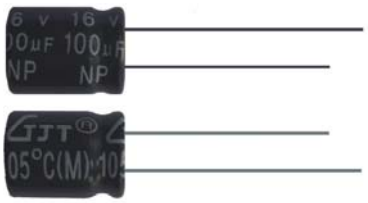
NP

105℃, Non-polarized
无极性品

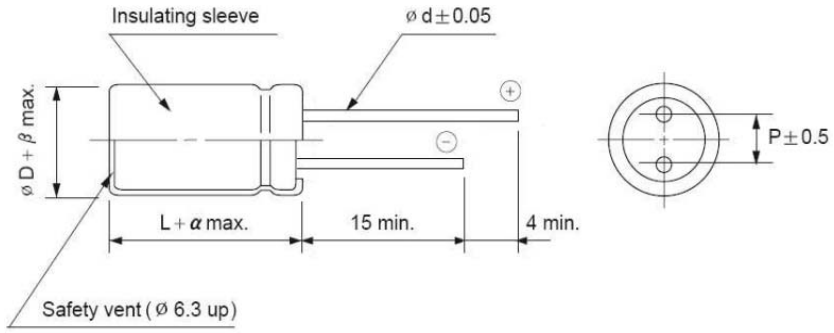


- 105℃, 1000 hours assured.
  105℃, 1000 小时寿命品。
- Suitable for use in circuits which has a reversed or unknown polarity.
  适用于极性交替或未知极性的线路

■Specifications 特性表

Items 项目	Characteristics 主要特性
Rated Voltage Range 额定工作电压范围	6.3~250V_{dc}
Category Temperature Range 使用温度范围	-40 ~ +105℃
Capacitance Tolerance 静电容量允许偏差	±20% (M), at 20℃, 120Hz
Leakage Current 漏电流, 20℃环境下施加工作电压 2 分钟后. (at 20℃,After 2 minutes)	I≤0.01CV or 3uA， whichever is greater 漏电流≤0.01CV or 3uA, 取较大值 Where, I : Max. leakage current (漏电流, μA), C : Nominal capacitance (静电容量, μF), V : Rated voltage (额定电压 V)
Dissipation Factor (Tanδ, at 20℃ ,120Hz) 损耗角正切值 (测试条件为 20℃,120Hz)	Rated voltage (V) 额定工作电压: 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 / 160~250 Tanδ (Max.) 最大损耗角正切: 0.28 / 0.24 / 0.20 / 0.16 / 0.14 / 0.12 / 0.10 / 0.10 / 0.16 When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. 静电容量大于1000uF，每增加1000uF，损耗角正切增加0.02
Low Temperature Characteristics (Max. Impedance Ratio, 120Hz) 低温特性最大阻抗比	Rated voltage (V) 额定工作电压: 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 / 160~250 Z(-25℃)/Z(20℃): 4 / 3 / 3 / 2 / 2 / 2 / 2 / 2 / 2 Z(-40℃)/Z(20℃): 8 / 6 / 6 / 4 / 4 / 3 / 3 / 3 / 4
Endurance 耐久性	The following specification shall be satisfied when the capacitors are restored to 20℃ after subjected to DC voltage with the ripple current is applied for the specified period of time at 105℃. 在 105℃环境中,不超过额定电压的范围下叠加额定纹波电流，连续加载规定时间的额定电压后，待温度恢复到 20℃进行测量时，应满足以下要求。 Test Time 测试时间: 1,000Hrs Capacitance Change 静电容量变化率: Within ±20% initial value 初始值的±20%以内 Dissipation Factor 损耗角正切: ≤200% of specified value 不大于规范值的 200% Leakage Current 漏电流: ≤The initial specified value 不大于规范值
Shelf Life 高温贮存	The above specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of IEC 60384-4. 在 105℃环境中，无负荷放置 1,000 小时后待温度恢复到 20℃，进行试验前处理(IEC 60384-4 4.1 项)后进行测量时，应满足以下要求. Capacitance Change 静电容量变化率: Within ±20% initial value 初始值的±20%以内 Dissipation Factor 损耗角正切值: ≤200% of specified value 不大于规范值的 200% Leakage Current 漏电流: ≤The initial specified value 不大于规范值

