

NRE-WY Series

Radial Leaded Aluminum Electrolytic Capacitors



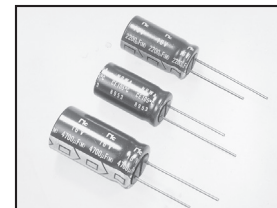
+130°C WIDE TEMPERATURE RANGE, RADIAL LEADS, POLARIZED

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

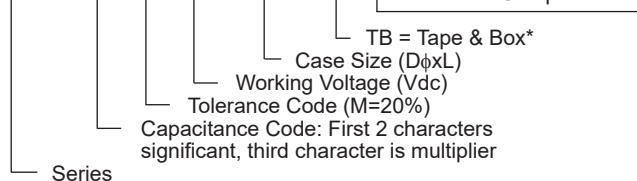


CHARACTERISTICS

Rated Voltage Range	10 ~ 400Vdc									
Capacitance Range	1.0 ~ 4,700μF									
Operating Temperature Range	-40 ~ +130°C (10 to 100Vdc), -25°C ~ +130°C (200 to 400Vdc)									
Capacitance Tolerance	±20% (M)									
Max. Leakage Current	After 2 minutes	10 ~ 100Vdc: 0.01CV or 3μA whichever is greater								
	After 1 minute	200Vdc, 400Vdc: 0.1CV+40μA								
	After 5 minutes	200Vdc, 400Vdc: 0.03CV+15μA								
Max. Tan δ @ 120Hz/20°C	W.V. (Vdc)	10	16	25	35	50	63	100	200	400
	S.V. (Vdc)	13	20	32	44	63	79	125	250	450
	C ≤ 1000μF	0.20	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.20
	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	-	-	-	-	-
Low Temperature Stability Impedance Ratio @ 120Hz	Z-25°C/Z+20°C	3	2	2	2	2	2	2	3	6
	Z-40°C/Z+20°C	6	4	3	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 initial measured value							
		Tan δ	Less than 300% of specified max. value							
	200V ~ 400V	Cap. Change	Within ±20% of initial measured value							
		Tan δ	Less than 200% of specified max. value							
Shelf Life Test +130°C 1000Hrs	Capacitance Change	Within ±30% of initial 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



*see tape specification for details

Optional: For automotive equipment, sourced to special production and inspection at IATF-16949 certified production site

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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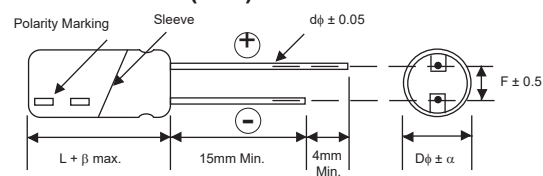
STANDARD PRODUCT AND CASE SIZE D φxL (mm)

Cap. (μF)	Code	Working Voltage (VDC)								
		10	16	25	35	50	63	100	200	400
1.0	1R0	-	-	-	-	-	-	-	-	6.3X11 8X11.5
1.5	1R5	-	-	-	-	-	-	-	-	6.3X11 8X16
1.8	1R8	-	-	-	-	-	-	-	-	6.3X11 8X16 8X11.5
2.2	2R2	-	-	-	-	-	-	-	-	8X16 8X20
2.7	2R7	-	-	-	-	-	-	-	-	8X16 8X20
3.3	3R3	-	-	-	-	-	-	-	-	8X16 8X20
4.7	4R7	-	-	-	-	8X11.5	-	8X11.5	6.3X11 8X11.5	8X20 10X16
5.6	5R6	-	-	-	-	-	-	-	8X11.5 8X16	10X16 10X20
6.8	6R8	-	-	-	-	-	-	-	8X11.5 8X16	10X20
10	10	-	-	-	-	8X11.5	-	8X11.5	8X16 8X20	-
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)	6.3	8	10	12.5	16	18
Lead Dia. (dφ)	0.5	0.6		0.8		
Lead Spacing (F)	2.5	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.

