

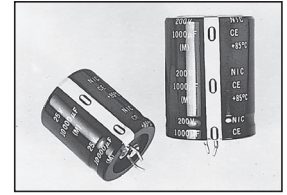
# NRLBW Series

## Large Can Aluminum Electrolytic Capacitors



### FEATURES

- LONG LIFE AT +105°C (5,000 HOURS)
- EXPANDED CV VALUE RANGE
- HIGH RIPPLE CURRENT ENDURANCE IN SMALLER SIZE
- NEW SIZES FOR LOW PROFILE AND HIGH DENSITY DESIGN OPTIONS
- CAN-TOP SAFETY VENT
- DESIGNED AS INPUT FILTER OF SWITCHED MODE POWER SUPPLY



### SPECIFICATIONS

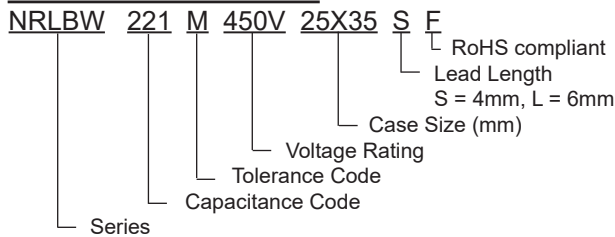
Operating Temperature Range		-40 ~ +105°C										-25 ~ +105°C			
Rated Voltage Range		160 ~ 450Vdc										475 ~ 550Vdc			
Rated Capacitance Range		47 ~ 1,500μF													
Capacitance Tolerance		±20% (M)													
Max. Leakage Current (μA) After 5 minutes (20°C)		See Standard Product Tables													
Max. Tan δ at 120Hz/20°C	W.V. (Vdc)	160	200	250	315	350	400	410	420	450	475	500	525	550	
	Tan δ max.	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.20	0.20	0.20	0.20	0.20	
Surge Voltage	W.V. (Vdc)	160	200	250	315	350	400	410	420	450	475	500	525	550	
	S.V. (Vdc)	184	230	287	362	385	440	451	462	495	522	550	577	605	
Impedance Ration (Low Temperature Stability)	Z (-25°C)/Z (+20°C)	4					5					6			
	Z (-40°C)/Z (+20°C)	7					10					-			
Load Life Test 5,000 hours at +105°C	Capacitance Change	Within ±15% of initial measured value													
	Tan δ	Less than 175% of specified maximum value													
	Leakage Current	Less than specified maximum value													
Shelf Life Test 1,000 hours at +105°C (no load)	Capacitance Change	Within ±15% of initial measured value													
	Tan δ	Less than 175% of specified maximum value													
	Leakage Current	Less than specified maximum value													
Ripple Current Correction Factors	Frequency (Hz)	60 (50)	120 (100)	300	1K	10K	50K ~ 100K								
	Multiplier at 105°C	160 ~ 250Vdc 315 ~ 550Vdc	0.81	1.00	1.17	1.32	1.45	1.50							
		0.77	1.00	1.16	1.30	1.41	1.43								

### MECHANICAL CHARACTERISTICS:

#### Safety Vent:

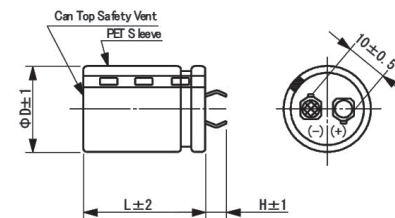
The capacitors are provided with a pressure vent on the top of can. The vent is designed to rupture in the event that high internal gas pressure is developed by circuit malfunction or mis-use like reverse voltage.