■Drawing(Unit: mm) 外形图



ΦD	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5			0.6		0.8	
α	1.0			1.5			
β	0.5						

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

Frequency 频率 (Hz)		60Hz	120Hz	300Hz	1KHz	10KHz~
Coefficient 系数	Under 10μF	0.77	1.00	1.30	1.45	1.65
	10 to 1,00	0.80	1.00	1.25	1.35	1.45
	1,00 up above	0.80	1.00	1.15	1.25	1.35

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5℃ rise.
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，每升温 5℃寿命减少一半。
When long life performance is required in actual use, the rms ripple current has to be reduced.
要想保持长寿命请在使用过程中降低纹波电流。

NP Series

■Standard ratings 标准品一览表

WV / μF	6.3		10		16		25		35		50	
	ΦD x L	R.C.	ΦD x L	R.C.	ΦD x L	R.C.	ΦD x L	R.C.	ΦD x L	R.C.	ΦD x L	R.C.
0.1											5×11	4
0.22											5×11	5
0.33											5×11	6
0.47											5×11	7
1											5×11	10
2.2											5×11	15
3.3											5×11	18
4.7									5×11	21	5×11	22
10					5×11	27	5×11	27	5×11	30	6.3×11	37
22	5×11	34	5×11	34	5×11	40	6.3×11	46	6.3×11	51	8×11.5	63
33	5×11	45	5×11	45	5×11	49	6.3×11	56	8×11.5	72	8×11.5	77
47	5×11	54	5×11	54	6.3×11	67	6.3×11	67	8×11.5	86	10×12.5	105
100	5×11	80	6.3×11	90	6.3×11	85	8×11.5	110	10×12.5	145	10×16	170
	6.3×11	90			8×11.5	110			10×16	160	10×20	190
220	8×11.5	150	8×11.5	150	8×11.5	180	10×12.5	195	10×20	265	12.5×20	315
					10×12.5	195	10×16	215	12.5×20	290	12.5×25	340
330	8×11.5	185	10×12.5	220	10×12.5	245	10×16	295	12.5×20	350	16×25	460
			10×16	240	10×16	265	12.5×20	320				
470	10×12.5	260	10×16	160	10×16	315	12.5×20	360	12.5×25	465	16×31.5	590
			10×20	290	10×20	345	12.5×25	380				
1000	10×16	350	10×20	430	12.5×20	500	16×25	670	16×31.5	805		
	10×20	460	12.5×20	510	12.5×25	605						
2200	12.5×25	820	16×25	940	16×31.5	1070	18×35.5	1140				
3300	16×25	950	16×31.5	1150								

WV / μF	63		100		160		200		250	
	ΦD x L	R.C.	ΦD x L	R.C.	ΦD x L	R.C.	ΦD x L	R.C.	ΦD x L	R.C.
0.1	5×11	5	5×11	5						
0.22	5×11	6	5×11	6						
0.33	5×11	6	5×11	7						
0.47	5×11	8	5×11	8	5×11	8	5×11	9	6.3×11	10
1.0	5×11	11	5×11	12	6.3×11	11	8×11.5	12	8×11.5	13
2.2	5×11	16	6.3×11	20	8×11.5	18	8×11.5	22	10×12.5	26
3.3	5×11	20	6.3×11	25	8×11.5	26	10×12.5	30	10×16	37
4.7	6.3×11	24	6.3×11	30	10×12.5	31	10×16	37	10×20	50
10	6.3×11	40	8×11.5	50	10×16	60	10×20	66	10×20	79
22	8×11.5	68	10×16	97	12.5×20	117	12.5×20	117	12.5×25	138
33	10×12.5	98	10×20	140	12.5×20	143	12.5×25	158	16×25	169
47	10×16	130	12.5×20	170	16×25	188				
100	12.5×20	225	16×25	300						
220	16×25	405	16×35.5	510						
330	16×31.5	535								
470	18×35.5	680								

Note1: Case size ΦD x L(mm), ripple current (mA, rms) at 105℃, 120Hz. 尺寸 ΦD x L(mm), 纹波电流於 105℃, 120Hz

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