NRE-WY Series

Radial Leaded Aluminum Electrolytic Capacitors



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-WY4R7M50V8X11.5F	4.7	50	0.10	100	0.85	2,000	
NRE-WY100M50V8X11.5F	10		0.10	200	0.60	2,000	
NRE-WY220M50V8X11.5F	22		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-WY4R7M100V8X11.5F	4.7	100	0.08	100	1.3	2,000	
NRE-WY100M100V8X11.5F	10		0.08	200	1.0	2,000	

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RIPPLE CURRENT CORRECTION FACTOR (10V ~ 100V)

Frequency (Hz)	60 (50)	120Hz	1KHz	10K	100K
1.0μF ~ 4.7μF	0.35	0.42	0.60	0.80	1.0
10μF ~ 33μF	0.45	0.55	0.75	0.90	1.0
47μF ~ 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

NRE-WY Series

Radial Leaded Aluminum Electrolytic Capacitors



Part Number	Cap. (μF)	W.V. (Vdc)	Dissipation Factor +20°C/120Hz	Ripple Current Rating (mA) +130°C/100KHz	Max. ESR (Ω) +20°C/120Hz	Load Life Hours @+130°C
NRE-WY4R7M200V6.3X11F	4.7	200	0.15	100	52.94	1,000
NRE-WY4R7M200V8X11.5F			0.15	120	52.94	2,000
NRE-WY5R6M200V8X11.5F	5.6		0.15	130	44.43	2,000
NRE-WY5R6M200V8X16F			0.15	180	44.43	2,000
NRE-WY6R8M200V8X11.5F	6.8		0.15	130	36.59	2,000
NRE-WY6R8M200V8X16F			0.15	180	36.59	2,000
NRE-WY100M200V8X16F	10		0.15	200	24.88	2,000
NRE-WY100M200V8X20F			0.15	240	24.88	2,000
NRE-WY150M200V8X16F	15		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
NRE-WY1R0M400V6.3X11F	1.0		400	0.20	60	331.74
NRE-WY1R0M400V8X11.5F		0.20		65	331.74	2,000
NRE-WY1R5M400V8X11.5F	1.5	0.20		75	221.16	2,000
NRE-WY1R5M400V8X16F		0.20		80	221.16	2,000
NRE-WY1R8M400V8X11.5F	1.8	0.20		75	184.30	2,000
NRE-WY1R8M400V8X16F		0.20		85	184.30	2,000
NRE-WY2R2M400V8X11.5F	2.2	0.20		75	150.79	2,000
NRE-WY2R2M400V8X16F		0.20		90	150.79	2,000
NRE-WY2R2M400V8X20F	2.7	0.20		110	150.79	2,000
NRE-WY2R7M400V8X16F		0.20		95	122.87	2,000
NRE-WY2R7M400V8X20F	3.3	0.20		115	122.87	2,000
NRE-WY3R3M400V8X16F		0.20		100	100.53	2,000
NRE-WY3R3M400V8X20F	4.7	0.20		120	100.53	2,000
NRE-WY4R7M400V8X20F		0.20		120	70.58	2,000
NRE-WY4R7M400V10X16F	5.6	0.20	125	70.58	2,000	
NRE-WY5R6M400V10X16F		0.20	130	59.24	2,000	
NRE-WY5R6M400V10X20F	6.8	0.20	145	59.24	2,000	
NRE-WY6R8M400V10X20F		0.20	150	48.79	2,000	

RIPPLE CURRENT CORRECTION FACTOR (200V ~ 400V)

Frequency (Hz)	120Hz	1KHz	10K	100K
1.0μF ~ 5.6μF	0.20	0.40	0.80	1.0
6.8μF ~ 15μF	0.30	0.60	0.90	1.0
22μF	0.50	0.80	0.90	1.0