

LD Series

+105°C, High Ripple Current (高纹波), Long Life Assurance (长寿命) Low Impedance (低阻抗品)

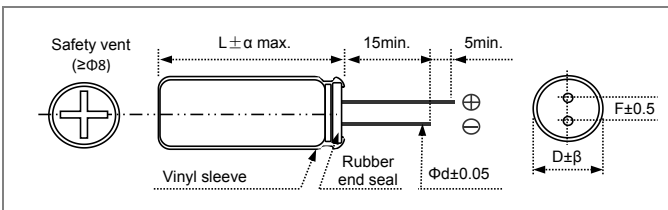
FEATURES 特点

- 1、Used in communication equipments, switching power supply, industrial measuring instruments, light emitting diode lamp(LED) drive source etc.
- 2、Long Life time: 3000~8000 hours at 105°C.

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								
Rated Working Voltage Range 额定电压范围	6.3 to 100V								
Nominal Capacitance Range 静电容量范围	0.47 to 4700µF								
Capacitance Tolerance 静电容量允许偏差	±20%(120Hz, +20°C)								
Leakage Current 漏电流	LC ≤ 0.01CV or 3(µA) Whichever is greater measured after 2 minutes application of rated working voltage at +20 °C 施加额定工作电压充电2分钟后读数, 二者取大值。 [C: 静电容量(uF), V: 额定电压(V)]								
Dissipation Factor (tan δ) 损失角正切值 (120Hz, +20°C)	Working Voltage(V)	6.3	10	16	25	35	50	63	100
	tan δ(max)	0.22	0.19	0.16	0.14	0.12	0.1	0.09	0.08
	For capacitance value > 1000µF, add 0.02 per another 1000µF 标称容量值超过1000uF, 则每增加1000uF, 损失角正切值增加0.02								
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)	6.3	10	16	25	35	50	63	100
	Z(-25°C)/ Z(+20°C)	4	3	2	2	2	2	2	2
	Z(-40°C)/ Z(+20°C)	8	6	4	3	3	3	3	3
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	3,000~8000 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 ±25% of initial measured value 初始测试值的±25%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 ±25% of initial measured value 初始测试值的±25%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)								

CASE SIZE TABLE 尺寸图 (Unit : mm)



ΦD	5	6.3	8(L<20)	8(L≥20)	10	13
F	2.0	2.5	3.5		5.0	5.0
Φd	0.5		0.5 or 0.6		0.6	
α	(L<20) 1.5			(L≥20) 2.0		
β	(D<20) 0.5			(D≥20) 1.0		

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

Frequency Coefficient 频率系数

Cap(µF)	50 Hz	120 Hz	300 Hz	1k Hz	100k Hz
15~33	0.35	0.55	0.70	0.90	1.00
39~330	0.55	0.70	0.85	0.95	1.00
470~1000	0.65	0.75	0.90	0.98	1.00
1200~3900	0.75	0.80	0.95	1.00	1.00

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STANDARD RATINGS 标准品一览表

Voltage(Code)		6.3V(0J)			10V(1A)			16V(1C)					
Cap.(μF)	Code	Case Size	Impedance	R.C	Case Size	Impedance	R.C	Case Size	Impedance	R.C			
100	101							5×11	0.300	280			
								6.3×12	0.220	340			
220	221				6.3×12	0.220	340	6.3×12	0.200	350			
330	331	6.3×12	0.220	340				8×12	0.130	640			
470	471				8×12	0.130	640	8×12	0.110	650			
								8×16	0.087	840			
								10×13	0.080	865			
560	561	8×12	0.130	640	8×12	0.130	640	10×13	0.080	865			
680	681	8×12	0.130	640	8×16	0.087	840	8×20	0.069	1050			
								10×13	0.080	865	10×13	0.065	1000
											10×16	0.060	1210
820	821	10×13	0.080	865				10×16	0.058	1250			
1000	102	8×16	0.087	840	8×14	0.075	890	10×16	0.050	1200			
								8×20	0.069	1050			
								10×16	0.060	1210	10×20	0.046	1400
1200	122	8×20	0.069	1050	10×16	0.055	1280	10×25	0.042	1650			
		10×16	0.060	1210	10×20	0.046	1400						
1500	152	10×20	0.046	1400	10×20	0.042	1650	10×20	0.060	1300			
											13×21	0.035	1900
2200	222	10×25	0.042	1650	13×21	0.035	1900	13×21	0.030	2124			
3300	332	10×20	0.041	1730	13×25	0.030	2124	13×25	0.029	2250			
		13×21	0.035	1900									
4700	472	13×25	0.030	2124									

