

MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS



RN Non-Polarized, Wide Temperature Range Series

- Wide operating temperature range of -40 ~ +105°C
- Designed for use in circuits with reversing polarity

NP Non-polarized **S** Solvent Proof

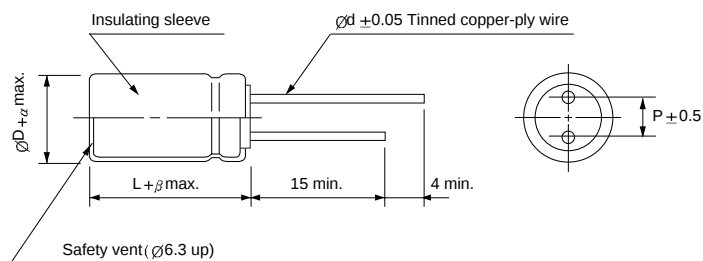
RD $\Rightarrow$ **RN**
Non-polar



Item	Characteristics									
Operating temperature range	-40 ~ +105℃									
Leakage current max.	I = 0.03CV or 3 μ A whichever is greater (after 5 minutes)									
Capacitance tolerance	$\pm$ 20% at 120Hz, 20℃									
Dissipation factor max. (at 120Hz, 20℃)	Capacitance > 1000 μ F : tan δ increases by 0.02 for each 1000 μ F from below value.									
	WV	6.3	10	16	25	35	50	63	80	100
	tan δ	0.24	0.20	0.16	0.16	0.14	0.12	0.12	0.12	0.12
Low temperature characteristics (Impedance ratio at 120Hz)	WV		6.3		10		16		25~100	
	Z-25℃/Z+20℃		4		3		2		2	
	Z-40℃/Z+20℃		8		6		4		3	
Load life (after application of the rated voltage for 1000 hours at 105℃)	Leakage current				Less than specified value					
	Capacitance change				Within $\pm$ 20% of initial value					
	tan δ				Less than 200% of specified value					
	Test method				Polarity reverse each 250 hours					
Shelf life (at 105℃)	After 1000 hours no load test, leakage current, capacitance and tan δ are same as load life value.									

DRAWING

Unit : mm



ØD	5	6.3	8	10	12.5	16	18	22	25.4
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0	12.5
Ød	0.5	0.5	0.6	0.6	0.6	0.8	0.8	1.0	1.0
β	1.0			2.0					
α	0.5							1.0	

PERMISSIBLE RIPPLE CURRENT MULTIPLIERS

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz~
~ 47	0.75	1	1.35	1.55	2.0
68 ~ 680	0.80	1	1.25	1.34	1.5
1000 ~	0.85	1	1.10	1.13	1.15

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RN series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

μF \ WV	6.3	10	16	25	35	50	63	80	100
0.1						5 × 11 3.6	5 × 11 3.9	5 × 11 3.9	5 × 11 4.2
0.15						5 × 11 4.4	5 × 11 4.8	5 × 11 4.8	5 × 11 5.1
0.22						5 × 11 5.3	5 × 11 5.8	5 × 11 5.8	5 × 11 6.2
0.33						5 × 11 6.5	5 × 11 7.2	5 × 11 7.2	5 × 11 7.5
0.47						5 × 11 7.8	5 × 11 8.5	5 × 11 8.5	5 × 11 9.2
0.68						5 × 11 9.4	5 × 11 10	5 × 11 10	5 × 11 11
1.0						5 × 11 11	5 × 11 12	5 × 11 12	5 × 11 13
1.5						5 × 11 14	5 × 11 15	5 × 11 15	5 × 11 16
2.2						5 × 11 17	5 × 11 18	5 × 11 18	5 × 11 19
3.3						5 × 11 21	5 × 11 23	6.3 × 11 26	6.3 × 11 27
4.7					5 × 11 23	5 × 11 25	6.3 × 11 31	6.3 × 11 31	8 × 11.5 39
6.8				5 × 11 26	5 × 11 27	6.3 × 11 34	6.3 × 11 37	8 × 11.5 44	10 × 12.5 54
10			5 × 11 31	5 × 11 31	6.3 × 11 38	6.3 × 11 41	8 × 11.5 53	10 × 12.5 62	10 × 12.5 65
15		5 × 11 34	5 × 11 38	6.3 × 11 44	8 × 11.5 55	8 × 11.5 60	10 × 12.5 76	10 × 12.5 76	10 × 16 88
22	5 × 11 38	5 × 11 41	6.3 × 11 53	8 × 11.5 63	8 × 11.5 67	10 × 12.5 84	10 × 16 101	10 × 16 101	
33	5 × 11 46	6.3 × 11 58	8 × 11.5 77	8 × 11.5 77	10 × 12.5 95	10 × 16 113	10 × 16 124	10 × 20 135	
47	6.3 × 11 63	6.3 × 11 69	8 × 11.5 92	10 × 12.5 106	10 × 16 125	10 × 20 147	10 × 20 161	12.5 × 20 189	
68	6.3 × 11 76	8 × 11.5 98	10 × 12.5 128	10 × 16 140	10 × 20 164	10 × 20 177	12.5 × 20 227	12.5 × 25 248	
100	8 × 11.5 109	10 × 12.5 139	10 × 16 170	10 × 20 185	10 × 20 198	12.5 × 20 251	12.5 × 25 300	16 × 25 333	
150	10 × 12.5 155	10 × 16 186	10 × 20 227	12.5 × 20 267	12.5 × 20 285	12.5 × 25 336	16 × 25 408	16 × 35.5 468	
220	10 × 12.5 188	10 × 20 246	12.5 × 20 323	12.5 × 20 323	12.5 × 25 376	16 × 25 451	16 × 35.5 567	18 × 35.5 609	
330	10 × 16 252	12.5 × 20 354	12.5 × 20 396	12.5 × 25 431	16 × 25 511	16 × 35.5 634	18 × 35.5 745	18 × 40 782	
470	10 × 20 328	12.5 × 20 422	12.5 × 25 515	16 × 25 571	16 × 35.5 701	18 × 35.5 812	18 × 40 933	22 × 40 1027	
680	12.5 × 20 464	12.5 × 25 554	16 × 25 687	16 × 35.5 788	18 × 35.5 904	18 × 40 1025	22 × 40 1236	25.4 × 40 1350	
1000	12.5 × 25 613	16 × 25 745	16 × 35.5 956	18 × 35.5 1026	18 × 40 1151	22 × 40 1368	25.4 × 40 1637		
1500	16 × 25 800	16 × 35.5 999	18 × 35.5 1184	18 × 40 1243	22 × 40 1451	25.4 × 40 1694			
2200	16 × 35.5 1072	18 × 35.5 1242	18 × 40 1428	22 × 40 1572	25.4 × 50 1974				
3300	18 × 35.5 1361	18 × 40 1534	22 × 40 1835	25.4 × 40 2005	Case size $\varnothing D \times L$ (mm) Ripple current (mA rms) at 105 °C, 120Hz				
4700	18 × 40 1650	22 × 40 1942	25.4 × 50 2498						
6800	22 × 40 2060	25.4 × 50 2603							
10000	25.4 × 50 2755								