

NRLLW Series

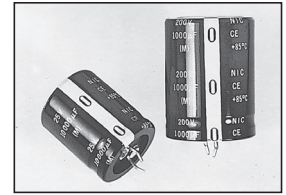
Snap-in Aluminum Electrolytic Capacitors



FEATURES

- LONG LIFE AT +105°C (10,000 HOURS)
- HIGH RIPPLE CURRENT IN SMALL SIZE
- SUITABLE FOR SWITCHING POWER SUPPLIES

*Expanded Values Up to
500V & 680µF*



SPECIFICATIONS

Operating Temperature Range		-25 ~ +105°C				
Rated Voltage Range		400 ~ 500Vdc				
Rated Capacitance Range		100 ~ 680µF				
Capacitance Tolerance		±20% (M)				
Max. Leakage Current (µA) After 5 minutes (20°C)		$3 \times \sqrt{C(\mu F)V}$				
Max. Tan δ at 120Hz/20°C	W.V. (Vdc)	400	420	450	475	500
	Tan δ max.	0.20	0.20	0.20	0.25	0.25
Surge Voltage	W.V. (Vdc)	400	420	450	475	500
	S.V. (Vdc)	450	470	500	525	550
Low Temperature Stability	Z-25°C/Z+20°C	400 ~ 450			475 ~ 500	
		8 max.			12 max.	
Load Life Test 10,000 hours at +105°C	Capacitance Change	Within ±20% of initial measured value				
	Tan δ	Less than 200% 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 ±20% of initial measured value				
	Tan δ	Less than 200% of specified maximum value				
	Leakage Current	Less than specified maximum value				
Resistance to Soldering Heat Immersion +260°C ± 5°C for 10 ± 1 seconds up to 2.0mm from capacitor body	Capacitance Change	Within ±10% of initial measured value				
	Tan δ	Less than specified maximum value				
	Leakage Current	Less than specified maximum value				
Ripple Current Frequency Correction Factors	Frequency (Hz)	60 (50)	120	500	1K	10K≤
	Multiplier	0.80	1.00	1.20	1.25	1.40

MECHANICAL CHARACTERISTICS:

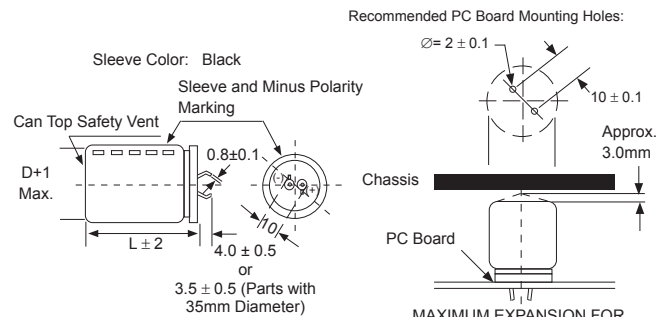
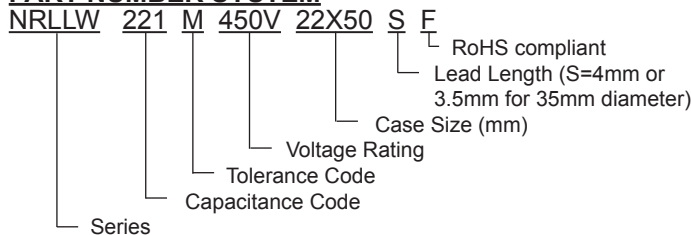
1. Safety Vent:

The capacitors are provided with a pressure sensitive safety 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.

2. Terminal Strength:

Each terminal of the capacitor shall withstand an axial pull force of 2.0Kg for a period 10 seconds or a radial bent force of 2.5Kg for a period of 30 seconds.

