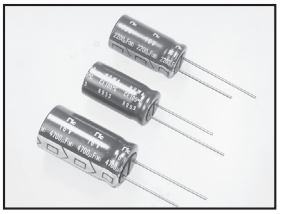
NRE-WY Series
Radial Leaded Aluminum Eectrolytic Capacitors

AEC-Q200 QUALIFIED

ROHS/REACH COMPLIANT HALOGEN FREE

NIC COMPONENTS
Performance Passives By Design

+130˚C WIDE TEMPERATURE RANGE, RADIAL LEADS, POLARIZED



FEATURES
- -40˚C** ~ +130˚C EXTENDED OPERATING TEMPERATURE RANGE
- LONG LIFE (1,000 ~ 4,000 Hours @ 130C)
- MEETS THE REQUIREMENTS OF AEC-Q200*

*Contact NIC for supporting test data

**200V and up -25°C ~ +130°C

CHARACTERISTICS

Rated Voltage Range	10 ~ 200Vdc							
Capacitance Range	1.0 ~ 4,700µF							
Operating Temperature Range	-40 ~ +130°C (10 to 100Vdc), -25°C ~ +130°C (200Vdc)							
Capacitance Tolerance	±20% (M)							
Max. Leakage Current	After 2 minutes	10 ~ 100Vdc: 0.01CV or 3µA whichever is greater						
	After 1 minute	200Vdc, 0.1CV+40µA						
	After 5 minutes	200Vdc, 0.03CV+15µA						
Max. Tan δ @ 120Hz/20°C	W.V. (Vdc)	10	16	25	35	50	63	200
	S.V. (Vdc)	13	20	32	44	63	79	250
	C ≤ 1000µF	0.20	0.16	0.14	0.12	0.10	0.09	0.15
	C = 1,500µF	-	-	-	-	-	0.09	-
	C = 2,200µF	0.22	0.18	0.16	0.14	0.12	-	-
	C = 3,300µF	0.24	0.20	0.18	0.16	-	-	-
	C = 4,700µF	0.26	0.22	-	-	-	-	-
Low Temperature Stability Impedance Ratio @ 120Hz	Z-25°C/Z+20°C	3	2	2	2	2	2	3
	Z-40°C/Z+20°C	6	4	3	3	3	3	-
Load Life Test at Rated W.V. 1000 ~ 4000Hrs @ 130°C (See part number table for hours)	10V ~ 100V	Cap. Change	Within ±30% of intial measured value					
		Tan δ	Less than 300% of specified max. value					
		Leakage Current	Less than specified maximum vlaue					
	200V	Cap. Change	Within ±20% of intial measured value					
		Tan δ	Less than 200% of specified max. value					
		Leakage Current	Less than specified maximum vlaue					
Shelf Life Test +130°C 1000Hrs	Capacitance Change	Within ±30% of intial measured value						
	Tan δ	Less than 300% of specified max. value						
	Leakage Current	Not more than 500% of specified max. value						

PART NUMBERING SYSTEM

NRE-WY 331 M 35V 10X16 TB Y F

- F — RoHS Compliant
- Y — Optional: For automotive equipment, sourced to special production and inspection at IATF-16949 certified production site
- TB = Tape & Box*
- 10X16 — Case Size (DϕxL)
- 35V — Working Voltage (Vdc)
- M — Tolerance Code (M=20%)
- 331 — Capacitance Code: First 2 characters significant, third character is multiplier
- NRE-WY — Series

*see tape specification for details

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**

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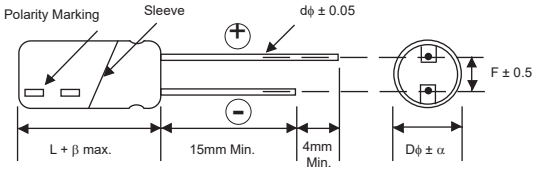
STANDARD PRODUCT AND CASE SIZE D ϕxL (mm)

Cap. (μF)	Code	Working Voltage (VDC)						
		10	16	25	35	50	63	200
15	150	-	-	-	-	-	-	8X16
								8X20
22	220	-	-	-	-	8X11.5	-	8X20
								10X16
33	330	-	-	-	-	8X11.5	8X11.5	10X20
47	470	-	-	-	-	8X11.5	10X12.5	-
100	101	-	-	-	8X11.5	10X12.5	10X16	-
220	221	-	-	8X11.5	10X12.5	10X20	12.5X20	-
330	331	8X11.5	8X11.5	10X12.5	10X16	12.5X20	12.5X25	-
470	471	10X12.5	10X12.5	10X16	10X20	12.5X25	16X25	-
1000	102	10X20	10X20	12.5X20	12.5X25	16X31.5	16X31.5	-
1500	152	-	-	-	-	-	18X40	-
2200	222	12.5X25	12.5X25	16X31.5	16X35.5	18X40	-	-
3300	332	16X25	16X31.5	16X35.5	18X35.5	-	-	-
4700	472	16X31.5	16X35.5	-	-	-	-	-

DIAMETER AND LEADSPACE (mm)

