Large Can Aluminum Electrolytic Capacitors

NRLUW Series

FEATURES

- LONG LIFE AT +105°C (5,000 HOURS)
- HIGH RIPPLE CURRENT
- HIGH VOLTAGE (UP TO 450VDC)
- SUITABLE FOR SWITCHING POWER SUPPLIES

RoHS Compliant
includes all homogeneous materials

*See Part Number System for Details



SPECIFICATIONS

Operating Temperature Range		-25 ~ +105°C							
Rated Voltage Range		200 ~ 450Vdc							
Rated Capacitance Range		100 ~ 2,200µF							
Capacitance Tolerance		±20% (M)							
Max. Leakage Current (µA) After 5 minutes (20°C)		$3 \times C\sqrt{(\mu F)V}$							
Max. Tan δ at 120Hz/20°C	W.V. (Vdc)	200	220	250	315	350	400	420	450
	Tan δ max.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Surge Voltage	W.V. (Vdc)	200	220	250	315	350	400	420	450
	S.V. (Vdc)	250	270	300	365	400	450	470	500
Ripple Current Correction Factors	Frequency (Hz)	60	120	500	1K	100K			
	Multiplier at 105°C 200 ~ 250Vdc	0.80	1.00	1.20	1.30	1.50			
	Multiplier at 105°C 400 ~ 500Vdc	0.80	1.00	1.20	1.25	1.40			
Impedance Ration (Low Temperature Stability)	Rated Voltage (VDC)	Z (-25°C)/Z (+20°C)							
	200 ~ 250	3 max.							
	315 ~ 450	8 max.							
Load Life Test 5,000 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							
Other		Conforms to JIS C-5141 (1991) & JIS C-5102 (1986)							

MECHANICAL CHARACTERISTICS:

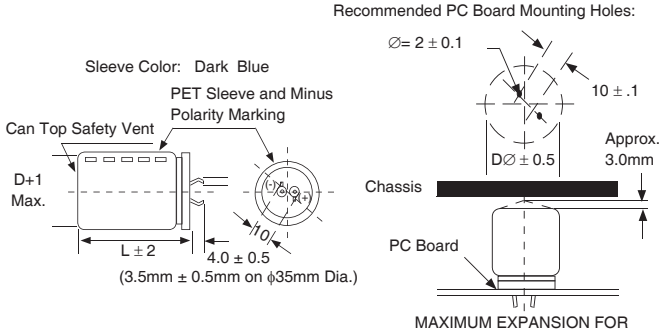
1. Safety Vent:
The capacitors are provided with a pressure vent on the top of can. The vent is designed to rupture in the event that high internal gas pressure is developed by circuit malfunction or mis-use like reverse voltage.

2. Terminal Strength:
Each terminal of the capacitor shall withstand an axial pull force of 4.5Kg for a period 10 seconds or a radial bent force of 2.5Kg for a period of 30 seconds.

PART NUMBER SYSTEM

NRLUW 681 M 220V 30X30 S F

- F — RoHS compliant
- S — Lead Length S=4mm (3.5mm ϕ35mm Dia.)
- 30X30 — Case Size (mm)
- 220V — Voltage Rating
- M — Tolerance Code
- 681 — Capacitance Code
- NRLUW — Series



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
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**

