

# Large Can Aluminum Electrolytic Capacitors

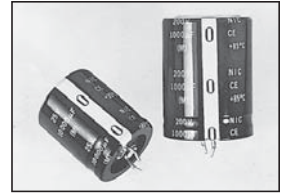
NRLR Series

## FEATURES

- EXPANDED VALUE RANGE
- LONG LIFE AT +85°C (3,000 HOURS)
- HIGH RIPPLE CURRENT
- LOW PROFILE, HIGH DENSITY DESIGN
- SUITABLE FOR SWITCHING POWER SUPPLIES

**RoHS Compliant**  
includes all homogeneous materials

\*See Part Number System for Details



## SPECIFICATIONS

Operating Temperature Range		-40 ~ +85°C					-25 ~ +85°C				
Rated Voltage Range		10 ~ 250Vdc					315 ~ 450Vdc				
Rated Capacitance Range		180 ~ 82,000µF					56 ~ 1,000µF				
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)	10	16	25	35	50	63	80	100	160-400	420-450
	Tan δ max.	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.25
Surge Voltage	W.V. (Vdc)	10	16	25	35	50	63	80	100	160	180
	S.V. (Vdc)	13	20	32	44	63	79	100	125	200	220
	W.V. (Vdc)	200	220	250	315	350	385	400	420	450	-
	S.V. (Vdc)	250	270	300	365	400	435	450	470	500	-
Ripple Current Correction Factors	Frequency (Hz)	50 (60)	120	500	1K	10K <sub>≥</sub>	-	-	-	-	-
	Multiplier at 85°C	10 ~ 100Vdc	0.90	1.00	1.05	1.10	1.15	-	-	-	-
		160 ~ 250Vdc	0.80	1.00	1.20	1.30	1.50	-	-	-	-
		315 ~ 450Vdc	0.80	1.00	1.20	1.25	1.40	-	-	-	-
Low Temperature Stability (10 to 250Vdc)	Temperature (°C)	0	-25	-40	-	-	-	-	-	-	-
	Capacitance Change	-5%	-15%	-30%	-	-	-	-	-	-	-
	Impedance Ratio	1.5	3	12	-	-	-	-	-	-	-
Load Life Test 3,000 hours at +85°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 +85°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									
Surge Voltage Test Per JIS-C-5141 (table #6, #4) Surge voltage applied: 30 seconds "On" and 5.5 minutes no voltage "Off"	Capacitance Change	Within ±20% of initial measured value									
	Tan δ	Less than 200% of specified maximum value									
	Leakage Current	Less than specified maximum value									
Soldering Effect Refer to JISC5102.8.5	Capacitance Change	Within ±10% of initial measured value									
	Tan δ	Less than specified maximum value									
	Leakage Current	Less than specified maximum value									

## MECHANICAL CHARACTERISTICS:

### 1. Safety Vent:

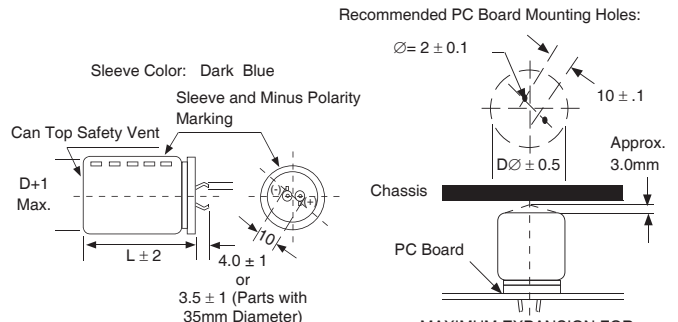
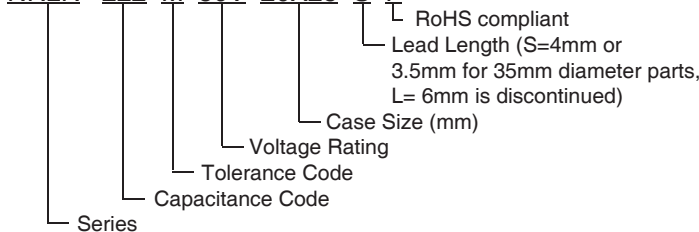
The capacitors are provided with a pressure sensitive safety vent on the top of can. The vent is designed to rupture in the event that high internal gas pressure is developed by circuit malfunction or mis-use like reverse voltage.

### 2. Terminal Strength:

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

## PART NUMBER SYSTEM

NRLR 222 M 50V 20X25 S F



### 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 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 PRODUCT LIST, CASE SIZE AND SPECIFICATIONS

