

Miniature Aluminum Electrolytic Capacitors

NRE-WB Series

NRE-WB SERIES HIGH VOLTAGE, RADIAL LEADS, EXTENDED TEMPERATURE

FEATURES

- HIGH VOLTAGE (UP THROUGH 450VDC)
- NEW REDUCED SIZES
- +105°C EXTENDED TEMPERATURE AND LOAD LIFE

RoHS

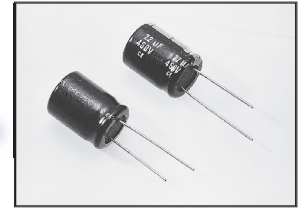
Compliant

includes all homogeneous materials

CHARACTERISTICS

*See Part Number System for Details

Rated Voltage Range	200 ~ 450VDC					
Capacitance Range	10 ~ 220μF					
Operating Temperature Range	-25°C ~ +105°C					
Capacitance Tolerance	±20% (M)					
Maximum Leakage Current @ 20°C	0.03CV +10μA after 2 minutes					
Max. Tan δ @ 120Hz/20°C	W.V.	200	250	350	400	450
	S.V.	250	300	400	450	500
	Tan δ	0.15	0.15	0.20	0.24	0.24
Low Temperature Stability Impedance Ratio @ 120Hz	Z-25°C/Z+20°C	3	3	4	6	6
Load Life Test at Rated W.V. +105°C 8,000 Hours: 10ϕ +105°C 10,000 Hours: 12.5ϕ & up	Capacitance Change	Within ±20% of initial measured value				
	Tan δ	Less than 200% of specified maximum value				
	Leakage Current	Less than specified maximum value				
Shelf Life Test +105°C 1,000 Hours with no load	Shall meet same requirements as in load life test					



MAXIMUM PERMISSIBLE RIPPLE CURRENT (mA rms AT 100KHz AND 105°C)

Cap. (μ F)	Working Voltage (Vdc)				
	200	250	350	400	450
10	-	-	-	300	350
22	600	560	-	-	680
33	650	710	-	900	850
68	-	1000	-	-	-
82	-	-	1100	-	-
220	2000	-	-	-	-

MAXIMUM ESR (Ω AT 100KHz AND 20°C)

Cap. (μ F)	Working Voltage (Vdc)				
	200	250	350	400	450
10	-	-	-	39.81	39.81
22	11.31	11.31	-	-	18.09
33	7.54	7.54	-	12.06	12.06
68	-	3.66	-	-	-
82	-	-	4.05	-	-
220	1.13	-	-	-	-

RIPPLE CURRENT FREQUENCY CORRECTION FACTOR

Cap. Value	Frequency (Hz)				
	50	120	1K	10K	100K
<100 μ F	0.30	0.40	0.70	0.90	1.0
$\geq 100\mu$ F	0.35	0.45	0.75	0.90	1.0

STANDARD PRODUCT AND CASE SIZE D ϕ x L (mm)

Cap. (μ F)	Code	Working Voltage (Vdc)				
		200	250	350	400	450
10	100	-	-	-	10x20	12.5x20
22	220	10x20	10x20	-	-	16x20
33	330	10x20	12.5x20	-	16x20	18x25
68	680	-	16x20	-	-	-
82	820	-	-	18x25	-	-
220	221	18x31.5	-	-	-	-

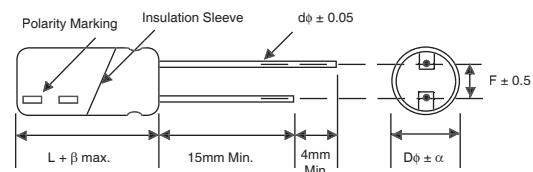
PART NUMBERING SYSTEM

NREWB 100 M 400V 10X20 F

NREWB: Series
 100: Capacitance Code: First 2 characters significant, third character is multiplier
 M: Tolerance Code (M=20%)
 400V: Working Voltage (Vdc)
 10X20: Case Size (D ϕ x L)
 F: RoHS Compliant

LEAD SPACING AND DIAMETER (mm)

Case Dia. (D ϕ)	10	12.5	16	18
Lead Dia. (d ϕ)	0.6	0.6	0.8	0.8
Lead Spacing (F)	5.0	5.0	7.5	7.5
Dim α	0.5	0.5	0.5	0.5

$$\beta = L < 20\text{mm} = 1.5\text{mm}, L > 20\text{mm} = 2.0\text{mm}$$


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
 If in doubt or uncertainty, please review your specific application - process details with NIC's technical support personnel: tpmg@niccomp.com