### PART NUMBER SYSTEM

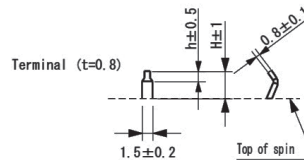
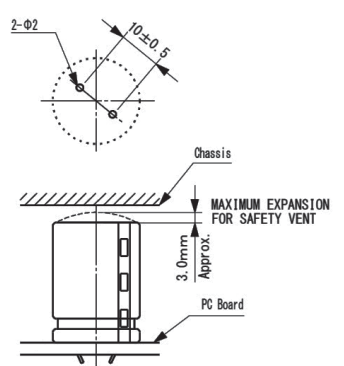


H (mm)	4	6
h (mm)	1.5	2.5

Sleeve Color: Black  
Lettering: White



PC Board Mounting Holes:



#### Notice for Mounting

The space from the top of the can shall be more than (3mm) from chassis or other construction materials so that safety vent has room to expand in case of emergency.

### 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](mailto:tpmg@niccomp.com)

# NRLBW Series

## Large Can Aluminum Electrolytic Capacitors



Part Number	Voltage (VDC)	Cap (µF)	Case Size D x L (mm)	Dissipation Factor +20°C, 120Hz	Max. Leakage Current (µA)	MAX. ESR (mΩ @ +20°C) 120Hz	Max. Ripple Current (Arms @ 105°C) 120Hz	
NRLBW471M160V22X25SF	160	470	22X25	0.15	823	420	1500	
NRLBW102M160V30X30SF		1000	30X30	0.15	1200	200	2600	
NRLBW102M200V22X50SF	200	1000	22X50	0.15	1342	200	2700	
NRLBW102M200V30X40SF		1000	30X40	0.15	1342	200	2420	
NRLBW122M200V30X45SF		1200	30X45	0.15	1470	170	2680	
NRLBW122M200V35X35SF		1200	35X35	0.15	1470	170	2880	
NRLBW391M250V22X50SF	250	390	22X50	0.15	937	510	1930	
NRLBW471M250V22X40SF		470	22X40	0.15	1029	420	1970	
NRLBW561M250V22X50SF		560	22X50	0.15	1123	360	2300	
NRLBW681M250V25X40SF		680	25X40	0.15	1237	290	2130	
NRLBW102M250V35X45SF		1000	35X45	0.15	1500	200	2660	
NRLBW122M250V30X45SF		1200	30X45	0.15	1644	170	2680	
NRLBW181M315V22X25SF		315	180	22X25	0.15	715	1110	1040
NRLBW391M315V25X35SF			390	25X35	0.15	1052	510	1680
NRLBW391M315V25X40SF	390		25X40	0.15	1052	510	1780	
NRLBW471M315V30X45SF	470		30X45	0.15	1155	420	2090	
NRLBW561M315V30X45SF	560		30X45	0.15	1260	360	2160	
NRLBW821M315V35X40SF	820		35X40	0.15	1525	240	2260	
NRLBW102M315V35X45SF	1000		35X45	0.15	1684	200	2580	
NRLBW122M315V35X50SF	1200		35X50	0.15	1845	170	2800	
NRLBW122M315V35X55SF	1200		35X55	0.15	1845	170	2920	
NRLBW152M315V35X55SF	1500		35X55	0.15	2063	130	3290	
NRLBW152M315V35X65SF	1500		35X65	0.15	2063	130	3620	
NRLBW391M350V25X40SF	350		390	25X40	0.15	1109	510	1780
NRLBW821M350V35X45SF			820	35X45	0.15	1608	240	2450
NRLBW101M400V22X25SF	400		100	22X25	0.15	600	1990	660
NRLBW101M400V25X20SF		100	25X20	0.15	600	1990	620	
NRLBW221M400V25X30SF		220	25X30	0.15	890	900	1070	
NRLBW271M400V30X25SF		270	30X25	0.15	986	740	1170	
NRLBW331M400V30X30SF		330	30X30	0.15	1090	600	1350	
NRLBW331M400V30X50SF		330	30X50	0.15	1090	600	1650	
NRLBW391M400V25X45SF		390	25X45	0.15	1185	510	1540	
NRLBW391M400V30X35SF		390	30X35	0.15	1185	510	1530	
NRLBW471M400V25X55SF		470	25X55	0.15	1301	420	1860	
NRLBW471M400V35X35SF		470	35X35	0.15	1301	420	1860	
NRLBW471M400V35X40SF		470	35X40	0.15	1301	420	1960	
NRLBW561M400V30X45SF		560	30X45	0.15	1420	360	2040	
NRLBW681M400V35X45SF		680	35X45	0.15	1565	290	2480	
NRLBW681M400V35X50SF		680	35X50	0.15	1565	290	2600	
NRLBW102M400V35X55SF		1000	35X55	0.15	1898	200	3020	
NRLBW102M400V35X60SF		1000	35X60	0.15	1898	200	3140	
NRLBW122M400V45X55SF		1200	45X55	0.15	2079	170	3720	
NRLBW152M400V40X100SF		1500	40X100	0.15	2324	130	5040	
NRLBW152M400V45X70SF		1500	45X70	0.15	2324	130	4710	