Part Number	Cap (μF)	W.V.	Case Size	ESR (Ω @ 20°C)		Max. Ripple Current (Arms@85°C)	
				120Hz	20KHz	120Hz	10K ~ 50KHz
NRLR103M10V20X25SF	10,000	10	20x25	0.092	0.071	2.22	2.55
NRLR123M10V20X30SF	12,000		20x30	0.076	0.059	2.44	2.80
NRLR123M10V22X25SF			22x25	0.076	0.059	2.41	2.77
NRLR153M10V20X35SF	15,000		20x35	0.061	0.047	2.90	3.33
NRLR153M10V22X30SF			22x30	0.061	0.047	2.88	3.31
NRLR153M10V25X25SF			25x25	0.061	0.047	2.88	3.31
NRLR183M10V20X40SF	18,000		20x40	0.051	0.039	3.31	3.80
NRLR183M10V22X35SF			22x35	0.051	0.039	3.32	3.81
NRLR183M10V25X30SF			25x30	0.051	0.039	3.08	3.54
NRLR223M10V22X40SF			22x40	0.042	0.032	3.79	4.35
NRLR223M10V25X30SF	22,000		25x30	0.042	0.032	3.66	4.20
NRLR223M10V30X25SF			30x25	0.042	0.032	3.58	4.11
NRLR273M10V22X45SF	27,000		22x45	0.034	0.026	4.04	4.64
NRLR273M10V25X35SF			25x35	0.034	0.026	4.04	4.64
NRLR273M10V30X30SF			30x30	0.034	0.026	3.99	4.58
NRLR333M10V22X50SF	33,000		22x50	0.028	0.022	4.58	5.26
NRLR333M10V25X40SF			25x40	0.028	0.022	4.56	5.24
NRLR333M10V30X30SF			30x30	0.028	0.022	4.58	5.26
NRLR392M10V25X45SF	39,000		25x45	0.024	0.018	5.29	6.08
NRLR392M10V30X35SF			30x35	0.024	0.018	5.21	5.99
NRLR393M10V35X30SF			35x30	0.024	0.018	5.05	5.80
NRLR473M10V25X50SF	47,000		25x50	0.020	0.015	5.78	6.64
NRLR473M10V30X40SF			30x40	0.020	0.015	5.78	6.64
NRLR473M10V35X35SF			35x35	0.020	0.015	5.55	6.38
NRLR563M10V30X45SF			30x45	0.017	0.013	6.59	7.57
NRLR563M10V35X35SF	35x35		0.017	0.013	6.40	7.36	
NRLR683M10V30X50SF	68,000		30x50	0.014	0.011	7.50	8.62
NRLR683M10V35X40SF			35x40	0.014	0.011	7.48	8.60
NRLR823M10V35X50SF	82,000		35x50	0.012	0.009	8.50	9.77
NRLR822M16V20X25SF	8,200		16	20x25	0.102	0.078	2.56
NRLR103M16V20X30SF	10,000	20x30		0.083	0.064	2.85	3.27
NRLR103M16V22X25SF		22x25		0.083	0.064	2.85	3.27
NRLR123M16V20X35SF	12,000	20x35		0.070	0.054	3.20	3.68
NRLR123M16V22X30SF		22x30		0.070	0.054	3.20	3.68
NRLR153M16V20X40SF	15,000	20x40		0.056	0.043	3.70	4.25
NRLR153M16V22X35SF		22x35		0.056	0.043	3.70	4.25
NRLR153M16V25X25SF		25x25		0.056	0.043	3.70	4.25
NRLR183M16V22X40SF	18,000	22x40		0.047	0.036	3.98	4.57
NRLR183M16V25X30SF		25x30		0.047	0.036	3.98	4.57
NRLR223M16V22X45SF	22,000	22x45		0.038	0.029	4.52	5.19
NRLR223M16V25X35SF		25x35		0.038	0.029	4.52	5.19
NRLR223M16V30X25SF		30x25		0.038	0.029	4.52	5.19
NRLR273M16V22X50SF	27,000	22x50		0.031	0.024	4.98	5.72
NRLR273M16V25X40SF		25x40		0.031	0.024	4.98	5.72
NRLR273M16V30X30SF		30x30		0.031	0.024	4.98	5.72
NRLR333M16V25X45SF	33,000	25x45		0.026	0.020	5.49	6.31
NRLR333M16V30X35SF		30x35		0.026	0.020	5.49	6.31
NRLR333M16V35X30SF		35x30		0.026	0.020	5.49	6.31
NRLR333M16V25X50SF	39,000	25x50		0.022	0.017	6.11	7.02
NRLR333M16V30X40SF		30x40		0.022	0.017	6.11	7.02
NRLR333M16V35X35SF		35x35		0.022	0.017	6.11	7.02
NRLR473M16V30X45SF	47,000	30x45		0.018	0.014	6.80	7.82
NRLR473M16V35X35SF		35x35		0.018	0.014	6.80	7.82
NRLR563M16V30X50SF	56,000	30x50		0.015	0.012	7.62	8.76
NRLR563M16V35X40SF		35x40		0.015	0.012	7.62	8.76
NRLR683M16V35X45SF	68,000	35x45		0.013	0.010	8.45	9.71
NRLR823M16V35X50SF	82,000	35x50		0.011	0.008	9.14	10.51