Part Number	Voltage (VDC)	Cap (µF)	Case Size D x L (mm)	Dissipation Factor	Max. Leakage Current (µA)	Max. Ripple Current (Arms @ 105°C)	
						120Hz	10KHz ~ up
NRLUW331M200V22X25SF	200	330	22X25	0.2	770	1.31	1.96
NRLUW391M200V22X30SF		390	22X30	0.2	837	1.32	1.98
NRLUW471M200V22X30SF		470	22X30	0.2	919	1.54	2.31
NRLUW471M200V25X25SF		470	25X25	0.2	919	1.54	2.31
NRLUW561M200V22X35SF		560	22X35	0.2	1003	1.75	2.62
NRLUW561M200V25X30SF		560	25X30	0.2	1003	1.75	2.62
NRLUW681M200V22X40SF		680	22X40	0.2	1106	1.96	2.94
NRLUW681M200V25X35SF		680	25X35	0.2	1106	1.79	2.68
NRLUW681M200V30X25SF		680	30X25	0.2	1106	1.46	2.19
NRLUW821M200V22X50SF		820	22X50	0.2	1214	2.15	3.22
NRLUW821M200V25X40SF		820	25X40	0.2	1214	2.03	3.04
NRLUW821M200V30X30SF		820	30X30	0.2	1214	1.77	2.65
NRLUW821M200V35X25SF		820	35X25	0.2	1214	1.59	2.38
NRLUW102M200V25X45SF		1000	25X45	0.2	1341	2.26	3.39
NRLUW102M200V30X35SF		1000	30X35	0.2	1341	2.06	3.09
NRLUW102M200V35X30SF		1000	35X30	0.2	1341	1.93	2.89
NRLUW122M200V25X50SF		1200	25X50	0.2	1469	2.34	3.51
NRLUW122M200V30X40SF		1200	30X40	0.2	1469	2.34	3.51
NRLUW122M200V35X30SF		1200	35X30	0.2	1469	2.22	3.33
NRLUW152M200V30X45SF		1500	30X45	0.2	1643	2.60	3.90
NRLUW152M200V35X35SF		1500	35X35	0.2	1643	2.56	3.84
NRLUW182M200V30X50SF		1800	30X50	0.2	1800	2.85	4.27
NRLUW182M200V35X40SF		1800	35X40	0.2	1800	2.85	4.27
NRLUW222M200V35X50SF		2200	35X50	0.2	1989	3.14	4.71
NRLUW271M220V22X25SF	220	270	22X25	0.2	731	1.04	1.56
NRLUW331M220V22X30SF		330	22X30	0.2	808	1.26	1.89
NRLUW391M220V22X30SF		390	22X30	0.2	878	1.47	2.20
NRLUW391M220V25X25SF		390	25X25	0.2	878	1.21	1.81
NRLUW471M220V22X35SF		470	22X35	0.2	964	1.64	2.46
NRLUW471M220V25X30SF		470	25X30	0.2	964	1.47	2.20
NRLUW561M220V22X40SF		560	22X40	0.2	1052	1.86	2.79
NRLUW561M220V25X30SF		560	25X30	0.2	1052	1.71	2.56
NRLUW561M220V30X25SF		560	30X25	0.2	1052	1.41	2.11
NRLUW681M220V22X45SF		680	22X45	0.2	1160	2.05	3.07
NRLUW681M220V25X35SF		680	25X35	0.2	1160	1.94	2.91
NRLUW681M220V30X30SF		680	30X30	0.2	1160	1.71	2.56
NRLUW821M220V25X40SF		820	25X40	0.2	1274	2.16	3.24
NRLUW821M220V30X30SF		820	30X30	0.2	1274	1.99	2.98
NRLUW821M220V35X25SF		820	35X25	0.2	1274	1.89	2.83
NRLUW102M220V25X45SF		1000	25X45	0.2	1407	2.37	3.55
NRLUW102M220V30X35SF		1000	30X35	0.2	1407	2.26	3.39
NRLUW102M220V35X30SF		1000	35X30	0.2	1407	2.15	3.22
NRLUW122M220V30X40SF		1200	30X40	0.2	1541	2.51	3.76
NRLUW122M220V35X35SF		1200	35X35	0.2	1541	2.48	3.72

