

NP Series
NON-POLARIZED
无极性品

- Standard non-polarized series
无极性标准品系列
- Designed for use in circuits with reversing polarity
适用于机型变换电路
- Load life of 2000 hours at 85°C
在 85°C 环境中负荷寿命 2000 小时



NP

Higher Temperature
宽温化

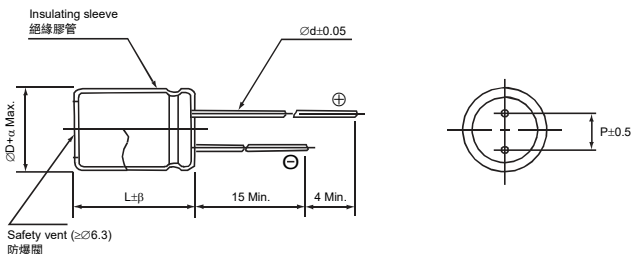
Comply with the RoHS & REACH
NK

符合 RoHS 与 REACH

SPECIFICATIONS 特性表

Items 项目	Characteristics 主要特性
Operation Temperature Range 使用温度范围	-40 ~ +85°C
Voltage Range 额定工作电压范围	6.3 ~ 250V
Capacitance Range 静电容量范围	0.47 ~ 10000μF
Capacitance Tolerance 静电容量允许偏差	±20% at 120Hz, 20°C
Leakage Current 漏电流	Leakage current ≤0.03CV or 3μA, whichever is greater (after 5 minutes application of rated voltage at 20°C) 漏电流 ≤0.03CV 或 3μA, 取较大值 (在 20°C 环境中施加额定工作电压 5 分钟后) C: Nominal capacitance (μF) 标称静电容量, V: Rated voltage (V) 额定电压
Dissipation Factor (tan δ) 损耗角正切	When nominal capacitance is over 1000μF, tan δ shall be added 0.02 to the listed value with increase of every 1000μF. 当标称静电容量大于 1000μF, 其标称静电容量每增加 1000μF, 损耗角正切增加 0.02. Measurement frequency 测试频率: 120Hz, Temperature 温度: 20°C
Stability at Low Temperature 低温特性	Rated Voltage (V) 额定工作电压
	tan δ (max.) 最大损耗角正切
	Measurement frequency 测试频率: 120Hz
	Rated Voltage (V) 额定工作电压
Load Life 高温负荷特性	After 2000 hours application of the rated voltage at 85°C, they meet the characteristics listed below. 在 85°C 环境中施加额定工作电压 2000 小时, 电容器的特性符合下表的要求。
	Capacitance Change 静电容量变化率
	Dissipation Factor 损耗角正切
	Leakage Current 漏电流
Shelf Life 高温储存特性	After leaving capacitors under no load at 85°C for 1000 hours, they meet the specified value for load life characteristics listed above. 在 85°C 环境中无负荷放置 1000 小时后, 电容器的特性符合高温负荷特性中所列的规定值。
Marking 标识	Printed with white colour on black sleeve (PVC) or printed with white colour on green sleeve (PET). 黑色胶管白字印刷 (PVC) 或绿色胶管白字印刷 (PET)。

DRAWING 外形图 (Unit: mm)



ØD	5	6.3	8 (L≤11.5)	8 (L≥16)	10	13	16	18	22	25
P	2.0	2.5	3.5	5.0	7.5	10.0	12.5			
Ød	0.5	0.5	0.6	0.6	0.8	0.8	0.8			
β	1.5	1.5	2.0	2.0	2.0	2.0	2.0			
α	0.5	0.5	1.0	1.0	1.0	1.0	1.0			

FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT 纹波电流频率补偿系数

Frequency 频率	50Hz	120Hz	300Hz	1kHz	10kHz~
Coefficient 系数	0.1 ~ 47μF	0.75	1.00	1.35	2.0
	68 ~ 680μF	0.80	1.00	1.25	1.5
	1000 ~ 10000μF	0.85	1.00	1.10	1.15

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5~10°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced. 铝电解电容器在叠加纹波电流后会起发热, 温度每上升 5~10°C 寿命会减半。若要保持长寿命性能, 请在使用过程中适当降低纹波电流。