## STANDARD PRODUCT LIST, CASE SIZE AND SPECIFICATIONS

Part Number	Cap (μF)	W.V.	Case Size	ESR (Ω @ 20°C)		Max. Ripple Current (Arms @ 85°C)		
				120Hz	20KHz	120Hz	10K ~ 50KHz	
NRLR562M25V20X25SF	5,600	25	20x25	0.134	0.103	2.33	2.67	
NRLR682M25V20X30SF	6,800		20x30	0.110	0.085	2.56	2.94	
NRLR682M25V22X25SF			22x25	0.110	0.085	2.56	2.94	
NRLR822M25V20X35SF	8,200		20x35	0.091	0.070	2.91	3.34	
NRLR822M25V22X30SF			22x30	0.091	0.070	2.91	3.34	
NRLR103M25V20X40SF	10,000		20x40	0.075	0.058	3.18	3.65	
NRLR103M25V22X35SF			22x35	0.075	0.058	3.18	3.65	
NRLR103M25V25X25SF			25x25	0.075	0.058	3.18	3.65	
NRLR123M25V22X40SF	12,000		22x40	0.063	0.048	3.53	4.05	
NRLR123M25V25X30SF			25x30	0.063	0.048	3.53	4.05	
NRLR153M25V22X45SF	15,000		22x45	0.050	0.039	4.08	4.69	
NRLR153M25V25X35SF			25x35	0.050	0.039	4.08	4.69	
NRLR153M25V30X25SF			30x25	0.050	0.039	4.08	4.69	
NRLR183M25V22X50SF	18,000		22x50	0.042	0.032	4.68	5.38	
NRLR183M25V25X40SF			25x40	0.042	0.032	4.68	5.38	
NRLR183M25V30X30SF			30x30	0.042	0.032	4.68	5.38	
NRLR223M25V25X45SF	22,000		25x45	0.034	0.027	5.19	5.96	
NRLR223M25V30X35SF			30x35	0.034	0.027	5.19	5.96	
NRLR223M25V35X30SF			35x30	0.034	0.027	5.19	5.96	
NRLR273M25V25X50SF	27,000		25x50	0.028	0.022	6.02	6.92	
NRLR273M25V30X40SF			30x40	0.028	0.022	6.02	6.92	
NRLR273M25V35X35SF			35x35	0.028	0.022	6.02	6.92	
NRLR333M25V30X45SF	33,000		30x45	0.023	0.018	6.75	7.76	
NRLR333M25V35X40SF			35x40	0.023	0.018	6.75	7.76	
NRLR393M25V30X50SF	39,000		30x50	0.020	0.015	7.56	8.69	
NRLR393M25V35X45SF			35x45	0.020	0.015	7.56	8.69	
NRLR473M25V35X50SF	47,000		35x50	0.016	0.013	8.30	9.54	
NRLR332M35V20X25SF	3,300		35	20x25	0.201	0.155	2.14	2.46
NRLR392M35V20X30SF	3,900			20x30	0.171	0.131	2.28	2.62
NRLR472M35V20X35SF	4,700			20x35	0.142	0.109	2.46	2.82
NRLR472M35V22X25SF		22x25		0.142	0.109	2.46	2.82	
NRLR562M35V20X40SF	5,600	20x40		0.119	0.092	2.79	3.20	
NRLR562M35V22X30SF		22x30		0.119	0.092	2.79	3.20	
NRLR562M35V25X25SF		25x25		0.119	0.092	2.79	3.20	
NRLR682M35V22X35SF	6,800	22x35		0.098	0.076	2.89	3.32	
NRLR682M35V25X30SF		25x30		0.098	0.076	2.89	3.32	
NRLR822M35V22X40SF	8,200	22x40		0.081	0.063	3.47	3.99	
NRLR822M35V25X30SF		25x30		0.081	0.063	3.47	3.99	
NRLR822M35V30X25SF	10,000	30x25		0.081	0.063	3.47	3.99	
NRLR103M35V22X45SF		22x45		0.067	0.052	3.59	4.12	
NRLR103M35V25X35SF		25x35		0.067	0.052	3.59	4.12	
NRLR103M35V30X30SF	12,000	30x30		0.067	0.052	3.59	4.12	
NRLR123M35V22X50SF		22x50		0.056	0.043	4.51	5.18	
NRLR123M35V25X40SF		25x40		0.056	0.043	4.51	5.18	
NRLR123M35V30X30SF	15,000	30x30		0.056	0.043	4.51	5.18	
NRLR153M35V25X45SF		25x45		0.045	0.035	4.80	5.52	
NRLR153M35V30X35SF		30x35		0.045	0.035	4.80	5.52	
NRLR153M35V35X30SF	18,000	35x30		0.045	0.035	4.80	5.52	
NRLR183M35V30X40SF		30x40		0.037	0.029	5.70	6.55	
NRLR183M35V35X35SF		35x35		0.037	0.029	5.70	6.55	
NRLR223M35V30X45SF	22,000	30x45		0.031	0.024	6.38	7.33	
NRLR223M35V35X40SF		35x40		0.031	0.024	6.38	7.33	
NRLR273M35V35X45SF	27,000	35x45		0.025	0.019	6.90	7.93	
NRLR333M35V35X50SF	33,000	35x50		0.021	0.016	7.49	8.61	