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NRLUW Series

Part Number	Voltage (VDC)	Cap (µF)	Case Size D x L (mm)	Dissipation Factor	Max. Leakage Current (µA)	Max. Ripple Current (Arms @ 105°C)	
						120Hz	10KHz ~ up
NRLUW152M220V30X50SF	220	1500	30X50	0.2	1723	2.75	4.12
NRLUW152M220V35X40SF		1500	35X40	0.2	1723	2.50	3.75
NRLUW182M220V35X45SF		1800	35X45	0.2	1887	3.04	4.56
NRLUW271M250V22X25SF	250	270	22X25	0.2	779	1.18	1.77
NRLUW331M250V22X30SF		330	22X30	0.2	861	1.37	2.05
NRLUW331M250V25X25SF		330	25X25	0.2	861	1.14	1.71
NRLUW391M250V22X35SF		390	22X35	0.2	936	1.56	2.34
NRLUW391M250V25X30SF		390	25X30	0.2	936	1.38	2.07
NRLUW471M250V22X40SF		470	22X40	0.2	1028	1.74	2.61
NRLUW471M250V25X30SF		470	25X30	0.2	1028	1.61	2.41
NRLUW561M250V22X45SF		560	22X45	0.2	1122	1.92	2.88
NRLUW561M250V25X35SF		560	25X35	0.2	1122	1.83	2.74
NRLUW561M250V30X25SF		560	30X25	0.2	1122	1.63	2.44
NRLUW681M250V22X50SF		680	22X50	0.2	1236	2.04	3.06
NRLUW681M250V25X40SF		680	25X40	0.2	1236	2.04	3.06
NRLUW681M250V30X30SF		680	30X30	0.2	1236	1.90	2.85
NRLUW681M250V35X25SF		680	35X25	0.2	1236	1.80	2.70
NRLUW821M250V25X45SF		820	25X45	0.2	1358	2.24	3.36
NRLUW821M250V30X35SF		820	30X35	0.2	1358	2.15	3.22
NRLUW821M250V35X30SF		820	35X30	0.2	1358	1.81	2.71
NRLUW102M250V30X40SF		1000	30X40	0.2	1500	2.39	3.58
NRLUW102M250V35X35SF		1000	35X35	0.2	1500	2.38	3.57
NRLUW122M250V30X45SF		1200	30X45	0.2	1643	2.62	3.93
NRLUW122M250V35X40SF		1200	35X40	0.2	1643	2.39	3.58
NRLUW152M250V35X45SF		1500	35X45	0.2	1837	2.92	4.38
NRLUW182M250V35X50SF		1800	35X50	0.2	2012	3.04	4.56
NRLUW151M315V22X25SF	315	150	22X25	0.2	652	0.82	1.14
NRLUW181M315V22X30SF		180	22X30	0.2	714	0.95	1.33
NRLUW221M315V22X35SF		220	22X35	0.2	789	1.11	1.55
NRLUW221M315V25X25SF		220	25X25	0.2	789	0.98	1.37
NRLUW271M315V22X40SF		270	22X40	0.2	874	1.28	1.79
NRLUW271M315V25X30SF		270	25X30	0.2	874	1.17	1.63
NRLUW331M315V22X45SF		330	22X45	0.2	967	1.45	2.03
NRLUW331M315V25X35SF		330	25X35	0.2	967	1.35	1.89
NRLUW331M315V30X25SF		330	30X25	0.2	967	1.19	1.66
NRLUW391M315V22X50SF		390	22X50	0.2	1051	1.62	2.26
NRLUW391M315V25X40SF		390	25X40	0.2	1051	1.53	2.14
NRLUW391M315V30X30SF		390	30X30	0.2	1051	1.40	1.96
NRLUW391M315V35X25SF		390	35X25	0.2	1051	1.30	1.82
NRLUW471M315V25X45SF		470	25X45	0.2	1154	1.73	2.42
NRLUW471M315V30X35SF		470	30X35	0.2	1154	1.61	2.25
NRLUW471M315V35X30SF		470	35X30	0.2	1154	1.52	2.12
NRLUW561M315V25X50SF		560	25X50	0.2	1260	1.99	2.78
NRLUW561M315V30X40SF		560	30X40	0.2	1260	2.00	2.80
NRLUW561M315V35X30SF		560	35X30	0.2	1260	1.69	2.36

