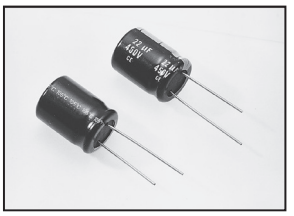
Miniature Aluminum Electrolytic Capacitors

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

*See Part Number System for Details

CHARACTERISTICS

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						

STANDARD PRODUCT AND CASE SIZE TABLE DϕxL (mm)

Cap. (µF)	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	-	-	-	-

LEAD SPACING AND DIAMETER (mm)

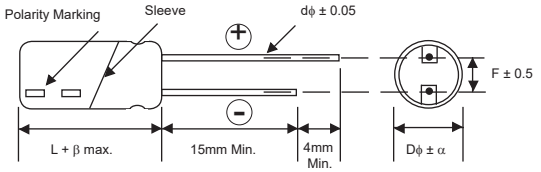
Case Dia. (Dϕ)	10	12.5	16	18
Lead Dia. (dϕ)	0.6	0.6	0.8	0.8
Lead Spacing (F)	5.0	5.0	7.5	7.5
Dim α	0.5	0.5	0.5	0.5

β = L < 20mm = 1.5mm, L > 20mm = 2.0mm

PART NUMBERING SYSTEM

NREWB 100 M 400V 10X20 F

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



Drawing is representative of parts as supplied in bulk or straight lead format, please see taping specification for details on taped format packaging.

STANDARD VALUES, SPECIFICATIONS AND CASE SIZES (mm)

Part Number	Cap. (µF)	W.V. (Vdc)	Dissipation Factor +20°C/120Hz	Ripple Current Rating (mA) +105°C/100KHz	Max. ESR (Ω) +20°C/100KHz	Load Life Hours @+105°C
NRE-WB220M200V10x20F	22	200	0.15	600	11.31	8,000
NRE-WB330M200V10x20F	33		0.15	650	7.54	8,000
NRE-WB221M200V18x31.5F	220		0.15	2000	1.13	10,000
NRE-WB220M250V10x20F	22	250	0.15	560	11.31	8,000
NRE-WB470M250V12.5x20F	33		0.15	710	5.29	10,000
NRE-WB680M250V16x20F	68		0.15	1000	3.66	10,000
NRE-WB820M350V18x25F	82	350	0.20	1100	4.05	10,000
NRE-WB100M400V10x20F	10	400	0.24	300	39.9	10,000
NRE-WB330M400V16x20F	33		0.24	900	12.1	10,000
NRE-WB100M450V12.5x20F	10	450	0.24	350	39.9	10,000
NRE-WB220M450V16x20F	22		0.24	680	18.1	10,000
NRE-WB330M450V18x25F	33		0.24	850	12.1	10,000

RIPPLE CURRENT FREQUECY CORRECTION FACTOR

Cap. Value	Frequency (Hz)				
	50	120	1K	10K	100K
<100µF	0.30	0.40	0.70	0.90	1.0
≥100µF	0.35	0.45	0.75	0.90	1.0

PRECAUTIONS

Please review the notes on correct use, safety and precautions found at
https://www.niccomp.com/resource/files/aluminum/AlumApplInfoCautions.pdf
If in doubt or uncertainty, please review your specific application - process details with NIC's technical support personnel: tpmg@niccomp.com