## STANDARD PRODUCT LIST, CASE SIZE AND SPECIFICATIONS

Part Number	Cap (μF)	W.V.	Case Size	ESR (Ω @ 20°C)		Max. Ripple Current (Arms@85°C)		
				120Hz	20KHz	120Hz	10K ~ 50KHz	
NRLR222M50V20X25SF	2,200	50	20x25	0.264	0.203	2.07	2.38	
NRLR272M50V20X30SF	2,700		20x30	0.215	0.166	2.21	2.54	
NRLR272M50V22X25SF			22x25	0.215	0.166	2.21	2.54	
NRLR332M50V20X35SF	3,300		20x35	0.176	0.136	2.41	2.77	
NRLR332M50V22X30SF			22x30	0.176	0.136	2.41	2.77	
NRLR392M50V20X40SF	3,900		20x40	0.149	0.115	2.72	3.12	
NRLR392M50V22X30SF			22x30	0.149	0.115	2.72	3.12	
NRLR392M50V25X25SF			25x25	0.149	0.115	2.72	3.12	
NRLR472M50V22X35SF	4,700		22x35	0.124	0.095	3.01	3.46	
NRLR472M50V25X30SF			25x30	0.124	0.095	3.01	3.46	
NRLR562M50V22X40SF	5,600		22x40	0.104	0.080	3.43	3.94	
NRLR562M50V25X35SF			25x35	0.104	0.080	3.43	3.94	
NRLR562M50V30X25SF			30x25	0.104	0.080	3.43	3.94	
NRLR682M50V22X45SF	6,800		22x45	0.086	0.066	3.94	4.53	
NRLR682M50V25X35SF			25x35	0.086	0.066	3.94	4.53	
NRLR682M50V30X30SF			30x30	0.086	0.066	3.94	4.53	
NRLR822M50V25X40SF	8,200		25x40	0.071	0.055	4.37	5.02	
NRLR822M50V30X35SF			30x35	0.071	0.055	4.37	5.02	
NRLR103M50V25X50SF	10,000		25x50	0.059	0.045	5.02	5.77	
NRLR103M50V30X40SF			30x40	0.059	0.045	5.02	5.77	
NRLR103M50V35X30SF			35x30	0.059	0.045	5.02	5.77	
NRLR123M50V30X45SF	12,000		30x45	0.049	0.038	5.60	6.44	
NRLR123M50V35X35SF			35x35	0.049	0.038	5.60	6.44	
NRLR153M50V30X50SF	15,000		30x50	0.039	0.030	6.44	7.40	
NRLR153M50V35X40SF			35x40	0.039	0.030	6.44	7.40	
NRLR183M50V35X45SF	18,000		35x45	0.033	0.025	6.71	7.71	
NRLR152M63V20X25SF	1,500		63	20x25	0.332	0.256	1.69	1.94
NRLR182M63V20X30SF	1,800			20x30	0.277	0.213	2.04	2.34
NRLR182M63V22X25SF		22x25		0.277	0.213	2.04	2.34	
NRLR222M63V20X35SF	2,200	20x35		0.227	0.174	2.40	2.76	
NRLR222M63V22X30SF		22x30		0.227	0.174	2.40	2.76	
NRLR272M63V20X40SF	2,700	20x40		0.185	0.142	2.52	2.89	
NRLR272M63V22X35SF		22x35		0.185	0.142	2.52	2.89	
NRLR272M63V25X25SF		25x25		0.185	0.142	2.52	2.89	
NRLR332M63V22X40SF	3,300	22x40		0.151	0.116	2.69	3.09	
NRLR332M63V25X30SF		25x30		0.151	0.116	2.69	3.09	
NRLR392M63V22X45SF	3,900	22x45		0.128	0.099	3.10	3.56	
NRLR392M63V25X35SF		25x35		0.128	0.099	3.10	3.56	
NRLR392M63V30X25SF	4,700	30x25		0.128	0.099	3.10	3.56	
NRLR472M63V22X50SF		22x50		0.106	0.082	3.49	4.01	
NRLR472M63V25X40SF		25x40		0.106	0.082	3.49	4.01	
NRLR472M63V30X30SF	5,600	30x30		0.106	0.082	3.49	4.01	
NRLR562M63V25X45SF		25x45		0.089	0.069	3.81	4.38	
NRLR562M63V30X35SF	6,800	30x35		0.089	0.069	3.81	4.38	
NRLR682M63V25X50SF		25x50		0.074	0.057	4.41	5.07	
NRLR682M63V30X40SF	8,200	30x40		0.074	0.057	4.41	5.07	
NRLR682M63V35X30SF		35x30		0.074	0.057	4.41	5.07	
NRLR822M63V30X45SF	10,000	30x45		0.061	0.047	4.90	5.63	
NRLR822M63V35X35SF		35x35		0.061	0.047	4.90	5.63	
NRLR103M63V30X50SF	12,000	30x50		0.050	0.039	5.49	6.31	
NRLR103M63V35X40SF		35x40		0.050	0.039	5.49	6.31	
NRLR123M63V35X45SF		35x45		0.042	0.032	6.30	7.24	



## STANDARD PRODUCT LIST, CASE SIZE AND SPECIFICATIONS

Part Number	Cap (μF)	W.V.	Case Size	ESR (Ω @ 20°C)		Max. Ripple Current (Arms @ 85°C)		
				120Hz	20KHz	120Hz	10K ~ 50KHz	
NRLR102M80V20X25SF	1,000	80	20x25	0.415	0.319	1.56	1.79	
NRLR122M80V20X30SF	1,200		20x30	0.346	0.266	1.80	2.07	
NRLR122M80V22X25SF			22x25	0.346	0.266	1.80	2.07	
NRLR152M80V20X30SF	1,500		20x30	0.277	0.213	2.10	2.41	
NRLR152M80V22X30SF			22x30	0.277	0.213	2.10	2.41	
NRLR182M80V20X35SF	1,800		20x35	0.231	0.178	2.30	2.64	
NRLR182M80V22X30SF			22x30	0.231	0.178	2.30	2.64	
NRLR182M80V25X25SF			25x25	0.231	0.178	2.30	2.64	
NRLR222M80V20X40SF	2,200		20x40	0.189	0.145	2.53	2.90	
NRLR222M80V22X35SF			22x35	0.189	0.145	2.53	2.90	
NRLR222M80V25X30SF	2,700		25x30	0.189	0.145	2.53	2.90	
NRLR272M80V22X40SF			22x40	0.154	0.119	2.93	3.36	
NRLR272M80V25X35SF	2,700		25x35	0.154	0.119	2.93	3.36	
NRLR272M80V30X25SF			30x25	0.154	0.119	2.93	3.36	
NRLR332M80V22X45SF	3,300		22x45	0.126	0.097	3.25	3.73	
NRLR332M80V25X35SF			25x35	0.126	0.097	3.25	3.73	
NRLR332M80V30X30SF			30x30	0.126	0.097	3.25	3.73	
NRLR392M80V25X40SF	3,900		25x40	0.107	0.082	3.62	4.16	
NRLR392M80V30X40SF			30x35	0.107	0.082	3.62	4.16	
NRLR472M80V25X45SF	4,700		25x45	0.089	0.068	4.28	4.92	
NRLR472M80V30X40SF			30x40	0.089	0.068	4.28	4.92	
NRLR472M80V35X30SF			35x30	0.089	0.068	4.28	4.92	
NRLR562M80V30X45SF	5,600		30x45	0.075	0.057	4.55	5.23	
NRLR562M80V35X35SF			35x35	0.075	0.057	4.55	5.23	
NRLR682M80V30X45SF	6,800		30x45	0.061	0.047	5.83	6.70	
NRLR682M80V35X40SF			35x40	0.061	0.047	5.83	6.70	
NRLR822M80V35X45SF	8,200		35x45	0.061	0.047	5.83	6.70	
NRLR103M80V35X50SF	10,000		35x50	0.042	0.032	7.03	8.08	
NRLR681M100V20X25SF	680		100	20x25	0.488	0.376	1.66	1.90
NRLR821M100V20X30SF	820			20x30	0.405	0.312	1.86	2.13
NRLR821M100V22X25SF		22x25		0.405	0.312	1.86	2.13	
NRLR102M100V20X30SF	1,000	20x30		0.332	0.256	2.02	2.32	
NRLR102M100V22X30SF		22x30		0.332	0.256	2.02	2.32	
NRLR122M100V20X35SF	1,200	20x35		0.277	0.213	2.12	2.43	
NRLR122M100V22X30SF		22x30		0.277	0.213	2.12	2.43	
NRLR122M100V25X25SF	1,500	25x25		0.277	0.213	2.12	2.43	
NRLR152M100V20X40SF		20x40		0.222	0.171	2.45	2.81	
NRLR152M100V22X35SF	1,500	22x35		0.222	0.171	2.45	2.81	
NRLR152M100V25X30SF		25x30		0.222	0.171	2.45	2.81	
NRLR182M100V22X40SF	1,800	22x40		0.185	0.142	2.77	3.18	
NRLR182M100V25X30SF		25x30		0.185	0.142	2.77	3.18	
NRLR182M100V30X25SF		30x25		0.185	0.142	2.77	3.18	
NRLR222M100V22X45SF	2,200	22x45		0.151	0.116	3.12	3.58	
NRLR222M100V25X35SF		25x35		0.151	0.116	3.12	3.58	
NRLR222M100V30X30SF	2,700	30x30		0.151	0.116	3.12	3.58	
NRLR272M100V25X40SF		25x40		0.123	0.095	3.61	4.15	
NRLR272M100V30X30SF	2,700	30x30		0.123	0.095	3.61	4.15	
NRLR332M100V25X50SF		25x50		0.101	0.078	4.06	4.66	
NRLR332M100V30X35SF	3,300	30x35		0.101	0.078	4.06	4.66	
NRLR332M100V35X30SF		35x30		0.101	0.078	4.06	4.66	
NRLR392M100V30X40SF	3,900	30x40		0.086	0.066	4.60	5.29	
NRLR392M100V35X35SF		35x35		0.086	0.066	4.60	5.29	
NRLR472M100V30X45SF	4,700	30x45		0.071	0.055	5.13	5.89	
NRLR472M100V35X40SF		35x40		0.071	0.055	5.13	5.89	
NRLR562M100V35X45SF	5,600	35x45		0.06	0.046	5.75	6.61	
NRLR682M100V35X50SF	6,800	35x50		0.049	0.038	6.01	6.91	





