

SUBMINIATURE, RADIAL LEADS, POLARIZED

## FEATURES

- LOW PROFILE, 7mm HEIGHT
- STABLE & HIGH PERFORMANCE

## CHARACTERISTICS

Rated Voltage Range	6.3 ~ 63 VDC							
Capacitance Range	0.1 ~ 220 $\mu$ F							
Operating Temperature Range	-40 ~ +85°C							
Capacitance Tolerance	$\pm$ 20% (M)							
Max. Leakage Current @ (20°C)	After 2 min.	0.01CV or 3 $\mu$ A, whichever is greater						
Max. Tan $\delta$ @ 120Hz/20°C	W.V. (Vdc)	6.3	10	16	25	35	50	63
	S.V. (Vdc)	8	13	20	32	44	63	79
Low Temperature Stability Impedance Ratio @ 120Hz	Tan $\delta$	0.24	0.20	0.16	0.14	0.12	0.10	0.08
	Z-25°C/Z+20°C	4	3	2	2	2	2	2
	Z-40°C/Z+20°C	10	8	6	4	4	4	4
Load Life Test at Rated W.V. 85°C 1,000 Hours	Capacitance Change	Within $\pm$ 25% of initial measured value						
	Tan $\delta$	Less than 200% of specified maximum value						
	Leakage Current	Less than specified maximum 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	63
0.1	-	-	-	-	-	1.0	1.2
0.22	-	-	-	-	-	2.2	2.9
0.33	-	-	-	-	-	3.2	4.4
0.47	-	-	-	-	-	5.0	5.0
1.0	-	-	-	-	-	9	10
2.2	-	-	-	-	-	15	17
3.3	-	-	-	-	-	18	21
4.7	-	-	-	19	20	23	26
10	-	-	25	27	29	34	43
22	29	35	39	43	47	55	65
33	38	43	49	53	60	70	-
47	46	53	59	70	75	80	-
100	70	80	120	100	105	-	-
220	95	110	110	-	-	-	-
330	110	-	-	-	-	-	-

## MAXIMUM ESR ( $\Omega$ at 120Hz AND 20°C)

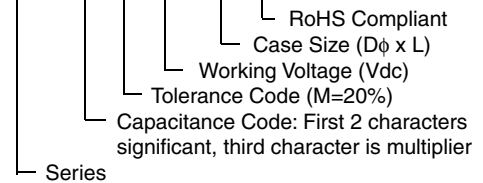
Cap ( $\mu$ F)	Working Voltage (Vdc)						
	6.3	10	16	25	35	50	63
0.1	-	-	-	-	-	1680	1320
0.22	-	-	-	-	-	754	604
0.33	-	-	-	-	-	503	404
0.47	-	-	-	-	-	353	283
1.0	-	-	-	-	-	188	133
2.2	-	-	-	-	-	75.4	60.4
3.3	-	-	-	-	-	50.3	40.4
4.7	-	-	-	49.5	42.4	35.3	26.3
10	-	-	26.6	23.3	19.9	16.6	6.04
22	18.1	15.1	12.1	10.6	9.05	7.54	4.04
33	12.1	10.1	8.05	7.04	6.03	4.80	-
47	8.47	7.06	5.65	4.85	4.24	3.53	-
100	3.98	3.32	2.88	2.33	1.90	-	-
220	2.49	1.51	1.21	-	-	-	-
330	2.21	-	-	-	-	-	-

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

Cap ( $\mu$ F)	Code	Working Voltage (Vdc)						
		6.3	10	16	25	35	50	63
0.1	R10	-	-	-	-	-	4 x 7	4 x 7
0.22	R22	-	-	-	-	-	4 x 7	4 x 7
0.33	R33	-	-	-	-	-	4 x 7	4 x 7
0.47	R47	-	-	-	-	-	4 x 7	4 x 7
1.0	1R0	-	-	-	-	-	4 x 7	4 x 7
2.2	2R2	-	-	-	-	-	4 x 7	4 x 7
3.3	3R3	-	-	-	-	-	4 x 7	4 x 7
4.7	4R7	-	-	-	4 x 7	4 x 7	4 x 7	5 x 7
10	100	-	-	4 x 7	4 x 7	4 x 7	5 x 7	6.3 x 7
22	220	4 x 7	4 x 7	4 x 7	5 x 7	5 x 7	6.3 x 7	6.3 x 7
33	330	4 x 7	4 x 7	5 x 7	5 x 7	6.3 x 7	6.3 x 7	-
47	470	4 x 7	5 x 7	5 x 7	6.3 x 7	6.3 x 7	6.3 x 7	-
100	101	5 x 7	6.3 x 7	6.3 x 7	6.3 x 7	6.3 x 7	-	-
220	221	6.3 x 7	6.3 x 7	6.3 x 7	-	-	-	-
330	331	6.3 x 7	-	-	-	-	-	-

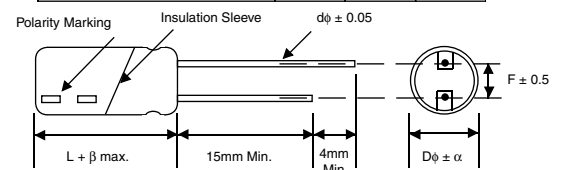
## PART NUMBERING SYSTEM

NRES 100 M 35V 4X7 F



## LEAD SPACING AND DIAMETER (mm)

Case Dia. (D $\phi$ )	4	5	6.3
Leads Dia. (d $\phi$ )	0.45	0.45	0.45
Lead Spacing (F)	1.5	2.0	2.5
Dim. $\alpha$	0.5	0.5	0.5
Dim. $\beta$	1.0	1.0	1.0



## 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)

