

HIGH TEMPERATURE, EXTENDED LOAD LIFE, RADIAL LEADS, POLARIZED

### FEATURES

- HIGH RIPPLE CURRENT AT HIGH TEMPERATURE (105°C)
- IDEAL FOR HIGH VOLTAGE LIGHTING BALLAST
- REDUCED SIZE (FROM NRBX)

**RoHS Compliant**  
includes all homogeneous materials

\*See Part Number System for Details



### CHARACTERISTICS

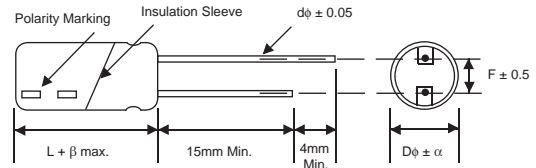
Rated Voltage Range		160 ~ 450VDC					
Capacitance Range		1.0 ~ 220μF					
Operating Temperature Range		-25°C ~ +105°C					
Capacitance Tolerance		±20% (M)					
Maximum Leakage Current @ +20°C		CV ≤ 1,000μF			CV > 1,000μF		
		0.1CV +40μA (1 minute) 0.03CV +15μA (5 minutes)			0.04CV +100μA (1 minute) 0.02CV +25μA (5 minutes)		
Max. Tan δ at 120Hz/20°C	W.V. (Vdc)	160	200	250	350	400	450
	S.V. (Vdc)	200	250	300	400	450	500
	Tan δ	0.15	0.15	0.15	0.20	0.20	0.20
Low Temperature Stability Impedance Ratio @ 120Hz	Z-25°C/Z+20°C	3	3	3	6	6	6
Load Life at W.V. & 105°C 8x11.5mm, 10x12.5mm: 5,000 Hours 10x16mm, 10x20mm: 8,000 Hours φD ≥ 12.5mm: 10,000 Hours	Δ Capacitance	Within ±20% of initial measured value					
	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)					
		160	200	250	350	400	450
1.0	1R0	-	-	-	-	8X11.5	-
		-	-	-	-	10X12.5	-
1.5	1R5	-	-	-	-	8X11.5	-
		-	-	-	-	10X12.5	-
1.8	1R8	-	-	-	-	8X11.5	-
		-	-	-	-	10X12.5	-
2.2	2R2	-	-	-	-	8X11.5	-
		-	-	-	-	10X12.5	-
3.3	3R3	-	-	-	-	10X12.5	-
		-	-	-	-	10X16	-
4.7	4R7	-	-	8X11.5	10X12.5	10X16	10X20
5.6	5R6	-	-	-	10X12.5	10X16	10X20
6.8	6R8	-	-	10X12.5	10X16	10X16	10X20
10	100	10X16	10X16	10X16	10X20	10X20	12.5X20
15	150	-	-	-	-	12.5X20	12.5X25
22	220	10X20	10X20	10X20	12.5X20	12.5X25	16X20
		-	-	-	-	16X20	
33	330	10X20	10X20	12.5X20	16X20	16X20	16X25
47	470	10X20	12.5X20	12.5X20	16X20	16X25	18X25
		-	-	-	-	18X20	
68	680	12.5x20	12.5x25	16x20	18x25	18x25	-
		-	16x20	-	-	-	-
82	820	-	16x20	16x20	18x25	-	-
100	101	12.5x25	16x20	16x25	-	-	-
		16x20	-	-	-	-	-
150	151	16x25	16x25	18x25	-	-	-
220	221	18x25	-	-	-	-	-