## STANDARD PRODUCT LIST, CASE SIZE AND SPECIFICATIONS

Part Number	Cap (μF)	W.V.	Case Size	ESR (Ω @ 20°C)		Max. Ripple Current (Arms @ 85°C)		
				120Hz	20KHz	120Hz	10K ~ 50KHz	
NRLR271M160V20X25SF	270	160	20x25	0.922	0.709	1.28	1.92	
NRLR331M160V20X25SF	330		20x25	0.754	0.580	1.55	2.32	
NRLR391M160V20X30SF	390		20x30	0.638	0.491	1.63	2.44	
NRLR391M160V22X25SF			22x25	0.638	0.491	1.63	2.44	
NRLR471M160V20X30SF	470		20x30	0.53	0.408	1.90	2.85	
NRLR471M160V22X30SF			22x30	0.53	0.408	1.86	2.79	
NRLR471M160V25X25SF			25x25	0.53	0.408	1.86	2.79	
NRLR561M160V20X35SF	560		20x35	0.445	0.342	2.14	3.21	
NRLR561M160V22X30SF			22x30	0.445	0.342	2.15	3.22	
NRLR561M160V25X25SF			25x25	0.445	0.342	2.15	3.22	
NRLR681M160V20X40SF	680		20x40	0.366	0.282	2.35	3.52	
NRLR681M160V22X35SF			22x35	0.366	0.282	2.35	3.52	
NRLR681M160V25X30SF			25x30	0.366	0.282	2.33	3.49	
NRLR681M160V30X25SF			30x25	0.366	0.282	2.33	3.49	
NRLR821M160V22X40SF	820		22x40	0.304	0.234	2.68	4.02	
NRLR821M160V25X30SF			25x30	0.304	0.234	2.65	3.97	
NRLR821M160V30X25SF			30x25	0.304	0.234	2.64	3.96	
NRLR102M160V22X45SF	1,000		22x45	0.249	0.192	3.02	4.53	
NRLR102M160V25X35SF			25x35	0.249	0.192	3.00	4.50	
NRLR102M160V30X30SF			30x30	0.249	0.192	2.96	4.44	
NRLR122M160V25X40SF	1,200		25x40	0.208	0.160	3.43	5.14	
NRLR122M160V30X30SF			30x30	0.208	0.160	3.41	5.11	
NRLR122M160V35X30SF	1,500		35x30	0.208	0.160	3.40	5.10	
NRLR152M160V25X50SF			25x50	0.166	0.128	3.96	5.94	
NRLR152M160V30X35SF			30x35	0.166	0.128	3.96	5.94	
NRLR152M160V35X30SF	1,800		35x30	0.166	0.128	3.94	5.91	
NRLR182M160V30X40SF			30x40	0.139	0.107	4.31	6.46	
NRLR182M160V35X35SF	2,200		35x35	0.139	0.107	4.28	6.42	
NRLR222M160V30X50SF			30x50	0.114	0.087	4.96	7.44	
NRLR222M160V35X40SF	2,700		35x40	0.114	0.087	4.96	7.44	
NRLR272M160V35X45SF			35x45	0.093	0.071	5.57	8.35	
NRLR271M180V20X25SF	270		180	20x25	0.922	0.709	1.29	1.93
NRLR331M180V20X30SF	330			20x30	0.754	0.580	1.77	2.65
NRLR331M180V22X25SF	390			22x25	0.754	0.580	1.49	2.23
NRLR391M180V20X30SF				20x30	0.638	0.491	1.84	2.76
NRLR391M180V22X25SF	470	22x25		0.638	0.491	1.84	2.76	
NRLR471M180V20X35SF		20x35		0.530	0.408	1.91	2.86	
NRLR471M180V25X30SF		22x30		0.530	0.408	1.91	2.86	
NRLR471M180V25X25SF	560	25x25		0.530	0.408	2.08	3.12	
NRLR561M180V20X40SF		20x40		0.445	0.342	2.15	3.22	
NRLR561M180V22X35SF	680	22x35		0.445	0.342	2.25	3.37	
NRLR561M180V25X25SF		25x25		0.445	0.342	2.25	3.37	
NRLR681M180V22X35SF		22x35		0.366	0.282	2.48	3.72	
NRLR681M180V25X30SF	820	25x30		0.366	0.282	2.50	3.75	
NRLR681M180V30X25SF		30x25		0.366	0.282	2.46	3.69	
NRLR821M180V22X40SF	820	22x40		0.304	0.234	2.86	4.29	
NRLR821M180V25X35SF		25x35		0.304	0.234	2.75	4.12	
NRLR821M180V30X25SF		30x25		0.304	0.234	2.69	4.03	
NRLR102M180V22X50SF	1,000	22x50		0.249	0.192	3.10	4.65	
NRLR102M180V25X40SF		25x40		0.249	0.192	3.06	4.59	
NRLR102M180V30X30SF		30x30		0.249	0.192	3.10	4.65	
NRLR122M180V25X45SF	1,200	25x45		0.208	0.160	3.63	5.44	
NRLR122M180V30X35SF		30x35		0.208	0.160	3.55	5.32	
NRLR122M180V35X30SF	1,500	35x30		0.208	0.160	3.49	5.23	
NRLR152M180V20X25SF		30x40		0.166	0.128	4.10	6.15	
NRLR152M180V35X35SF	35x35	0.166		0.128	4.02	6.03		

