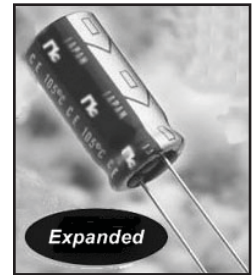


HIGH TEMPERATURE, EXTENDED LOAD LIFE, RADIAL LEADS, POLARIZED  
**FEATURES**

- HIGH RIPPLE CURRENT
- LONG LIFE AT HIGH TEMPERATURE (10,000 Hours @ +105°C)

**EXPANDED  
 VALUE  
 RANGE**



**CHARACTERISTICS**

Rated Voltage Range		200 ~ 450VDC					
Capacitance Range		12 ~ 560μF					
Operating Temperature Range		-25°C ~ +105°C					
Capacitance Tolerance		±20% (M)					
Maximum Leakage Current @ +20°C		3 x √CV after 5 minute at rated voltage					
Max. Tan δ at 120Hz/20°C	W.V. (Vdc)	200	220	250	400	420	450
	S.V. (Vdc)	250	270	300	450	470	500
	Tan δ	0.20	0.20	0.20	0.20	0.25	0.25
Low Temperature Stability Impedance Ratio @ 120Hz	Z-25°C/Z+20°C	3	3	3	8	8	8
	Δ Capacitance	Within ±20% of initial measured value					
Load Life at W.V. & 105°C All Sizes: 10,000 Hours	Δ Tan δ	Less than 200% of specified value					
	Δ LC	Less than specified value					

**STANDARD PRODUCT AND CASE SIZE TABLE Dφ x L (mm)**

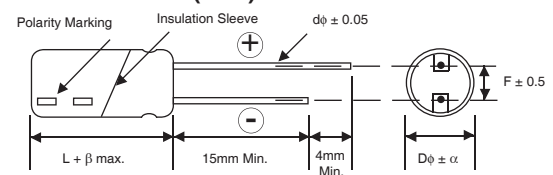
Cap. (μF)	Code	Working Voltage (Vdc)					
		200	220	250	400	420	450
12	120	-	-	-	8x30	8x30	8x30
15	150	-	-	-	8x35	8x35	8x40
18	180	-	-	-	8x40	8x40	8x45
22	220	-	-	-	8x45	8x50	-
33	330	-	-	-	-	10x40	10x40
						12.5x30	12.5x30
39	390	-	-	-	10x40	10x45	10x50
						12.5x30	12.5x35
47	470	-	-	-	10x45	12.5x35	12.5x40
						12.5x30	16x25
56	560	-	-	-	10x50	12.5x40	12.5x45
						12.5x35	16x25
68	680	-	-	-	12.5x40	12.5x45	12.5x50
						16x25	16x30
82	820	-	-	10x40	12.5x45	12.5x50	16x40
					16x30	16x35	18x30
100	101	10x40	10x40	10x45	16x35	16x40	18x35
				12.5x30	18x30	18x30	
120	121	10x45	12.5x35	16x40	18x35	18x40	18x40
			12.5x30	16x25			
150	151	10x50	12.5x35	12.5x40	18x40	18x40	18x45
		12.5x30	16x25	16x30			
180	181	12.5x35	12.5x40	16x30	18x45	-	-
		16x25	16x30	18x25			
220	221	12.5x45	12.5x50	16x35	-	-	-
		16x30	16x30	18x30			
270	271	12.5x50	16x35	16x40	-	-	-
		16x30	18x30	18x35			
330	331	16x40	18x35	18x40	-	-	-
		18x30					
390	391	18x35	18x40	18x45	-	-	-
470	471	18x40	18x45	-	-	-	-
560	561	18x45	-	-	-	-	-

Expanded Values

**LEAD SPACING AND DIAMETER (mm)**

Case Dia. (Dφ)	8	10	12.5	16	18
Lead Dia. (Dφ)	0.6	0.6	0.6	0.8	0.8
Lead Spacing (F)	3.5	5.0	5.0	7.5	7.5
Dim. α	0.5	0.5	0.5	0.5	0.5
Dim. β	2.5	2.5	2.5	2.5	2.5

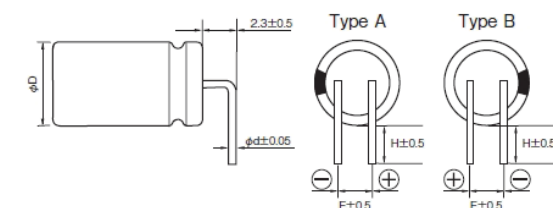
**DIMENSIONS (mm)**



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

**HORIZONTAL MOUNT LEAD FORMING (mm)**

Case Dia. (Dφ)	8	10 & 12	16 & 18
Lead Dia. (φd)	0.6	0.6	0.8
Lead Space (F)	3.5	5.0	7.5
Forming Code	RI	RK	RX SG
Form Type	A	B	A B
Lead Length (H)	4.0		3.5