NP Series

□ DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT 规格尺寸及最大允许纹波电流

μF	WV Code 代码	6.3		10		16		25		35		50		63	
		0J		1A		1C		1E		1V		1H		1J	
0.47	R47											5 x 11	12	5 x 11	12
0.68	R68											5 x 11	14	5 x 11	14
1	010											5 x 11	18	5 x 11	18
1.5	1R5											5 x 11	21	5 x 11	21
2.2	2R2											5 x 11	26	5 x 11	26
3.3	3R3											5 x 11	32	5 x 11	32
4.7	4R7											5 x 11	38	5 x 11	38
6.8	6R8											5 x 11	46	5 x 11	46
10	100											5 x 11	55	6.3 x 11.5	64
15	150									5 x 11	61	6.3 x 11.5	78	6.3 x 11.5	78
22	220							5 x 11	73	6.3 x 11.5	84	6.3 x 11.5	94	8 x 11.5	111
33	330					5 x 11	78	6.3 x 11.5	103	6.3 x 11.5	103	8 x 11.5	136	10 x 12	158
47	470			5 x 11	87	5 x 11 (6.3 x 11.5)	92 (107)	6.3 x 11.5	123	8 x 11.5	145	10 x 12	189	10 x 16	207
68	680	5 x 11	100	6.3 x 11.5	120	6.3 x 11.5	129	8 x 11.5	175	10 x 12	203	10 x 16	249	10 x 20	272
100	101	6.3 x 11.5	139	6.3 x 11.5	145	8 x 11.5	184	10 x 12	247	10 x 16	270	10 x 20	329	10 x 20	329
150	151	6.3 x 11.5	171	8 x 11.5	210	10 x 12	262	10 x 12 (10 x 16)	300 (331)	10 x 20	361	10 x 20	404	13 x 21	474
220	221	8 x 11.5	244	10 x 12	295	10 x 16	347	10 x 12 (10 x 20)	310 (437)	10 x 20	437	13 x 21	574	13 x 25	625
330	331	10 x 12	347	10 x 16	396	10 x 20	464	10 x 20	535	13 x 21	628	16 x 25	850	16 x 25	850
470	471	10 x 16	454	10 x 20	516	10 x 20	553	13 x 21	750	13 x 21	818	16 x 31	1110	16 x 35	1164
680	681	10 x 20	595	13 x 21	729	13 x 21	781	13 x 25	984	16 x 25	1091	18 x 35	1503	18 x 40	1577
1000	102	13 x 21	847	13 x 21	883	13 x 25	1033	16 x 25	1323	16 x 35	1519	18 x 40	1912	22 x 40	2105
1500	152	13 x 21	999	13 x 25	1132	16 x 25	1338	16 x 35	1748	18 x 40	1968	22 x 40	2368	25 x 40	2607
2200	222	13 x 25	1272	16 x 25	1463	16 x 35	1781	18 x 40	2254	22 x 40	2481	25 x 50	3221		
3300	332	16 x 25	1672	16 x 35	1985	18 x 40	2890	22 x 40	2890	25 x 40	3157				
4700	472	16 x 35	2221	18 x 40	2579	22 x 40	2987	25 x 50	3927						
6800	682	18 x 40	2840	22 x 40	3214	25 x 50	4004								
10000	103	22 x 40	3516	25 x 50	4290										

μF	WV Code 代码	100		160		200		250	
		2A		2C		2D		2E	
0.47	R47	5 x 11	12						
0.68	R68	5 x 11	14						
1	010	5 x 11	18						
1.5	1R5	5 x 11	21						
2.2	2R2	5 x 11	26						
3.3	3R3	5 x 11	32	8 x 11.5	49	8 x 11.5	42	10 x 12	46
4.7	4R7	6.3 x 11.5	44	8 x 11.5	59	10 x 12	55	10 x 12	65
6.8	6R8	8 x 11.5	62	10 x 20	77	13 x 21	78	13 x 21	78
10	100	8 x 11.5 (8 x 16)	75 (80)	13 x 21	109	13 x 21	95	13 x 25	103
15	150	10 x 12	107	13 x 21	134	13 x 25	127	16 x 25	140
22	220	10 x 12 (10 x 16)	130 (142)	13 x 25	177	16 x 25	170	16 x 31	186
33	330	10 x 20	189	16 x 25	240	16 x 35	239	18 x 35	256
47	470	13 x 21	265	16 x 35	329	18 x 40	321		
68	680	13 x 25	348	18 x 35	425				
100	101	16 x 25	468						
150	151	16 x 25	573						
220	221	16 x 35	797						
330	331	18 x 40	1098						
470	471	22 x 40	1443						
680	681	25 x 40	1896					Case size 尺寸	Ripple current 纹波电流

● Case size ∅D×L(mm), ripple current (mA rms) at 85°C, 120Hz ● 尺寸∅D×L(mm), 纹波电流(mA rms)于 85°C, 120Hz

- Please refer to page 19 "Taping Specifications" & page 21 "Lead Forming & Cutting" about the taped or formed product spec. 编带与引线成型标准请查阅第19页“编带标准”及第21页“引线成型与剪脚”。
 - Please refer to page 20 "Packaging Specifications" for the minimum package quantity. 最小包装数量请查阅第20页“包装标准”。
 - Please refer to page 16 for the Part Number System. 产品编码规则请查阅第16页。

Note: All design and specifications are for reference only and is subject to change without prior notice. If any doubt about safety for your application, please contact us immediately for technical assistance before purchase.
注: 以上所提供的设计及特性参数仅供参考, 任何修改不作预先通知。如果在使用上有疑问, 请在采购前与我们联系, 以便提供技术上的协助。