

NP series

Features

- ◆ Standard non-polarized series for entertainment electronics.
- ◆ RoHs Compliant



Specifications

Item	Performance Characteristics								
Operating Temperature Range	-40~+85℃								
Rate Voltage Range	6.3~100VDC								
Capacitance Range	0.47~6800μF								
Capacitance Tolerance	±20% (120Hz, +20℃)								
Leakage current (+20℃, max.) Dissipation factor (tgδ)	I≤0.03CV or 3 (μA) After 5 minutes, whichever is greater measured with rated working voltage applied								
	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100
	D.F.(%)max.	26	24	22	20	16	14	12	10
For capacitance>1000μF, Add 2% per another 1000μF (120Hz, +20℃)									
Low Temperature Characteristics (120Hz)	Impedance ratio max.								
	Working Voltage(VDC)	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℃	10	8	6	5	4	4	3	3	
For capacitance>1000uf,Add 0.5 per another 1000uf For Z-25℃/Z+20℃,Add 1.0 per another 1000uf For Z-40℃/Z+20℃									
Load Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for 2000 hours at 85℃(The polarity shall be reversed every 250 hours).								
	Capacitance change	≤±20% of the initial value							
	D.F.(tgδ)	≤200% of the initial specified value							
	Leakage current	≤the initial specified value							
Shelf Life	After storing the capacitors under no load at 85℃ for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20℃,the shall meet the specified values for the load life characteristics listed above.								

Multiplier for Ripple Current vs. Frequency

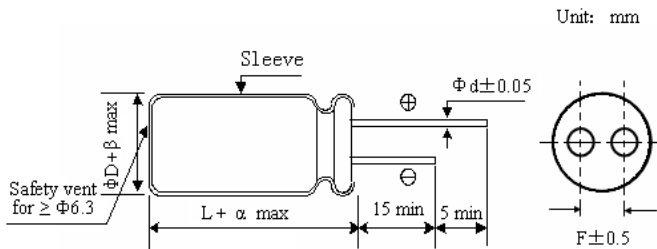
CAP(μF) Frequency (Hz)	50(60)	120	400	1k	10k	50k-100k
CAP ≤ 10	0.8	1	1.30	1.45	1.65	1.70
10<CAP≤ 100	0.8	1	1.23	1.36	1.48	1.53
100<CAP≤1000	0.8	1	1.16	1.25	1.35	1.38

Multiplier for Ripple Current vs. Temperature

Temperature ℃	45	60	70	85
Factor	1.80	1.50	1.30	1.00

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Diagram of Dimensions



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			
β	(D < 20) + 0.5			(D ≥ 20) + 1.0			

Standard Ratings

Voltage	6.3V		10V		16V		25V	
	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
4.7							5×11	26
10					5×11	42	5×11	42
22			5×11	57	5×11	57	6.3×12	65
33	5×11	64	5×11	64	5×11	70	6.3×12	80
47	5×11	76	5×11	76	6.3×12	95	6.3×12	95
100	6.3×12	125	6.3×12	125	8×12	160	8×12	160
220	8×12	215	8×12	215	10×12	275	10×17	305
330	8×12	265	10×17	345	10×17	375	13×21	450
470	10×13	370	10×17	410	10×20	485	13×21	540
1000	10×20	650	13×20	720	13×25	855	16×25	950
2200	13×25	1160	16×25	1280	16×30	1510	18×35	1620
3300	16×25	1570	16×30	1690	18×35	1980		
4700	16×30	2020	18×35	2160				
6800	18×35	2600						

Voltage	35V		50V		63V		100V	
	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
0.47			5×11	11			5×11	14
0.68			5×11	13				
1.0			5×11	17	5×11	18	5×11	21
1.5			5×11	20				
2.2			5×11	25			6.3×12	34
3.3			5×11	27	5×11	28	6.3×12	39
4.7	5×11	34	5×11	34	6.3×12	34	6.3×12	47
10	5×11	43	6.3×12	52	6.3×12	57	8×12	71
22	6.3×12	73	8×12	89	8×12	95	10×17	135
33	8×12	100	8×12	105	10×13	135	13×21	220
47	8×12	120	10×13	150	10×17	180	13×21	240
68			10×17	198				
100	10×17	230	10×20	265	13×21	320	16×25	425
220	13×21	410	13×25	480	16×25	575	18×35	720
330	13×21	505	16×25	650	16×30	655		
470	13×25	655	16×30	835	18×35	965		
1000	16×30	1140						

Max Allowable Ripple Current (mA,rms) at 85°C 120Hz, Case Size ΦD×L(mm)