**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)



## STANDARD VALUES, SPECIFICATIONS AND CASE SIZES (mm)

Part Number	Cap. (μF)	W.V. (Vdc)	Dissipation Factor +20°C/120Hz	Ripple Current Rating (mA rms) +105°C/120Hz	Max. Z (Ω) +20°C/120Hz	Load Life Hours @+105°C	
NRB-XW101M200V10X40F	100	200	0.20	630	3.32	10,000	
NRB-XS121M200V10X45F	120		0.20	750	2.77	10,000	
NRB-XW151M200V10X50F	150		0.20	830	2.21	10,000	
NRB-XW151M200V12.5x30F			0.20	800	2.21	10,000	
NRB-XW181M200V12.5x35F	180		0.20	920	1.84	10,000	
NRB-XW181M200V16x25F			0.20	850	1.84	10,000	
NRB-XW221M200V12.5X45F	220		0.20	1090	1.51	10,000	
NRB-XW221M200V16x30F			0.20	1010	1.51	10,000	
NRB-XW221M200V18x25F			0.20	1000	1.51	10,000	
NRB-XW271M200V12.5X50F	270		0.20	1260	1.23	10,000	
NRB-XW271M200V16x30F			0.20	1180	1.23	10,000	
NRB-XW271M200V18x30F			0.20	1160	1.23	10,000	
NRB-XW331M200V16x40F	330		0.20	1310	1.01	10,000	
NRB-XW331M200V18x30F			0.20	1300	1.01	10,000	
NRB-XW391M200V18x35F	390		0.20	1430	0.85	10,000	
NRB-XW471M200V18x40F	470		0.20	1580	0.71	10,000	
NRB-XW561M200V18x45F	560		0.20	1770	0.59	10,000	
NRB-XW101M220V10x40F	100		220	0.20	660	3.32	10,000
NRB-XW121M220V10x45F	120			0.20	750	2.76	10,000
NRB-XW121M220V12.5x30F	150			0.20	740	2.76	10,000
NRB-XW151M220V12.5x35F		0.20		860	2.21	10,000	
NRB-XW151M220V16x25F	180	0.20		800	2.21	10,000	
NRB-XW181M220V12.5X40F		0.20		990	1.84	10,000	
NRB-XW181M220V16x30F	220	0.20		940	1.84	10,000	
NRB-XW221M220V12.5X50F		0.20		1080	1.51	10,000	
NRB-XW221M220V16x30F	270	0.20		1010	1.51	10,000	
NRB-XW221M220V18x25F		0.20		940	1.51	10,000	
NRB-XW271M220V16x35F	330	0.20		1190	1.23	10,000	
NRB-XW271M220V18x30F		0.20		1130	1.23	10,000	
NRB-XW331M220V18x35F	390	0.20		1300	1.01	10,000	
NRB-XW391M220V18x40F		0.20		1490	0.85	10,000	
NRB-XW471M220V18x45F	470	0.20		1690	0.71	10,000	
NRB-XW820M250V10x40F	82	250		0.20	610	4.06	10,000
NRB-XW101M250V10x45F	100			0.20	680	3.32	10,000
NRB-XW101M250V12.5x30F	120			0.20	690	3.32	10,000
NRB-XW121M250V12.5x35F				0.20	790	2.76	10,000
NRB-XW121M250V16x25F	150			0.20	740	2.76	10,000
NRB-XW151M250V12.5x40F			0.20	920	2.21	10,000	
NRB-XW151M250V16x30F	180		0.20	890	2.21	10,000	
NRB-XW181M250V12.5x50F			0.20	970	1.84	10,000	
NRB-XW181M250V16x30F	220		0.20	950	1.84	10,000	
NRB-XW181M250V18x25F			0.20	880	1.84	10,000	
NRB-XW221M250V16x35F	270		0.20	1110	1.51	10,000	
NRB-XW221M250V18x30F			0.20	1100	1.51	10,000	
NRB-XW271M250V16x40F	330		0.20	1270	1.23	10,000	
NRB-XW271M250V18x35F			0.20	1230	1.23	10,000	
NRB-XW331M250V18x40F	390		0.20	1420	1.01	10,000	
NRB-XW391M250V18x45F			0.20	1590	0.85	10,000	
NRB-XW120M400V8X30F	12		400	0.20	130	27.7	10,000
NRB-XW150M400V8X35F	15			0.20	180	22.1	10,000
NRB-XW180M400V8X40F	18			0.20	200	18.5	10,000
NRB-XW220M400V8X45F	22			0.20	230	15.1	10,000
NRB-XW390M400V10X40F	39	0.20		400	8.50	10,000	
NRB-XW470M400V10X45F	47	0.20		450	7.06	10,000	
NRB-XW470M400V12.5x30F		0.20		440	7.06	10,000	
NRB-XW560M400V10X50F	56	0.20		520	5.92	10,000	
NRB-XW560M400V12.5x35F		0.20		500	5.92	10,000	
NRB-XW680M400V12.5x40F	68	0.20		580	4.99	10,000	
NRB-XW680M400V16x25F		0.20		510	4.99	10,000	
NRB-XW820M400V12.5X45	82	0.20		650	4.05	10,000	

