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RN Non-polar Series

- Features: 85°C, 1000hrs, Non-polarized/Polarity reversing
- Recommended Applications:
Small crossover network, Reversed polarity circuit, Coupling
- Corresponding product to RoHS



■ Specifications

Item	Characteristics													
Operating Temperature Range	-40 ~ +85°C													
Rated Voltage Range	4 ~ 250VDC													
Rated Capacitance Range	0.1 ~ 6800 μ F													
Capacitance Tolerance	$\pm 20\%$ at 120Hz, 20°C													
Leakage Current (MAX) (20°C)	$I \leq 0.03CV + 4 \mu A$; $L=7mm, I \leq 0.05CV$ or $10 \mu A$ whichever is greater (After rated voltage applied for 2 minutes) $I =$ Leakage Current (μA) $C =$ Nominal Capacitance (μF) $V =$ Rated Voltage (V)													
Dissipation Factor (MAX) ($\tan \delta$) (120Hz, 20°C)	WV	4	6.3	10	16	25	35	50	63	80	100	160	200	250
	$\tan \delta$	0.35	0.24	0.2	0.17	0.15	0.15	0.15	0.10	0.10	0.10	0.20	0.20	0.20
When nominal capacitance is over 1000 μF $\tan \delta$ shall be added 0.02 to the listed value with increase of every 1000 μF .														
Low Temperature Stability Impedance Ratio (MAX)	WV	4	6.3	10	16	25	35	50	63	80	100	160	200	250
	$Z(120Hz)$													
	$Z(-25^\circ C) / Z(+20^\circ C)$	6	4	3	2	2	2	2	2	2	2	6	6	6
	$Z(-40^\circ C) / Z(+20^\circ C)$	12	8	6	4	4	3	3	3	3	3	12	12	12
Endurance	After applying rated voltage for 1000 hours at 85°C, the capacitors shall meet the following requirements. (The polarity shall be reversed every 250 hours)													
	Capacitance Change	Within $\pm 20\%$ of initial value												
	Dissipation Factor	Not more than 200% of the specified value												
	Leakage Current	Not more than the specified value												
Shelf Life	After placed at 85°C without voltage applied for 500 hours, the capacitors shall meet the same requirements as load life.													

■ Diagram of Dimensions

ϕD	4	5	6.3	8	10	13	16	18
P	1.5	2.0	2.5	3.5	5.0	5.0	7.5	7.5
ϕd	0.45	(0.45) 0.5	(0.45) 0.5	0.6	0.6	0.6	0.8	0.8
a	1.0	(1.0) 1.5	(1.0) 1.5	(1.0) 1.5	1.0	2.0	2.0	2.0

() : L = 7

■ Multiplier for Ripple Current

Frequency coefficient

WV(VDC) \ Freq.(Hz)	50	120	1K	10K
4 ~ 16	0.8	1.0	1.1	1.2
25 ~ 35	0.8	1.0	1.5	1.7
50 ~ 100	0.8	1.0	1.6	1.9
160 ~ 250	0.8	1.0	1.5	1.6



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■ Dimensions, Rated Ripple Current

Capacitance (μF)	Rated (Surge) Voltage																
	4 (5)		6.3 (8)		10 (13)		16 (20)		25 (32)		35 (44)		50 (63)		63 (79)		
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	
0.10														4x7	1	4x7	1
0.22														4x7	2	4x7	2
0.33														4x7	3	4x7	3
0.47														4x7	5	4x7	5
														5x11	5		
1.0														4x7	10	4x7	15
														5x11	10	5x11	10
2.2												4x7	15	4x7	20	5x7	25
														5x11	20	5x11	20
3.3										4x7	15	5x7	20	5x7	25	6.3x7	30
														5x11	30	5x11	30
4.7												5x7	25	6.3x7	30	6.3x7	35
							4x7	20	5x7	20	5x11	30	5x11	30	6.3x11	35	
10							5x7	30	5x11	40	5x11	40					
					4x7	25	5x11	40	6.3x7	35	6.3x7	40	6.3x11	45	6.3x11	55	
22					5x7	40	5x11	55	6.3x7	50							
			5x7	35	5x11	50	6.3x7	45	6.3x11	65	6.3x11	70	8x11	80	8x11	90	
33	5x7	35	5x7	40	5x11	65	5x11	70	6.3x7	65							
			5x11	60	6.3x7	50	6.3x7	60	6.3x11	80	8x11	100	8x11	105	10x12.5	135	
47			5x11	70	5x11	75	6.3x7	70									
	5x7	40	6.3x7	50	6.3x7	60	6.3x11	95	6.3x11	95	8x11	120	8x15	140	10x16	180	
100	6.3x7	60	6.3x11	115	6.3x11	125	8x11	160	8x11	160	10x16	230	10x20	265	13x20	320	
220			8x11	205	8x11	215	10x12.5	275	10x16	305	13x20	410	13x25	480	16x25	575	
330			8x11	265	10x16	345	10x16	375	13x20	450	13x20	505	16x25	650	16x32	750	
470			10x12.5	370	10x16	410	10x20	485	13x20	540	13x25	655	16x32	835	18x36	965	
1000			10x20	650	13x20	720	13x25	855	16x25	950	16x32	1140					
2200			13x25	1160	16x25	1280	16x32	1510	18x36	1620							
3300			16x25	1570	16x32	1690	18x36	1980									
4700			16x32	2020	18x36	2160											
6800			18x36	2600													

Capacitance (μF)	Rated (Surge) Voltage									
	80 (100)		100 (125)		160 (200)		200 (250)		250 (300)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.47			5x11	5	6.3x11	5				
1			5x11	10	6.3x11	15	6.3x11	15	8x11	15
2.2	5x11	30	6.3x11	25	8x11	20	8x11	20	10x12.5	25
3.3	6.3x11	35	6.3x11	35	10x12.5	30	10x12.5	30	10x12.5	30
4.7	6.3x11	40	6.3x11	40	10x12.5	35	10x16	40	10x16	40
10	8x11	65	8x11	70	10x16	55	13x20	70	13x20	70
22	10x16	105	10x16	135	13x25	105	13x25	120	16x25	135
33	10x16	160	13x20	220	16x25	165	16x25	165	16x32	180
47	10x20	215	13x20	240	16x26	200	16x32	220	16x36	230
100	13x25	385	16x25	425	18x36	360				
220	16x32	690	18x36	720						
330	18x36	860								

☆ Size: D φ x L (mm) ☆ Ripple Current : mArms/85°C, 120Hz