### Performance Passives By Design

# NRLBW Series

## Large Can Aluminum Electrolytic Capacitors



Part Number	Voltage (VDC)	Cap (µF)	Case Size D x L (mm)	Dissipation Factor +20°C, 120Hz	Max. Leakage Current (µA)	MAX. ESR (mΩ @ +20°C) 120Hz	Max. Ripple Current (Arms @ 105°C) 120Hz
NRLBW941M410V35X60SF	410	940	35X60	0.15	1863	200	3140
NRLBW221M420V30X25SF	420	220	30X25	0.15	912	1210	1100
NRLBW331M420V35X25SF		330	35X25	0.15	1117	680	1380
NRLBW391M420V35X30SF		390	35X30	0.15	1215	580	1600
NRLBW561M420V30X50SF		560	30X50	0.15	1455	1210	1100
NRLBW681M420V35X50SF		680	35X50	0.15	1604	390	2500
NRLBW820M450V25X25SF		450	82	25X25	0.20	577	3230
NRLBW121M450V25X25SF	120		25X25	0.20	698	2210	760
NRLBW151M450V22X30SF	150		22X30	0.20	780	1770	870
NRLBW151M450V25X30SF	150		25X30	0.20	780	1770	900
NRLBW151M450V30X25SF	150		30X25	0.20	780	1770	900
NRLBW181M450V25X30SF	180		25X30	0.20	854	1470	1050
NRLBW181M450V30X30SF	180		30X30	0.20	854	1470	1110
NRLBW221M450V22X40SF	220		22X40	0.20	944	1210	1100
NRLBW221M450V22X45SF	220		22X45	0.20	944	1210	1160
NRLBW221M450V25X30SF	220		25X30	0.20	944	1210	1080
NRLBW221M450V25X35SF	220		25X35	0.20	944	1210	1150
NRLBW221M450V25X40SF	220		25X40	0.20	944	1210	1180
NRLBW221M450V30X30SF	220		30X30	0.20	944	1210	1150
NRLBW271M450V22X50SF	270		22X50	0.20	1046	980	1250
NRLBW271M450V25X40SF	270		25X40	0.20	1046	980	1230
NRLBW271M450V25X45SF	270		25X45	0.20	1046	980	1290
NRLBW271M450V30X30SF	270		30X30	0.20	1046	980	1230
NRLBW271M450V30X35SF	270		30X35	0.20	1046	980	1310
NRLBW271M450V35X30SF	270		35X30	0.20	1046	980	1350
NRLBW331M450V25X50SF	330		25X50	0.20	1157	800	1500
NRLBW331M450V30X30SF	330		30X30	0.20	1157	800	1300
NRLBW331M450V30X40SF	330		30X40	0.20	1157	800	1500
NRLBW331M450V35X30SF	330		35X30	0.20	1157	800	1500
NRLBW391M450V25X50SF	390		25X50	0.20	1257	680	1620
NRLBW391M450V30X45SF	390		30X45	0.20	1257	680	1720
NRLBW391M450V35X35SF	390		35X35	0.20	1257	680	1720
NRLBW471M450V30X40SF	470		30X40	0.20	1380	560	1790
NRLBW471M450V30X45SF	470		30X45	0.20	1380	560	1880
NRLBW471M450V30X50SF	470		30X50	0.20	1380	560	1970
NRLBW471M450V35X40SF	470		35X40	0.20	1380	560	1950
NRLBW471M450V35X45SF	470		35X45	0.20	1380	560	2060
NRLBW561M450V30X50SF	560		30X50	0.20	1506	470	2140
NRLBW561M450V35X50SF	560	35X50	0.20	1506	470	2360	
NRLBW681M450V30X55SF	680	30X55	0.20	1660	390	2380	
NRLBW681M450V35X50SF	680	35X50	0.20	1660	390	2500	
NRLBW681M450V35X55SF	680	35X55	0.20	1660	390	2620	
NRLBW681M450V35X60SF	680	35X60	0.20	1660	390	2720	
NRLBW681M450V35X65SF	680	35X65	0.20	1660	390	2820	