### 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	2.0	2.0	2.0	2.0	2.0



### 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) +105°C/100KHz	Max. ESR (Ω) +20°C/120Hz	Load Life Hours @+105°C
NRB-XS100M160V10X16F	10	160	0.15	320	24.9	8,000
NRB-XS220M160V10X20F	22		0.15	500	11.3	8,000
NRB-XS330M160V10X20F	33		0.15	650	7.54	8,000
NRB-XS470M160V10X20F	47		0.15	750	5.29	8,000
NRB-XS680M160V12.5x20F	68		0.15	1180	3.66	10,000
NRB-XS101M160V12.5x25F	100		0.15	1420	2.49	10,000
NRB-XS101M160V16x20F			0.15			10,000
NRB-XS151M160V16x25F	150		0.15	1890	1.66	10,000
NRB-XS221M160V18x25F	220		0.15	2370	1.13	10,000
NRB-XS100M200V10X16F	10		200	0.15	320	24.9
NRB-XS220M200V10X20F	22	0.15		500	11.3	8,000
NRB-XS330M200V10X20F	33	0.15		650	7.54	8,000
NRB-XS470M200V12.5X20F	47	0.15		980	5.29	10,000
NRB-XS680M200V12.5x25F	68	0.15		1300	3.66	10,000
NRB-XS680M200V16x20F		0.15				10,000
NRB-XS820M200V16x20F	82	0.15		1380	3.03	10,000
NRB-XS101M200V16x20F	100	0.15		1420	2.49	10,000
NRB-XS151M200V16x25F	150	0.15		1890	1.66	10,000
NRB-XS4R7M250V8X11.5F	4.7	250		0.15	160	52.9
NRB-XS6R8M250V10X12.5F	6.8		0.15	250	36.6	5,000
NRB-XS100M250V10X16F	10		0.15	320	24.9	5,000
NRB-XS220M250V10X20F	22		0.15	500	11.3	8,000
NRB-XS330M250V12.5X20F	33		0.15	800	7.54	10,000
NRB-XS470M250V12.5X20F	47		0.15	980	5.29	10,000
NRB-XS680M250V16x20F	68		0.15	1300	3.66	10,000
NRB-XS820M250V16x20F	82		0.15	1380	3.03	10,000
NRB-XS101M250V16x25F	100		0.15	1530	2.49	10,000
NRB-XS151M250V18x25F	150		0.15	1940	1.66	10,000
NRB-XS4R7M350V10X12.5F	4.7	350	0.20	150	70.6	5,000
NRB-XS5R6M350V10X12.5	5.6		0.20	180	59.2	5,000
NRB-XS6R8M350V10X16F	6.8		0.20	280	48.8	8,000
NRB-XS100M350V10X20F	10		0.20	350	33.2	8,000
NRB-XS220M350V12.5X20F	22		0.20	650	15.1	10,000
NRB-XS330M350V16X20F	33		0.20	900	10.1	10,000
NRB-XS470M350V16X20F	47		0.20	1080	7.06	10,000
NRB-XS680M350V18x25F	68		0.20	1470	4.88	10,000
NRB-XS820M350V18x25F	82		0.20	1530	4.05	10,000
NRB-XS1R0M400V8X11.5F	1.0		0.20	60	332	5,000
NRB-XS1R0M400V10X12.5F		0.20	70	5,000		
NRB-XS1R5M400V8X11.5F	1.5	0.20	90	221	5,000	
NRB-XS1R5M400V10X12.5F		0.20	100		5,000	
NRB-XS1R8M400V8X11.5F	1.8	0.20	95	184	5,000	
NRB-XS1R8M400V10X12.5F		0.20	120		5,000	
NRB-XS2R2M400V8X11.5F	2.2	0.20	95	151	5,000	
NRB-XS2R2M400V10X12.5F		0.20	140		5,000	
NRB-XS3R3M400V10X12.5F	3.3	0.20	150	101	5,000	
NRB-XS3R3M400V10X16F		0.20	180		8,000	
NRB-XS4R7M400V10X16F	4.7	400	0.20	220	70.6	8,000
NRB-XS5R6M400V10X16F	5.6		0.20	250	59.2	8,000
NRB-XS6R8M400V10X16F	6.8		0.20	280	48.8	8,000
NRB-XS100M400V10X20F	10		0.20	350	33.2	8,000
NRB-XS150M400V12.5X20F	15		0.20	550	22.1	10,000
NRB-XS220M400V12.5X25F	22		0.20	760	15.1	10,000
NRB-XS220M400V16X20F			0.20			10,000
NRB-XS330M400V16X20F	33		0.20	900	10.1	10,000
NRB-XS470M400V16X25F	47		0.20	1180	7.06	10,000
NRB-XS470M400V18X20F			0.20			10,000
NRB-XS680M400V18x25F	68	0.20	1470	4.88	10,000	



### 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/120Hz	Load Life Hours @+105°C
NRB-XS4R7M450V10X20F	4.7	450	0.20	220	70.6	8,000
NRB-XS5R6M450V10X20F	5.6		0.20	250	59.2	8,000
NRB-XS6R8M450V10X20F	6.8		0.20	280	48.8	8,000
NRB-XS100M450V12.5X20F	10		0.20	450	33.2	10,000
NRB-XS150M450V12.5X25F	15		0.20	600	22.1	10,000
NRB-XS220M450V16X20F	22		0.20	730	15.1	10,000
NRB-XS330M450V16X25F	33		0.20	980	10.1	10,000
NRB-XS470M450V18X25F	47		0.20	1200	7.06	10,000

### RIPPLE CURRENT FREQUENCY CORRECTION FACTOR

Cap. (μF)	120Hz	1KHz	10KHz	100KHz ~ up
1 ~ 4.7	0.2	0.4	0.8	1.0
6.8 ~ 15	0.3	0.6	0.9	1.0
22 ~ 82	0.4	0.7	0.9	1.0
100 ~ 220	0.45	0.75	0.9	1.0

### PART NUMBER SYSTEM