Case Dia. (Dϕ)	8	10	12.5	16	18
Lead Dia. (dϕ)	0.6			0.8	
Lead Spacing (F)	3.5	5.0		7.5	
Dim. α	0.5		1.0		
Dim. β	2.0				

DIMENSIONS (mm)



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

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COMPONENTS
Performance Passives By Design

Part Number	Cap. (µF)	W.V. (Vdc)	Dissipation Factor +20°C/120Hz	Ripple Current Rating (mA) +130°C/100KHz	Max. Impedance (Ω) +20°C/100KHz	Load Life Hours @+130°C
NRE-WY331M10V8X11.5F	330	10	0.20	360	0.22	2,000
NRE-WY471M10V10X12.5F	470		0.20	620	0.15	2,000
NRE-WY102M10V10X20F	1000		0.20	960	0.073	2,000
NRE-WY222M10V12.5X25F	2200		0.22	1430	0.040	4,000
NRE-WY332M10V16X25F	3300		0.24	1900	0.038	4,000
NRE-WY472M10V16X31.5F	4700		0.26	2300	0.034	4,000
NRE-WY331M16V8X11.5F	330	16	0.16	360	0.22	2,000
NRE-WY471M16V10X12.5F	470		0.16	620	0.15	2,000
NRE-WY102M16V10X20F	1000		0.16	960	0.073	2,000
NRE-WY222M16V12.5X25F	2200		0.18	1430	0.040	4,000
NRE-WY332M16V16X31.5F	3300		0.20	2300	0.034	4,000
NRE-WY472M16V16X35.5F	4700		0.22	2550	0.031	4,000
NRE-WY221M25V8X11.5F	220	25	0.14	360	0.22	2,000
NRE-WY331M25V10X12.5F	330		0.14	620	0.15	2,000
NRE-WY471M25V10X16F	470		0.14	800	0.10	2,000
NRE-WY102M25V12.5X20F	1000		0.14	1100	0.055	4,000
NRE-WY222M25V16X31.5F	2200		0.16	2300	0.034	4,000
NRE-WY332M25V16X35.5F	3300		0.18	2550	0.031	4,000
NRE-WY101M35V8X11.5F	100	35	0.12	360	0.22	2,000
NRE-WY221M35V10X12.5F	220		0.12	620	0.15	2,000
NRE-WY331M35V10X16F	330		0.12	800	0.10	2,000
NRE-WY471M35V10X20F	470		0.12	960	0.073	2,000
NRE-WY102M35V12.5X25F	1000		0.12	1430	0.040	4,000
NRE-WY222M35V16X35.5F	2200		0.14	2550	0.031	4,000
NRE-WY332M35V18X35.5F	3300		0.16	2800	0.028	4,000
NRE-WY220M50V8X11.5F	22	50	0.10	260	0.35	2,000
NRE-WY330M50V8X11.5F	33		0.10	300	0.28	2,000
NRE-WY470M50V8X11.5F	47		0.10	300	0.28	2,000
NRE-WY101M50V10X12.5F	100		0.10	520	0.18	2,000
NRE-WY221M50V10X20F	220		0.10	890	0.082	2,000
NRE-WY331M50V12.5X20F	330		0.10	1000	0.065	4,000
NRE-WY471M50V12.5X25F	470		0.10	1200	0.051	4,000
NRE-WY102M50V16X31.5F	1000		0.10	2180	0.037	4,000
NRE-WY222M50V18X40F	2200		0.12	2800	0.029	4,000
NRE-WY330M63V8X11.5F	33	63	0.09	250	0.40	2,000
NRE-WY470M63V10X12.5F	47		0.09	400	0.27	2,000
NRE-WY101M63V10X16F	100		0.09	450	0.20	2,000
NRE-WY221M63V12.5X20	220		0.09	820	0.10	4,000
NRE-WY331M63V12.5X25F	330		0.09	1000	0.072	4,000
NRE-WY471M63V16X25F	470		0.09	1500	0.069	4,000
NRE-WY102M63V16X31.5F	1000		0.09	1850	0.056	4,000
NRE-WY152M63V18X40F	1500		0.09	2350	0.043	4,000
NRE-WY150M200V8X16F	15	200	0.15	200	16.59	2,000
NRE-WY150M200V8X20F			0.15	240	16.59	2,000
NRE-WY220M200V8X20F	22		0.15	240	11.31	2,000
NRE-WY220M200V10X16F			0.15	240	11.31	2,000
NRE-WY330M200V10X20F	33		0.15	320	7.54	2,000

RIPPLE CURRENT CORRECTION FACTOR (10V ~ 63V)

Frequency (Hz)	60 (50)	120Hz	1KHz	10K	100K
330µF	0.60	0.70	0.85	0.95	1.0
470µF ~ 1500µF	0.65	0.75	0.90	0.98	1.0
2200µF ~ 4700µF	0.75	0.80	0.95	1.0	1.0

RIPPLE CURRENT CORRECTION FACTOR (200V)

Frequency (Hz)	120Hz	1KHz	10K	100K
15µF	0.30	0.60	0.90	1.0
22µF	0.50	0.80	0.90	1.0