Part Number	Voltage (VDC)	Cap (µF)	Case Size D x L (mm)	Dissipation Factor	Max. Leakage Current (µA)	Max. Ripple Current (Arms @ 105°C)	
						120Hz	10KHz ~ up
NRLUW681M315V30X45SF	315	680	30X45	0.2	1388	2.06	2.88
NRLUW681M315V35X35SF		680	35X35	0.2	1388	1.88	2.63
NRLUW821M315V30X50SF		820	30X50	0.2	1524	2.30	3.22
NRLUW821M315V35X40SF		820	35X40	0.2	1524	2.14	2.99
NRLUW102M315V35X50SF		1000	35X50	0.2	1683	2.53	3.54
NRLUW121M350V22X25SF	350	120	22X25	0.2	614	0.74	1.03
NRLUW151M350V22X30SF		150	22X30	0.2	687	0.89	1.24
NRLUW181M350V22X35SF		180	22X35	0.2	752	1.03	1.44
NRLUW181M350V25X25SF		180	25X25	0.2	752	0.91	1.27
NRLUW221M350V22X40SF		220	22X40	0.2	832	1.17	1.63
NRLUW221M350V25X30SF		220	25X30	0.2	832	1.07	1.49
NRLUW271M350V22X45SF		270	22X45	0.2	922	1.33	1.86
NRLUW271M350V25X35SF		270	25X35	0.2	922	1.25	1.75
NRLUW271M350V30X25SF		270	30X25	0.2	922	1.11	1.55
NRLUW331M350V25X40SF		330	25X40	0.2	1019	1.43	2.00
NRLUW331M350V30X30SF		330	30X30	0.2	1019	1.31	1.83
NRLUW331M350V35X25SF		330	35X25	0.2	1019	1.23	1.72
NRLUW391M350V25X45SF		390	25X45	0.2	1108	1.61	2.25
NRLUW391M350V30X35SF		390	30X35	0.2	1108	1.51	2.11
NRLUW391M350V35X30SF		390	35X30	0.2	1108	1.44	2.01
NRLUW471M350V25X50SF		470	25X50	0.2	1216	1.85	2.59
NRLUW471M350V30X40SF		470	30X40	0.2	1216	1.88	2.63
NRLUW471M350V35X35SF		470	35X35	0.2	1216	1.67	2.33
NRLUW561M350V30X45SF		560	30X45	0.2	1328	1.92	2.68
NRLUW561M350V35X40SF		560	35X40	0.2	1328	1.88	2.63
NRLUW681M350V30X50SF		680	30X50	0.2	1463	2.15	3.01
NRLUW681M350V35X40SF		680	35X40	0.2	1463	2.01	2.81
NRLUW821M350V35X45SF		820	35X45	0.2	1607	2.26	3.16
NRLUW121M400V22X25SF	400	120	22X25	0.2	657	0.79	1.10
NRLUW151M400V22X30SF		150	22X30	0.2	734	0.92	1.28
NRLUW151M400V25X25SF		150	25X25	0.2	734	0.95	1.33
NRLUW181M400V22X35SF		180	22X35	0.2	804	1.05	1.47
NRLUW181M400V25X30SF		180	25X30	0.2	804	1.10	1.54
NRLUW221M400V22X40SF		220	22X40	0.2	889	1.28	1.79
NRLUW221M400V25X30SF		220	25X30	0.2	889	1.12	1.56
NRLUW221M400V30X25SF		220	30X25	0.2	889	1.17	1.63
NRLUW271M400V22X45SF		270	22X45	0.2	985	1.40	1.96
NRLUW271M400V25X35SF		270	25X35	0.2	985	1.40	1.96
NRLUW271M400V30X30SF		270	30X30	0.2	985	1.36	1.90
NRLUW331M400V25X40SF		330	25X40	0.2	1089	1.55	2.17
NRLUW331M400V30X30SF		330	30X30	0.2	1089	1.55	2.17
NRLUW331M400V35X25SF		330	35X25	0.2	1089	1.35	1.89
NRLUW391M400V25X50SF		390	25X50	0.2	1184	1.72	2.40
NRLUW391M400V30X35SF		390	30X35	0.2	1184	1.72	2.40
NRLUW391M400V35X30SF		390	35X30	0.2	1184	1.53	2.14