### Performance Passives By Design

# NRLBW Series

## Large Can Aluminum Electrolytic Capacitors



Part Number	Voltage (VDC)	Cap (µF)	Case Size D x L (mm)	Dissipation Factor +20°C, 120Hz	Max. Leakage Current (µA)	MAX. ESR (mΩ @ +20°C) 120Hz	Max. Ripple Current (Arms @ 105°C) 120Hz	
NRLBW821M450V35X55SF	450	820	35X55	0.20	1823	320	2790	
NRLBW821M450V35X60SF		820	35X60	0.20	1823	320	2900	
NRLBW102M450V35X70SF		1000	35X70	0.20	2013	270	3100	
NRLBW331M475V25X50SF	475	330	25X50	0.20	1188	800	1450	
NRLBW470M500V22X25SF	500	47	22X25	0.20	460	5640	400	
NRLBW121M500V25X30SF		120	25X30	0.20	735	2210	750	
NRLBW151M500V25X30SF		150	25X30	0.20	822	1770	820	
NRLBW151M500V25X35SF		150	25X35	0.20	822	1770	880	
NRLBW181M500V22X50SF		180	22X50	0.20	900	1470	1050	
NRLBW181M500V25X50SF		180	25X50	0.20	900	1470	1130	
NRLBW221M500V30X30SF		220	30X30	0.20	995	1210	1050	
NRLBW221M500V35X30SF		220	35X30	0.20	995	1210	1100	
NRLBW271M500V30X50SF		270	30X50	0.20	1103	980	1510	
NRLBW331M500V30X50SF		330	30X50	0.20	1219	800	1490	
NRLBW331M500V35X35SF		330	35X35	0.20	1219	800	1400	
NRLBW331M500V35X45SF		330	35X45	0.20	1219	800	1560	
NRLBW391M500V35X45SF		390	35X45	0.20	1325	680	1700	
NRLBW471M500V35X50SF		470	35X50	0.20	1455	560	2050	
NRLBW471M500V35X60SF		470	35X60	0.20	1455	560	2260	
NRLBW561M500V30X65SF		560	30X65	0.20	1588	470	1900	
NRLBW561M500V35X60SF		560	35X60	0.20	1588	470	2150	
NRLBW431M525V35X60SF		525	430	35X60	0.20	1426	560	2300
NRLBW121M550V25X50SF		550	120	25X50	0.20	771	2210	780
NRLBW151M550V30X35SF			150	30X35	0.20	862	1770	820
NRLBW221M550V30X50SF	220		30X50	0.20	1044	1210	1300	
NRLBW271M550V35X40SF	270		35X40	0.20	1157	980	1460	
NRLBW271M550V35X50SF	270		35X50	0.20	1157	980	1600	
NRLBW331M550V35X50SF	330		35X50	0.20	1279	800	1560	
NRLBW391M550V35X60SF	390		35X60	0.20	1390	680	1800	
NRLBW471M550V30X75SF	470		30X75	0.20	1526	560	1990	
NRLBW471M550V35X60SF	470		35X60	0.20	1526	560	1960	
NRLBW471M550V35X70SF	470		35X70	0.20	1526	560	2100	
NRLBW561M550V35X75SF	560		35X75	0.20	1665	470	2180	
NRLBW561M550V40X70SF	560		40X70	0.20	1665	470	2080	
NRLBW681M550V35X80SF	680		35X80	0.20	1835	390	2260	