332							22×30	1.42
								25×25	1.41
3900	392					22×25	1.31	22×35	1.58
								25×30	1.58
4700	472					22×30	1.51	22×40	1.78
						25×25	1.51	25×30	1.70
								30×25	1.77
6800	682	22×25	1.30	22×30	1.66	22×40	1.92	22×50	2.26
						25×30	1.87	25×40	2.24
				25×25	1.66	30×25	1.9	30×30	2.25
								35×25	2.35
8200	822	22×25	1.45	22×35	1.87	22×45	2.15	25×50	2.57
						25×35	2.14	30×35	2.50
				25×25	1.85	30×30	2.16	35×30	2.55
						35×25	2.19		
10000	103	22×30	1.65	22×40	2.12	22×50	2.45	30×40	2.86
				25×30	2.07	25×40	2.43	35×35	2.88
		25×25	1.64	30×25	2.11	30×30	2.65		
								35×25	2.65
12000	123	22×35	1.85	22×45	2.45	25×50	2.78	30×50	3.32
		25×30	1.85	25×35	2.37	30×35	2.70	35×40	3.30
		30×25	1.89	30×30	2.37	35×30	2.76		
				35×25	2.42				
15000	153	22×40	2.12	22×50	2.74	30×40	3.13	35×45	3.75
		25×35	2.16	25×40	2.71	35×35	3.16		
		30×25	2.20	30×30	2.75				
				35×25	2.65				
18000	183	22×40	2.45	25×50	3.11	30×45	3.45	35×50	4.29
		25×35	2.43	30×35	3.02	35×40	3.61		
		30×30	2.37	35×30	3.09	35×50	3.64		
		35×25	2.42						
22000	223	22×45	2.65	30×40	3.46				
		25×40	2.70	35×35	3.49				
		30×35	2.73						
		35×30	2.79						
27000	273	22×45	3.11	30×50	4.07				
		25×40	3.15	35×40	4.04				
		30×35	3.25						
		35×30	3.28						
33000	333	22×50	3.35	35×40	4.65				
		25×45	3.40						
		30×35	3.48						
		35×35	3.49						
47000	473	30×45	4.15						
		35×40	4.62						

Maximum Allowable Ripple Current (A rms) at 105°C 120Hz

Case Size ΦD x L(mm)

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Voltage(Code)		50V(1H)		63V(1J)		80V(1K)		100V(2A)	
Cap.(μF)	Code	Case Size	R.C	Case Size	R.C	Case Size	R.C	Case Size	R.C
390	391							22×25	0.78
560	561							22×30	0.99
								25×25	0.98
680	681					22×25	0.97	22×35	1.12
								25×25	1.05
820	821					22×30	1.12	22×40	1.26
								25×30	1.23
								30×25	1.25
1000	102			22×25	1.00	22×35	1.70	22×45	1.41
						25×25	1.36	25×35	1.45
								30×30	1.42
								35×25	1.45
1200	122					22×40	1.75	22×50	1.60
						25×30	1.39	25×40	1.59
						30×25	1.41	30×35	1.61
								35×25	1.65
1500	152	22×25	1.02	22×35	1.32	22×40	1.80	25×50	1.86
				25×25	1.35	25×35	1.62	30×40	1.87
						30×25	1.65	35×30	1.85
1800	182	22×30	1.17	22×40	1.49	22×40	1.82	30×40	1.95
		25×25	1.17	25×35	1.45	25×35	1.85	35×35	2.07
				30×25	1.48	30×30	1.78		
2200	222	22×35	1.3	22×45	1.75	25×50	2.11	30×50	2.40
				25×35	1.67	30×35	2.05	35×40	2.39
		25×25	1.35	30×30	1.68	35×30	2.09		
3300	332	22×40	1.75	25×45	2.20	30×50	2.75		
		25×35	1.7	30×35	2.35	30×40	2.73		
		30×30	1.7	35×30	2.18				
4700	472	30×35	2.11	35×50	2.80	35×50	3.46		
		35×30	2.16	35×40	2.78				

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Voltage(Code)		160V(2C)		200V(2D)		250V(2E)		400V(2G)		450V(2W)	
Cap.(μF)	Code	Case Size	R.C	Case Size	R.C	Case Size	R.C	Case Size	R.C	Case Size	R.C
100	101							22×30	0.71	22×35	0.75
										25×30	0.75
120	121							22×35	0.8	22×40	0.78
										25×35	0.78
150	151							22×40	0.91	22×45	0.95
								25×35	0.91	25×40	0.95
								30×30	0.91	30×30	0.95
220	221					22×30	1.09	22×50	1.15	25×50	1.16
330	331			22×35	1.25	22×40	1.4	30×45	1.55	30×45	1.58
						25×30	1.42	35×35	1.55	35×35	1.58
390	391							30×50	1.62	30×45	1.65
470	471	22×35	1.62	22×45	1.55	22×55	1.79	30×50	1.9	35×50	1.98
				25×35	1.55	25×40	1.67	35×45	1.9		
560	561	22×40	1.77	22×50	1.73	25×45	1.98	35×50	2.12		
		25×30	1.81	25×40	1.73	30×35	1.95				
		30×25	1.81								
680	681	22×45	1.98	25×45	1.89	25×50	2.21	35×50	2.39		
		25×35	2.01	30×35	1.89	30×40	2.18				
		30×30	1.96	35×30	1.89	35×35	2.15				
820	821	22×50	2.2	25×50	2.22	30×45	2.45				
		25×40	2.24	30×40	2.22	35×35	2.38				
		30×35	2.2	35×35	2.2						
1000	102	25×45	2.55	30×45	2.53	30×50	2.68				
		30×40	2.55	35×40	2.69	35×40	2.72				
1200	122	25×50	2.93	30×50	2.84	35×45	3.05				
		30×45	2.84	35×45	2.86						
		35×35	2.86								
1500	152	30×50	3.22	35×50	3.34	35×50	3.49				
		35×40	3.22								
2000	222	35×50	4.14								

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