PART NUMBER SYSTEM



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



STANDARD PRODUCT LIST, CASE SIZE AND SPECIFICATIONS

Part Number	Cap. (µF)	W.V. (Vdc)	Case Size DxL (mm)	Leakage Current after 5 minutes (µA @ +20°C)	Tan δ max. +20°C @ 120Hz	Max. Ripple Current (Arms @ +105°C)	
						120Hz	10K ~ 50KHz
NRLW151M400V20X45SF	150	400	20X45	734	0.20	1.22	1.70
NRLW181M400V20X50SF	180	400	20X50	804	0.20	1.37	1.91
NRLW181M400V22X40SF	180	400	22X40	804	0.20	1.33	1.86
NRLW181M400V25X35SF	180	400	25X35	804	0.20	1.32	1.84
NRLW221M400V22X50SF	220	400	22X50	889	0.20	1.55	2.17
NRLW221M400V25X40SF	220	400	25X40	889	0.20	1.50	2.10
NRLW221M400V30X30SF	220	400	30X30	889	0.20	1.43	2.00
NRLW221M400V35X25SF	220	400	35X25	889	0.20	1.34	1.87
NRLW271M400V22X60SF	270	400	22X60	986	0.20	1.80	2.52
NRLW271M400V25X45SF	270	400	25X45	986	0.20	1.70	2.38
NRLW271M400V30X35SF	270	400	30X35	986	0.20	1.63	2.28
NRLW331M400V25X55SF	330	400	25X55	1090	0.20	1.98	2.77
NRLW331M400V30X40SF	330	400	30X40	1090	0.20	1.84	2.57
NRLW331M400V35X30SF	330	400	35X30	1090	0.20	1.63	2.28
NRLW391M400V25X60SF	390	400	25X60	1185	0.20	2.18	3.05
NRLW391M400V30X45SF	390	400	30X45	1185	0.20	2.04	2.85
NRLW391M400V35X35SF	390	400	35X35	1185	0.20	1.85	2.59
NRLW471M400V30X50SF	470	400	30X50	1300	0.20	2.26	3.16
NRLW471M400V35X40SF	470	400	35X40	1300	0.20	2.07	2.89
NRLW561M400V30X60SF	560	400	30X60	1420	0.20	2.59	3.62
NRLW561M400V35X50SF	560	400	35X50	1420	0.20	2.45	3.43
NRLW681M400V35X60SF	680	400	35X60	1565	0.20	2.80	3.92
NRLW151M420V20X45SF	150	420	20X45	752	0.20	1.20	1.68
NRLW181M420V22X45SF	180	420	22X45	824	0.20	1.35	1.89
NRLW181M420V25X35SF	180	420	25X35	824	0.20	1.29	1.80
NRLW221M420V22X55SF	220	420	22X55	912	0.20	1.57	2.19
NRLW221M420V25X40SF	220	420	25X40	912	0.20	1.47	2.05
NRLW221M420V30X30SF	220	420	30X30	912	0.20	1.39	1.94
NRLW221M420V35X25SF	220	420	35X25	912	0.20	1.31	1.83
NRLW271M420V25X50SF	270	420	25X50	1010	0.20	1.73	2.42
NRLW271M420V30X35SF	270	420	30X35	1010	0.20	1.59	2.22
NRLW271M420V35X30SF	270	420	35X30	1010	0.20	1.53	2.14
NRLW331M420V25X55SF	330	420	25X55	1117	0.20	1.93	2.70
NRLW331M420V30X40SF	330	420	30X40	1117	0.20	1.80	2.52
NRLW331M420V35X35SF	330	420	35X35	1117	0.20	1.75	2.45
NRLW391M420V30X50SF	390	420	30X50	1214	0.20	2.09	2.92
NRLW391M420V35X40SF	390	420	35X40	1214	0.20	1.95	2.73
NRLW471M420V30X60SF	470	420	30X60	1333	0.20	2.40	3.36
NRLW471M420V35X45SF	470	420	35X45	1333	0.20	2.16	3.02
NRLW561M420V35X55SF	560	420	35X55	1455	0.20	2.51	3.51
NRLW681M420V35X60SF	680	420	35X60	1603	0.20	2.73	3.82
NRLW121M450V20X45SF	120	450	20X45	697	0.20	1.11	1.55
NRLW151M450V20X50SF	150	450	20X50	779	0.20	1.25	1.75
NRLW151M450V22X45SF	150	450	22X45	779	0.20	1.26	1.76
NRLW151M450V25X35SF	150	450	25X35	779	0.20	1.21	1.69
NRLW181M450V22X50SF	180	450	22X50	853	0.20	1.41	1.97
NRLW181M450V25X40SF	180	450	25X40	853	0.20	1.37	1.91
NRLW181M450V30X30SF	180	450	30X30	853	0.20	1.31	1.83
NRLW181M450V35X25SF	180	450	35X25	853	0.20	1.24	1.73
NRLW221M450V22X60SF	220	450	22X60	944	0.20	1.63	2.28
NRLW221M450V25X45SF	220	450	25X45	944	0.20	1.55	2.17
NRLW221M450V30X35SF	220	450	30X35	944	0.20	1.49	2.08
NRLW271M450V25X55SF	270	450	25X55	1046	0.20	1.80	2.52
NRLW271M450V30X40SF	270	450	30X40	1045	0.20	1.69	2.36
NRLW271M450V35X30SF	270	450	35X30	1045	0.20	1.52	2.12
NRLW331M450V25X60SF	330	450	25X60	1156	0.20	2.01	2.81
NRLW331M450V30X45SF	330	450	30X45	1156	0.20	1.90	2.66
NRLW331M450V35X35SF	330	450	35X35	1156	0.20	1.74	2.43