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## STANDARD PRODUCT LIST, CASE SIZE AND SPECIFICATIONS

Part Number	Cap (μF)	W.V.	Case Size	ESR (Ω @ 20°C)		Max. Ripple Current (Arms@85°C)		
				120Hz	20KHz	120Hz	10K ~ 50KHz	
NRLR182M180V30X45SF	1,800	180	30x45	0.139	0.107	4.55	6.82	
NRLR182M180V35X35SF			35x35	0.139	0.107	4.54	6.81	
NRLR222M180V35X40SF			2,200	35x40	0.114	0.087	4.83	7.24
NRLR272M180V35X50SF			2,700	35x50	0.093	0.071	5.3	7.95
NRLR221M200V20X25SF	220	200	20x25	1.131	0.870	1.19	1.78	
NRLR271M200V20X25SF	270		20x25	0.922	0.709	1.39	2.08	
NRLR271M200V22X25SF			22x25	0.922	0.709	1.37	2.05	
NRLR331M200V20X30SF	330		20x30	0.754	0.580	1.56	2.34	
NRLR331M200V22X25SF			22x25	0.754	0.580	1.51	2.26	
NRLR391M200V20X35SF	390		20x35	0.638	0.491	1.74	2.61	
NRLR391M200V22X30SF			22x30	0.638	0.491	1.73	2.59	
NRLR391M200V25X25SF			25x25	0.638	0.491	1.71	2.56	
NRLR471M200V20X35SF	470		20x35	0.530	0.408	2.03	3.04	
NRLR471M200V22X30SF			22x30	0.530	0.408	1.97	2.95	
NRLR471M200V25X25SF			25x25	0.530	0.408	1.95	2.92	
NRLR561M200V20X40SF	560		20x40	0.445	0.342	2.18	3.27	
NRLR561M200V22X35SF			22x35	0.445	0.342	2.18	3.27	
NRLR561M200V25X30SF			25x30	0.445	0.342	2.15	3.22	
NRLR561M200V30X25SF			30x25	0.445	0.342	2.15	3.22	
NRLR681M200V22X40SF	680		22x40	0.366	0.282	2.48	3.72	
NRLR681M200V25X30SF			25x30	0.366	0.282	2.48	3.72	
NRLR681M200V30X25SF			30x25	0.366	0.282	2.48	3.72	
NRLR821M200V22X45SF	820		22x45	0.304	0.234	2.81	4.21	
NRLR821M200V25X35SF			25x35	0.304	0.234	2.79	4.18	
NRLR821M200V30X30SF			30x30	0.304	0.234	2.75	4.12	
NRLR102M200V22X50SF	1,000		22x50	0.249	0.192	3.28	4.92	
NRLR102M200V25X40SF			25x40	0.249	0.192	3.28	4.92	
NRLR102M200V30X35SF			30x35	0.249	0.192	3.15	4.72	
NRLR122M200V25X45SF	1,200		25x45	0.208	0.160	3.61	5.41	
NRLR122M200V30X35SF			30x35	0.208	0.160	3.61	5.41	
NRLR122M200V35X30SF	1,500		35x30	0.208	0.160	3.57	5.35	
NRLR152M200V30X45SF			30x45	0.166	0.128	4.13	6.19	
NRLR152M200V35X35SF	1,800		35x35	0.166	0.128	4.06	6.09	
NRLR182M200V30X50SF			30x50	0.139	0.107	4.60	6.90	
NRLR182M200V35X40SF	2,200		35x40	0.139	0.107	4.59	6.88	
NRLR222M200V35X45SF			35x45	0.114	0.087	5.25	7.87	
NRLR221M220V20X25SF	220		220	20x25	1.131	0.870	1.23	1.84
NRLR271M220V20X30SF	270			20x30	0.922	0.709	1.46	2.19
NRLR271M220V22X25SF		22x25		0.922	0.709	1.42	2.13	
NRLR331M220V20X35SF	330	20x35		0.754	0.580	1.64	2.46	
NRLR331M220V22X30SF		22x30		0.754	0.580	1.59	2.38	
NRLR391M220V20X35SF	390	20x35		0.638	0.491	1.79	2.68	
NRLR391M220V22X30SF		22x30		0.638	0.491	1.80	2.70	
NRLR391M220V25X25SF		25x25		0.638	0.491	1.75	2.62	
NRLR471M220V20X40SF	470	20x40		0.530	0.408	2.12	3.18	
NRLR471M220V22X35SF		22x35		0.530	0.408	2.06	3.09	
NRLR471M220V25X30SF		25x30		0.530	0.408	2.08	3.12	
NRLR561M220V22X40SF	560	22x40		0.445	0.342	2.22	3.33	
NRLR561M220V25X35SF		25x35		0.445	0.342	2.38	3.57	
NRLR561M220V30X25SF		30x25		0.445	0.342	2.18	3.27	
NRLR681M220V22X45SF	680	22x45		0.366	0.282	2.62	3.93	
NRLR681M220V25X35SF		25x35		0.366	0.282	2.56	3.84	
NRLR681M220V30X30SF		30x30		0.366	0.282	2.52	3.78	

