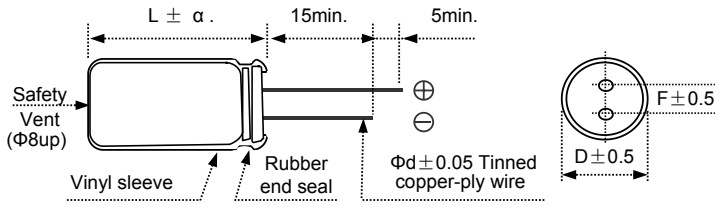
LM Series

- Low leakage current type
- LM:105℃ 1000 hours
- RoHS2.0 Compliant

◆ 规格表 Specifications

项目Items	特性参数Characteristics
使用温度范围 Category Temperture Range	-40 ~ +105℃
额定工作电压范围 Rated Voltage Range	6.3 ~ 100V.DC
静电容量允许偏差 Capacitance Tolerance	±20%(M) (at 20℃,120Hz)
漏电流 Leakage Current	I≤0.002CV or 0.4μA ，二者取最大值（施加额定工作电压2分钟后） Whichever is greater （After 2 minutes application of rated voltage ） Note： I= Max. leakage current (μA), C = Nominal capacitance (μF), V = Rated voltage (V) (at 20℃)
损耗角正切值tanδ Dissipation Factor	Rated voltage(V) 6.3 10 16 25 35 50 63 100 tanδ (Max.) 0.24 0.20 0.16 0.14 0.12 0.10 0.09 0.08 标称容量超过1000μF,则每增加1000μF,损耗角正切值增加0.02 When nominal capacitance exceeds 1000μF,add 0.02 to the value above for each 1000μF increase. (at 20℃,120Hz)
低温特性 Low Temperature Characteristics (Max.Impedance Ratio)	阻抗比值不得超过下表中列出的值 The impedance ratio shall not exceed the values listed in the below table. (at 120Hz) Rated voltage(V) 6.3 10 16 25 35 50 63 100 Z(-25℃)/Z(+20℃) 4 3 2 2 2 2 2 2 Z(-40℃)/Z(+20℃) 8 6 4 3 3 3 3 3
耐久性 Endurance	在105℃环境中，不超过额定电压的范围内叠加最大允许纹波电流，连续1000小时，经恢复到20℃后,电容器满足以下各项要求。 The following specifications shall be satisfied when the capacitors are restored to 20℃ after applied within maximum allowable ripple current and not over rated voltage range for 1000 hours at 105℃. Capacitance change ≦±20% of the initial value D.F.(tanδ) ≦150% of the initial specified value Leakage current ≦The initial specified value
高温储存特性 Shelf Life	在105℃环境中，不施加电压条件下储存1000小时，经恢复到20℃后，电容器满足以下各项要求。 The following specifications shall be satisfied when the capacitors are restored at 20℃ after exposing them for 1000 hours at 105℃ without voltage applied. Capacitance change ≦±20% of the initial value D.F.(tanδ) ≦200% of the initial specified value Leakage current ≦200% of the specified value

◆ 尺寸图（单位：mm）DIMENSIONS (Unit:mm)



ΦD	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.5	0.6	0.6	0.8	0.8

α	(L<20)1.5
	(L≥20)2.0

◆ 纹波电流补正系数 Rated Ripple Current Coefficient

● 频率系数 Frequency Coefficient

Frequency(Hz) / Coefficient / Capacitance(μF)	50	120	300	1k	10k	100k
0.1 ~ 4.7	0.65	1.00	1.35	1.75	2.30	2.50
10 ~ 47	0.75	1.00	1.25	1.50	1.75	1.80
100 ~ 1,000	0.80	1.00	1.15	1.30	1.40	1.50
2,200 ~ 10,000	0.85	1.00	1.03	1.05	1.08	1.08

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◆ 标准品一览表Standard Ratings

WV(V) / cap.(μF)	6.3(0J)		10(1A)		16(1C)		25(1E)	
4.7							5×11	48
6.8							5×11	55
10					5×11	58	5×11	58
15					5×11	60	5×11	60
22			5×11	62	5×11	62	5×11	62
33	5×11	70	5×11	70	5×11	70	5×11	70
47	5×11	80	5×11	80	6.3×11	140	5×11	80
68	5×11	90	6.3×11	150	6.3×11	150	8×12	190
100	5×11	100	6.3×11	185	8×12	234	8×12	234
150	6.3×11	140	8×12	250	8×12	250	10×13	375
220	6.3×11	230	8×12	320	10×13	374	10×16	420
330	6.3×11	280	10×13	410	10×16	423	10×20	490
470	10×13	390	10×16	530	10×20	550	13×20	660
680	10×16	480	10×20	610	13×20	735	13×25	810
1,000	10×20	655	13×20	810	13×25	920	16×26	1010
1,500	13×20	910	13×25	1020	16×26	1150	16×32	1270
2,200	13×20	1065	16×26	1200	16×26	1310	16×35	1450
3,300	16×2 5	1,270	16×32	1,430	16×35	1,550	18×40	1,730
4,700	16×32	1,510	16×35	1,650	18×36	1,830		
6,800	16×26	1,760	18×36	1,895	← Maximum allowable ripple curren at105℃/120Hz(mA.r.m.s)			
10,000	18×40	1,910			case size ： ΦD×L(mm)			

WV(V) / Cap.(μF)	35(1V)		50(1H)		63(1J)		100(2A)	
0.1			5×11	1.2			5×11	1.2
0.15			5×11	1.7			5×11	1.7
0.22			5×11	2.4			5×11	2.4
0.33			5×11	3.5			5×11	3.5
0.47			5×11	5.2			5×11	5.2
0.68			5×11	7.5			5×11	7.5
1.0			5×11	10.8			5×11	10.8
1.5			5×11	17			5×11	17
2.2			5×11	24			5×11	24
3.3			5×11	41			5×11	41
4.7	5×11	46	5×11	46			5×11	46
6.8			5×11	55	5×11	55	6.3×11	66
10	5×11	72	5×11	72	6.3×11	75	8×12	92
15	5×11	90	6.3×11	95	6.3×11	95	8×12	112
22	6.3×11	110	6.3×11	110	8×12	116	10×13	137
33	6.3×11	145	8×12	165	8×12	165	10×16	184
47	8×12	195	8×12	195	10×13	204	10×20	222
68	8×12	235	10×13	255	10×16	271	10×20	292
100	10×13	305	10×16	325	10×20	333	13×20	375
150	10×16	405	10×20	425	13×20	453	13×25	475
220	10×20	445	13×20	495	13×20	495	16×26	582
330	13×20	555	13×20	555	13×25	712	16×32	735
470	13×25	685	16×26	760	16×26	760	18×36	912
680	16×26	850	16×26	850	16×32	1,052		
1,000	16×26	1,110	16×32	1,150	18×36	1,332		
1,500	16×35	1,395	18×40	1,490	← Maximum allowable ripple curren at105℃/120Hz(mA.r.m.s)			
2,200	18×36	1,585			case size ： ΦD×L(mm)			

※铝电解电容器由于在纹波电流叠加时自我发热 、温度上升而老化，中心温度每升温5℃寿命减少一半。要想保持长寿命请在使用过程中降低纹波电流 。
The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5℃ rise.When long life performance is required in actual use,the rms ripple current has to be reduced.