Large Can Aluminum Electrolytic Capacitors

NRLUW Series

Part Number	Voltage (VDC)	Cap (µF)	Case Size D x L (mm)	Dissipation Factor	Max. Leakage Current (µA)	Max. Ripple Current (Arms @ 105°C)	
						120Hz	10KHz ~ up
NRLUW471M400V30X40SF	400	470	30X40	0.2	1300	1.89	2.64
NRLUW471M400V35X35SF		470	35X35	0.2	1300	1.78	2.49
NRLUW561M400V30X45SF		560	30X45	0.2	1419	1.98	2.77
NRLUW561M400V35X40SF		560	35X40	0.2	1419	1.98	2.77
NRLUW681M400V35X45SF		680	35X45	0.2	1564	2.19	3.06
NRLUW821M400V35X50SF		820	35X50	0.2	1718	2.42	3.38
NRLUW101M420V22X25SF	420	100	22X25	0.2	614	0.74	1.03
NRLUW121M420V22X30SF		120	22X30	0.2	673	0.86	1.20
NRLUW151M420V22X35SF		150	22X35	0.2	752	0.98	1.37
NRLUW151M420V25X25SF		150	25X25	0.2	752	0.90	1.26
NRLUW181M420V22X40SF		180	22X40	0.2	824	1.09	1.52
NRLUW181M420V25X30SF		180	25X30	0.2	824	1.05	1.47
NRLUW221M420V22X45SF		220	22X45	0.2	911	1.21	1.69
NRLUW221M420V25X35SF		220	25X35	0.2	911	1.19	1.66
NRLUW221M420V30X25SF		220	30X25	0.2	911	1.12	1.56
NRLUW271M420V22X50SF		270	22X50	0.2	1010	1.34	1.87
NRLUW271M420V25X40SF		270	25X40	0.2	1010	1.34	1.87
NRLUW271M420V30X30SF		270	30X30	0.2	1010	1.30	1.82
NRLUW271M420V35X25SF		270	35X25	0.2	1010	1.27	1.77
NRLUW331M420V25X45SF		330	25X45	0.2	1116	1.47	2.05
NRLUW331M420V30X35SF		330	30X35	0.2	1116	1.47	2.05
NRLUW331M420V35X30SF		330	35X30	0.2	1116	1.45	2.03
NRLUW391M420V30X40SF		390	30X40	0.2	1214	1.64	2.29
NRLUW391M420V35X35SF		390	35X35	0.2	1214	1.68	2.35
NRLUW471M420V30X45SF		470	30X45	0.2	1332	1.81	2.53
NRLUW471M420V35X35SF		470	35X35	0.2	1332	1.71	2.39
NRLUW561M420V30X50SF		560	30X50	0.2	1454	2.07	2.89
NRLUW561M420V35X40SF		560	35X40	0.2	1454	2.07	2.89
NRLUW681M420V35X50SF		680	35X50	0.2	1603	2.43	3.40
NRLUW101M450V22X25SF	450	100	22X25	0.2	636	0.73	1.02
NRLUW121M450V22X30SF		120	22X30	0.2	697	0.84	1.17
NRLUW121M450V25X25SF		120	25X25	0.2	697	0.87	1.21
NRLUW151M450V22X35SF		150	22X35	0.2	779	0.97	1.35
NRLUW151M450V25X30SF		150	25X30	0.2	779	0.89	1.24
NRLUW181M450V22X40SF		180	22X40	0.2	853	1.08	1.51
NRLUW181M450V25X30SF		180	25X30	0.2	853	1.03	1.44
NRLUW181M450V30X25SF		180	30X25	0.2	853	1.08	1.51
NRLUW221M450V22X45SF		220	22X45	0.2	943	1.17	1.63
NRLUW221M450V25X35SF		220	25X35	0.2	943	1.17	1.63
NRLUW221M450V30X30SF		220	30X30	0.2	943	1.10	1.54
NRLUW221M450V35X25SF		220	35X25	0.2	943	1.04	1.45
NRLUW271M450V25X45SF		270	25X45	0.2	1045	1.43	2.00
NRLUW271M450V30X30SF		270	30X30	0.2	1045	1.28	1.79
NRLUW271M450V35X30SF		270	35X30	0.2	1045	1.25	1.75
NRLUW331M450V25X50SF		330	25X50	0.2	1156	1.45	2.03

Part Number	Voltage (VDC)	Cap (µF)	Case Size D x L (mm)	Dissipation Factor	Max. Leakage Current (µA)	Max. Ripple Current (Arms @ 105°C)	
						120Hz	10KHz ~ up
NRLUW331M450V30X40SF	450	330	30X40	0.2	1156	1.45	2.03
NRLUW331M450V35X30SF		330	35X30	0.2	1156	1.43	2.00
NRLUW391M450V30X45SF		390	30X45	0.2	1256	1.75	2.45
NRLUW391M450V35X35SF		390	35X35	0.2	1256	1.66	2.32
NRLUW471M450V30X50SF		470	30X50	0.2	1379	1.85	2.59
NRLUW471M450V35X40SF		470	35X40	0.2	1379	1.85	2.59
NRLUW561M450V35X45SF		560	35X45	0.2	1505	2.04	2.85