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## STANDARD PRODUCT LIST, CASE SIZE AND SPECIFICATIONS

Part Number	Cap (μF)	W.V.	Case Size	ESR (Ω @ 20°C)		Max. Ripple Current (Arms @ 85°C)		
				120Hz	20KHz	120Hz	10K ~ 50KHz	
NRLR821M220V25X45SF	820	220	25x45	0.304	0.234	2.91	4.36	
NRLR821M220V30X35SF			30x35	0.304	0.234	2.84	4.26	
NRLR821M220V35X30SF			35x30	0.304	0.234	2.79	4.18	
NRLR102M220V30X35SF	1,000		30x35	0.249	0.192	3.36	5.04	
NRLR102M220V35X30SF			35x30	0.249	0.192	3.29	4.93	
NRLR122M220V30X40SF	1,200		30x40	0.208	0.160	3.72	5.58	
NRLR122M220V35X35SF			35x35	0.208	0.160	3.68	5.52	
NRLR152M220V30X50SF	1,500		30x50	0.166	0.128	4.18	6.27	
NRLR152M220V35X40SF			35x40	0.166	0.128	4.10	6.15	
NRLR182M220V35X45SF		35x45	0.139	0.107	4.52	6.78		
NRLR181M250V20X25SF	180	250	20x25	1.382	1.063	1.20	1.80	
NRLR221M250V20X25SF	220		20x25	1.131	0.870	1.26	1.89	
NRLR221M250V22X25SF			22x25	1.131	0.870	1.24	1.86	
NRLR271M250V20X30SF	270		20x30	0.922	0.709	1.42	2.13	
NRLR271M250V22X25SF			22x25	0.922	0.709	1.50	2.25	
NRLR331M250V20X35SF	330		20x35	0.754	0.580	1.68	2.52	
NRLR331M250V22X30SF			22x30	0.754	0.580	1.66	2.49	
NRLR331M250V25X25SF			25x25	0.754	0.580	1.61	2.41	
NRLR391M250V20X40SF	390		20x40	0.638	0.491	1.92	2.88	
NRLR391M250V22X35SF			22x35	0.638	0.491	1.88	2.82	
NRLR391M250V25X30SF			25x30	0.638	0.491	1.88	2.82	
NRLR471M250V22X35SF	470		22x35	0.530	0.408	2.15	3.22	
NRLR471M250V25X35SF			25x35	0.530	0.408	2.15	3.22	
NRLR471M250V30X25SF			30x25	0.530	0.408	2.04	3.06	
NRLR561M250V22X40SF	560		22x40	0.445	0.342	2.48	3.72	
NRLR561M250V25X35SF			25x35	0.445	0.342	2.35	3.52	
NRLR561M250V30X25SF			30x25	0.445	0.342	2.35	3.52	
NRLR681M250V25X40SF	680		25x40	0.366	0.282	2.67	4.00	
NRLR681M250V30X30SF			30x30	0.366	0.282	2.71	4.06	
NRLR821M250V25X45SF	820		25x45	0.304	0.234	3.01	4.51	
NRLR821M250V30X35SF			30x35	0.304	0.234	2.98	4.47	
NRLR821M250V35X30SF			35x30	0.304	0.234	2.96	4.44	
NRLR102M250V30X40SF	1,000		30x40	0.249	0.192	3.56	5.34	
NRLR102M250V35X35SF			35x35	0.249	0.192	3.48	5.22	
NRLR122M250V30X45SF			1,200	30x45	0.208	0.160	3.99	5.98
NRLR122M250V35X35SF	35x35			0.208	0.160	3.84	5.76	
NRLR152M250V35X40SF	1,500		35x40	0.166	0.128	4.33	6.49	
NRLR182M250V35X50SF	1,800		35x50	0.139	0.107	4.54	6.81	
NRLR151M315V20X30SF	150		315	20x30	1.658	1.276	1.00	1.40
NRLR181M315V20X35SF	180			20x35	1.382	1.063	1.13	1.58
NRLR181M315V22X30SF				22x30	1.382	1.063	1.29	1.80
NRLR181M315V25X25SF				25x25	1.382	1.063	1.38	1.93
NRLR221M315V20X35SF	220			20x35	1.131	0.870	1.29	1.80
NRLR221M315V22X30SF		22x30		1.131	0.870	1.41	1.97	
NRLR221M315V25X25SF		25x25		1.131	0.870	1.47	2.05	
NRLR271M315V22X35SF	270	22x35		0.922	0.709	1.68	2.35	
NRLR271M315V25X30SF		25x30		0.922	0.709	1.70	2.38	
NRLR331M315V22X40SF	330	22x40		0.754	0.580	1.91	2.67	
NRLR331M315V25X35SF		25x35		0.754	0.580	1.94	2.71	
NRLR331M315V30X25SF		30x25		0.754	0.580	1.98	2.77	
NRLR391M315V22X45SF	390	22x45		0.638	0.491	2.07	2.89	
NRLR391M315V25X40SF		25x40		0.638	0.491	2.11	2.95	
NRLR391M315V30X30SF		30x30		0.638	0.491	2.15	3.01	
NRLR471M315V25X50SF	470	25x50		0.530	0.408	2.31	3.23	
NRLR471M315V30X35SF		30x35		0.530	0.408	2.38	3.33	
NRLR471M315V35X30SF		35x30		0.530	0.408	2.36	3.30	