Expanded Values



### STANDARD VALUES, SPECIFICATIONS AND CASE SIZES (mm)

Part Number	Cap. (μF)	W.V. (Vdc)	Dissipation Factor +20°C/120Hz	Ripple Current Rating (mA rms) +105°C/120Hz	Max. Z (Ω) +20°C/120Hz	Load Life Hours @+105°C	
NRB-XW820M400V16x30F	82	400	0.20	610	4.05	10,000	
NRB-XW820M400V18x25F			0.20	610	4.05	10,000	
NRB-XW101M400V16x35F	100		0.20	740	3.32	10,000	
NRB-XW101M400V18x30F			0.20	740	3.32	10,000	
NRB-XW121M400V16x40F	120		0.20	800	2.76	10,000	
NRB-XW121M400V18x35F			0.20	790	2.76	10,000	
NRB-XW151M400V18x40F	150		0.20	910	2.21	10,000	
NRB-XW181M400V18x45F	180		0.20	1040	1.84	10,000	
NRB-XW120M420V8X30F	12		420	0.25	130	34.6	10,000
NRB-XW150M420V8X35F	15			0.25	170	27.7	10,000
NRB-XW180M420V8X40F	18	0.25		200	23.1	10,000	
NRB-XW220M420V8X50F	22	0.25		250	18.9	10,000	
NRB-XW330M420V10X40F	33	0.25		370	12.6	10,000	
NRB-XW390M420V10X45F	39	0.25		410	10.63	10,000	
NRB-XW390M420V12.5x30F		0.25		390	10.63	10,000	
NRB-XW470M420V12.5x35F	47	0.25		450	8.82	10,000	
NRB-XW560M420V12.5x40F	56	0.25		520	7.40	10,000	
NRB-XW560M420V16x25F		0.25		460	7.40	10,000	
NRB-XW680M420V12.5X45F	68	0.25		580	6.10	10,000	
NRB-XW680M420V16x30F		0.25		550	6.10	10,000	
NRB-XW820M420V12.5X50F	82	0.25		660	5.06	10,000	
NRB-XW820M420V16x35F		0.25		630	5.06	10,000	
NRB-XW820M420V18x25F	100	0.25		560	5.06	10,000	
NRB-XW101M420V16x40F		0.25		730	4.15	10,000	
NRB-XW101M420V18x30F	120	0.25		670	4.15	10,000	
NRB-XW121M420V18x35F		0.25		770	3.46	10,000	
NRB-XW151M420V18x40F	150	0.25		900	2.76	10,000	
NRB-XW120M450V8X30F	12	450		0.25	150	34.6	10,000
NRB-XW150M450V8X40F	15		0.25	190	27.7	10,000	
NRB-XW180M450V8X45F	18		0.25	210	23.1	10,000	
NRB-XW330M450V10X40F	33		0.25	360	12.57	10,000	
NRB-XW330M450V12.5x30F			0.25	370	12.57	10,000	
NRB-XW390M450V10X50F	39		0.25	410	10.63	10,000	
NRB-XW390M450V12.5x35F			0.25	420	10.63	10,000	
NRB-XW470M450V2.5x40F	47		0.25	480	8.82	10,000	
NRB-XW470M450V16x25F			0.25	440	8.82	10,000	
NRB-XW560M450V12.5x45	56		0.25	530	7.40	10,000	
NRB-XW560M450V16x30F			0.25	510	7.40	10,000	
NRB-XW680M450V12.5x50	68		0.25	620	6.10	10,000	
NRB-XW680M450V16x35F			0.25	590	6.10	10,000	
NRB-XW680M450V18x25F	82		0.25	570	6.10	10,000	
NRB-XW820M450V16x40F			0.25	680	5.06	10,000	
NRB-XW820M450V18x30F	100		0.25	650	5.06	10,000	
NRB-XW101M450V18x35F			0.25	740	4.15	10,000	
NRB-XW121M450V18x40F	120		0.25	830	3.46	10,000	
NRB-XW151M450V18x45F	150		0.25	950	2.76	10,000	

### RIPPLE CURRENT FREQUENCY CORRECTION FACTOR

Voltage Rating	60 (50)Hz	120Hz	500Hz	1KHz	10KHz ~ up
200 ~ 250Vdc	0.8	1.0	1.20	1.30	1.40
400 ~ 450Vdc	0.8	1.0	1.25	1.40	1.50

### RIPPLE CURRENT TEMPERATURE CORRECTION FACTOR

Expanded Values

Ambient Temperature	105°C	85°C	≤65°C
Multiplier	1.0	1.7	2.1

### PART NUMBER SYSTEM

NRB-XW 101 M 250V 12.5X30 RK F