STANDARD PRODUCT LIST, CASE SIZE AND SPECIFICATIONS

Part Number	Cap. (µF)	W.V. (Vdc)	Case Size DxL (mm)	Leakage Current after 5 minutes (µA @ +20°C)	Tan δ max. +20°C @ 120Hz	Max. Ripple Current (Arms @ +105°C)	
						120Hz	10K ~ 50KHz
NRLLW391M450V30X50SF	390	450	30X50	1256	0.20	2.10	2.94
NRLLW391M450V35X40SF	390	450	35X40	1256	0.20	1.94	2.71
NRLLW471M450V35X50SF	470	450	35X50	1379	0.20	2.29	3.20
NRLLW561M450V35X60SF	560	450	35X60	1506	0.20	2.61	3.65
NRLLW121M475V22X40SF	120	475	22X40	716	0.25	1.00	1.40
NRLLW121M475V25X30SF	120	475	25X30	716	0.25	0.96	1.34
NRLLW151M475V22X45SF	150	475	22X45	801	0.25	1.14	1.59
NRLLW151M475V25X35SF	150	475	25X35	801	0.25	1.11	1.55
NRLLW181M475V22X50SF	180	475	22X50	877	0.25	1.28	1.79
NRLLW181M475V25X40SF	180	475	25X40	877	0.25	1.25	1.75
NRLLW181M475V30X30SF	180	475	30X30	877	0.25	1.19	1.66
NRLLW181M475V35X25SF	180	475	35X25	877	0.25	1.15	1.61
NRLLW221M475V22X60SF	220	475	22X60	970	0.25	1.47	2.05
NRLLW221M475V25X50SF	220	475	25X50	970	0.25	1.45	2.03
NRLLW221M475V30X35SF	220	475	30X35	970	0.25	1.36	1.90
NRLLW221M475V35X30SF	220	475	35X30	970	0.25	1.34	1.87
NRLLW271M475V25X60SF	270	475	25X60	1074	0.25	1.68	2.35
NRLLW271M475V30X40SF	270	475	30X40	1074	0.25	1.54	2.15
NRLLW271M475V35X35SF	270	475	35X35	1074	0.25	1.53	2.14
NRLLW331M475V30X55SF	330	475	30X55	1188	0.25	1.88	2.63
NRLLW331M475V35X40SF	330	475	35X40	1188	0.25	1.72	2.40
NRLLW391M475V35X50SF	390	475	35X50	1291	0.25	2.00	2.80
NRLLW471M475V35X55SF	470	475	35X55	1417	0.25	2.20	3.08
NRLLW101M500V22X40SF	100	500	22X40	671	0.25	0.94	1.31
NRLLW101M500V25X30SF	100	500	25X30	671	0.25	0.90	1.26
NRLLW101M500V30X25SF	100	500	30X25	671	0.25	0.90	1.26
NRLLW121M500V22X45SF	120	500	22X45	735	0.25	1.05	1.47
NRLLW121M500V25X35SF	120	500	25X35	735	0.25	1.02	1.42
NRLLW121M500V30X30SF	120	500	30X30	735	0.25	1.12	1.56
NRLLW151M500V22X50SF	150	500	22X50	822	0.25	1.20	1.68
NRLLW151M500V25X40SF	150	500	25X40	822	0.25	1.17	1.63
NRLLW151M500V30X35SF	150	500	30X35	822	0.25	1.27	1.77
NRLLW151M500V35X25SF	150	500	35X25	822	0.25	1.09	1.52
NRLLW181M500V22X60SF	180	500	22X60	900	0.25	1.37	1.91
NRLLW181M500V25X45SF	180	500	25X45	900	0.25	1.31	1.83
NRLLW181M500V30X40SF	180	500	30X40	900	0.25	1.44	2.01
NRLLW181M500V35X30SF	180	500	35X30	900	0.25	1.26	1.76
NRLLW221M500V25X55SF	220	500	25X55	995	0.25	1.52	2.12
NRLLW221M500V30X50SF	220	500	30X50	995	0.25	1.69	2.36
NRLLW221M500V35X35SF	220	500	35X35	995	0.25	1.44	2.01
NRLLW271M500V30X55SF	270	500	30X55	1102	0.25	1.88	2.63
NRLLW271M500V35X40SF	270	500	35X40	1102	0.25	1.62	2.26
NRLLW331M500V35X45SF	330	500	35X45	1219	0.25	1.82	2.54
NRLLW391M500V35X50SF	390	500	35X50	1325	0.25	2.00	2.80
NRLLW471M500V35X55SF	470	500	35X55	1454	0.25	2.20	3.08