Maximum Allowable Ripple Current (mA rms) at 105°C 100kHz
 Maximum Impedance (Ω) at 20°C 100kHz

Case Size ΦD x L(mm)

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STANDARD RATINGS 标准品一览表

Voltage(Code)		25V(1E)			35V(1V)			50V(1H)		
Cap.(μF)	Code	Case Size	Impedance	R.C	Case Size	Impedance	R.C	Case Size	Impedance	R.C
0.47	P47							5×11	5.000	15
1	001							5×11	2.400	18
2.2	2P2							5×11	2.000	22
3.3	3P3							5×11	2.000	32
4.7	4P7							5×11	1.500	43
10	010							5×11	1.500	68
22	022	5×11	0.73	130	5×11	0.550	150	5×11	1.200	130
33	033							6.3×12	0.950	295
47	047	5×11	0.7	220	6.3×12	0.220	340	6.3×12	0.650	295
56	056				6.3×12	0.220	340	6.3×12	0.300	295
68	068	6.3×12	0.500	280	6.3×12	0.220	340	6.3×12	0.290	330
								8×12	0.170	555
82	082	6.3×12	0.220	340	8×12	0.130	640	8×12	0.170	555
100	101	6.3×12	0.220	340				8×12	0.170	555
150	151				8×12	0.130	640	10×13	0.120	760
220	221	8×12	0.130	640	8×14	0.092	680	10×13	0.110	800
					8×16	0.087	840	10×16	0.100	850
					10×13	0.080	865			
330	331	8×16	0.087	840	10×16	0.060	1210	10×17	0.085	900
		10×13	0.800	865				10×25	0.055	1440
470	471	8×20	0.069	1050	10×20	0.046	1400	10×20	0.070	1480
		10×13	0.070	1000				13×21	0.045	1660
		10×16	0.060	1210						
560	561				10×25	0.042	1650	13×25	0.034	1950
680	681	10×16	0.055	1300	13×21	0.035	1900	13×21	0.065	1900
		10×20	0.046	1400						
820	821	10×25	0.042	1650	13×21	0.033	1950			
1000	102	10×20	0.040	1700	13×25	0.030	2124	13×25	0.042	1950
		13×21	0.035	1900				16×25	0.024	2050
1200	122	13×21	0.046	1400	13×25	0.029	2250			
1500	152	13×25	0.030	2124	13×25	0.028	2300	16×31	0.022	2200
1800	182	13×25	0.030	2124	16×25	0.027	2350	18×31	0.03	2250
2200	222	16×25	0.030	2124	16×25	0.030	2124	18×35	0.032	2500

Maximum Allowable Ripple Current (mA rms) at 105°C 100kHz

Case Size ΦD x L(mm)

Maximum Impedance (Ω) at 20°C 100kHz

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STANDARD RATINGS 标准品一览表

Voltage(Code)		63V(1J)			100V(2A)					
Cap.(μF)	Code	Case Size	Impedance	R.C	Case Size	Impedance	R.C			
10	010									
15	015				6.3×11	0.960	115			
22	022				8×12	0.504	232			
33	033	6.3×11	0.960	115	8×12	0.500	250			
47	047				10×13	0.344	314			
56	056	8×12	0.504	232	8×20	0.264	362			
68	068				10×16	0.248	357			
82	082	8×16	0.36	300	10×20	0.168	466			
		10×13	0.344	314						
100	101	10×13	0.342	325	10×17	0.163	480			
					10×25	0.16	531			
120	121	8×16	0.350	300	10×25	0.156	550			
		10×16/17	0.300	345						
150	121	8×20	0.264	362	13×21	0.128	690			
		10×16	0.248	357						
180	181	10×20	0.168	466	13×25	0.096	922			
220	221	10×17	0.18	475	13×25	0.095	950			
		10×20	0.163	490						
		10×25	0.16	531						
330	331	13×21	0.13	600	16×21	0.093	980			
		13×25	0.096	922						

Maximum Allowable Ripple Current (mA rms) at 105°C 100kHz

Case Size ΦD x L(mm)

Maximum Impedance (Ω) at 20°C 100kHz

Multiplier for Ripple Current vs. Temperature 纹波电流温度修正系数

Temperature Coefficient 温度系数

Temperature °C	45	60	70	85	95	105
Multiplier	1.8	1.5	1.45	1.3	1.2	1.0

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