

# Non-Polar Aluminum Electrolytic Capacitors

NSRN Series

LOW PROFILE, SUB-MINIATURE, RADIAL LEADS,  
NON-POLAR ALUMINUM ELECTROLYTIC

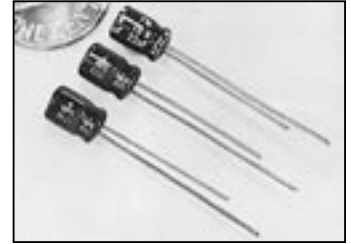
## FEATURES

- BI-POLAR
- 5mm HEIGHT / LOW PROFILE

## CHARACTERISTICS

Rated Voltage Range	6.3 ~ 50Vdc						
Rated Capacitance Range	0.1 ~ 47 $\mu$ F						
Operating Temperature Range	-40~+85°C						
Max. Leakage Current After 1 minute At 20°C	0.03CV + 6 $\mu$ A, whichever is greater						
Surge Voltage & Max. Tan $\delta$	W.V. (Vdc)	6.3	10	16	25	35	50
	S.V. (Vdc)	8	13	20	32	44	63
	Tan $\delta$ at 120Hz/20°C	0.24	0.22	0.20	0.20	0.20	0.18
Low Temperature Stability (Impedance Ratio At 120Hz)	W.V. (Vdc)	6.3	10	16	25	35	50
	Z-25°C/Z+20°C	4	3	2	2	2	2
	Z-40°C/Z+20°C	8	6	4	4	3	3
Load Life Test 85°C 1,000 Hours (reversing polarity every 250 hours)	Capacitance Change	Within $\pm$ 25% of initial measured value					
	Tan $\delta$	Less than 200% of specified value					
	Leakage Current	Less than specified value					

**RoHS Compliant**  
includes all homogeneous materials  
\*See Part Number System for Details



## MAXIMUM PERMISSIBLE RIPPLE CURRENT (mA rms AT 120Hz AND 85°C)

Cap. ( $\mu$ F)	Working Voltage (Vdc)					
	6.3	10	16	25	35	50
0.1	-	-	-	-	-	1.0
0.22	-	-	-	-	-	2.0
0.33	-	-	-	-	-	2.8
0.47	-	-	-	-	-	4.0
1.0	-	-	-	-	-	8.4
2.2	-	-	-	-	8.4	13
3.3	-	-	-	12	16	17
4.7	-	-	12	16	18	20
10	-	17	23	27	29	-
22	28	33	37	-	-	-
33	37	41	49	-	-	-
47	45	-	-	-	-	-

## MAXIMUM E.S.R. ( $\Omega$ AT 120Hz AND 20°C)

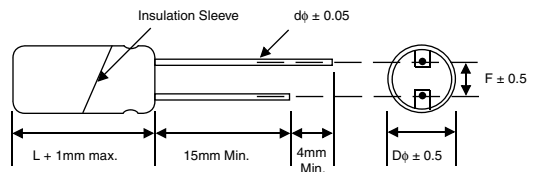
Cap ( $\mu$ F)	Working Voltage (Vdc)					
	6.3	10	16	25	35	50
0.1	-	-	-	-	-	2490
0.22	-	-	-	-	-	1132
0.33	-	-	-	-	-	755
0.47	-	-	-	-	-	530
1.0	-	-	-	-	-	249
2.2	-	-	-	-	113	113
3.3	-	-	-	85.5	75.5	75.5
4.7	-	-	60.0	60.0	53.0	53.0
10	-	33.2	28.2	28.2	24.9	-
22	18.1	15.1	12.8	-	-	-
33	12.1	10.1	8.05	-	-	-
47	8.47	-	-	-	-	-

## STANDARD PRODUCT AND CASE SIZE TABLE $D\phi \times L$ (mm)

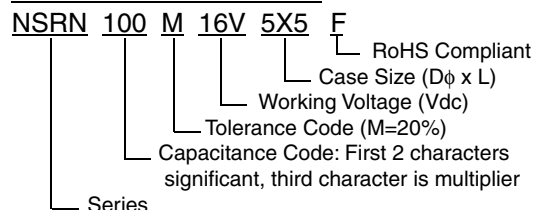
Cap. ( $\mu$ F)	Code	Working Voltage (Vdc)					
		6.3	10	16	25	35	50
0.1	R10	-	-	-	-	-	4x5
0.22	R22	-	-	-	-	-	4x5
0.33	R33	-	-	-	-	-	4x5
0.47	R47	-	-	-	-	-	4x5
1.0	1R0	-	-	-	-	-	4x5
2.2	2R2	-	-	-	-	4x5	5x5
3.3	3R3	-	-	-	5x5	5x5	5x5
4.7	4R7	-	-	4x5	5x5	5x5	6.3x5
10	100	-	4x5	5x5	6.3x5	6.3x5	-
22	220	5x5	6.3x5	6.3x5	-	-	-
33	330	6.3x5	6.3x5	6.3x5	-	-	-
47	470	6.3x5	-	-	-	-	-

## LEAD SPACING AND DIAMETER (mm)

Case Dia. (D $\phi$ )	4	5	6.3
Lead Space (F)	1.5	2.0	2.5
Lead Dia. (d $\phi$ )	0.45	0.45	0.45



## PART NUMBER SYSTEM



## PRECAUTIONS

Please review the notes on correct use, safety and precautions found on pages T10 & T11 of NIC's Electrolytic Capacitor catalog.  
Also found at [www.niccomp.com/precautions](http://www.niccomp.com/precautions)  
If in doubt or uncertainty, please review your specific application - process details with NIC's technical support personnel: [tpmg@niccomp.com](mailto:tpmg@niccomp.com)