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## STANDARD PRODUCT LIST, CASE SIZE AND SPECIFICATIONS

Part Number	Cap (μF)	W.V.	Case Size	ESR (Ω @ 20°C)		Max. Ripple Current (Arms @ 85°C)	
				120Hz	20KHz	120Hz	10K ~ 50KHz
NRLR561M315V30X35SF	560	315	30x35	0.445	0.342	2.63	3.68
NRLR561M315V35X30SF			35x30	0.445	0.342	2.69	3.76
NRLR681M315V30X45SF	680		30x45	0.366	0.282	2.80	3.92
NRLR681M315V35X35SF			35x35	0.366	0.282	3.05	4.27
NRLR821M315V30X50SF	820		30x50	0.304	0.234	3.28	4.59
NRLR821M315V35X40SF			35x40	0.304	0.234	3.45	4.83
NRLR102M315V35X45SF	1,000	35x45	0.249	0.192	3.57	4.99	
NRLR121M350V20X30SF	120	350	20x30	2.073	1.595	0.96	1.34
NRLR121M350V22X25SF			22x25	2.073	1.595	1.04	1.45
NRLR151M350V20X30SF	150		20x30	1.658	1.276	1.10	1.54
NRLR151M350V22X30SF			22x30	1.658	1.276	1.20	1.68
NRLR151M350V25X25SF	180		25x25	1.658	1.276	1.22	1.70
NRLR181M350V20X35SF			20x35	1.382	1.063	1.24	1.73
NRLR181M350V22X30SF			22x30	1.382	1.063	1.34	1.87
NRLR181M350V25X25SF	220		25x25	1.382	1.063	1.37	1.91
NRLR221M350V22X35SF			22x35	1.131	0.870	1.47	2.05
NRLR221M350V25X30SF	270		25x30	1.131	0.870	1.53	2.14
NRLR221M350V30X25SF			30x25	1.131	0.870	1.54	2.15
NRLR271M350V22X40SF	330		22x40	0.922	0.709	1.70	2.38
NRLR271M350V25X35SF			25x35	0.922	0.709	1.73	2.42
NRLR271M350V30X25SF			30x25	0.922	0.709	1.80	2.52
NRLR331M350V22X45SF	390		22x45	0.754	0.580	1.87	2.61
NRLR331M350V25X35SF			25x35	0.754	0.580	1.97	2.75
NRLR331M350V30X30SF	470		30x30	0.754	0.580	2.03	2.84
NRLR391M350V25X40SF			25x40	0.638	0.491	2.14	2.99
NRLR391M350V30X35SF	560		30x35	0.638	0.491	2.23	3.12
NRLR391M350V35X30SF			35x30	0.638	0.491	2.30	3.22
NRLR471M350V25X50SF	680		25x50	0.530	0.408	2.55	3.57
NRLR471M350V30X35SF			30x35	0.530	0.408	2.53	3.54
NRLR471M350V35X30SF			35x30	0.530	0.408	2.55	3.57
NRLR561M350V30X40SF	820		30x40	0.445	0.342	2.73	3.82
NRLR561M350V35X35SF			35x35	0.445	0.342	2.75	3.85
NRLR681M350V30X50SF	1,000		30x50	0.366	0.282	3.15	4.41
NRLR681M350V35X40SF			35x40	0.366	0.282	3.15	4.41
NRLR821M350V35X45SF	68		35x45	0.304	0.234	3.47	4.85
NRLR102M350V35X50SF			35x50	0.249	0.192	3.60	5.04
NRLR680M385V20X25SF	82		385	20x25	3.658	2.814	0.68
NRLR820M385V20X30SF		20x30		3.033	2.333	0.74	1.03
NRLR820M385V22X25SF	22x25	3.033		2.333	0.76	1.06	
NRLR101M385V20X30SF	100	20x30		2.487	1.913	0.86	1.2
NRLR101M385V22X30SF		22x30		2.487	1.913	0.89	1.24
NRLR121M385V20X35SF	120	20x35		2.073	1.595	0.96	1.34
NRLR121M385V22X30SF		22x30		2.073	1.595	0.98	1.37
NRLR121M385V25X25SF	150	25x25		2.073	1.595	1.02	1.42
NRLR151M385V20X35SF		20x35		1.658	1.276	1.10	1.54
NRLR151M385V22X35SF		22x35		1.658	1.276	1.12	1.56
NRLR151M385V25X30SF	180	25x30		1.658	1.276	1.14	1.59
NRLR181M385V20X40SF		20x40		1.382	1.063	1.27	1.77
NRLR181M385V22X35SF	220	22x35		1.382	1.063	1.27	1.77
NRLR181M385V25X30SF		25x30		1.382	1.063	1.30	1.82
NRLR181M385V30X25SF	270	30x25		1.382	1.063	1.37	1.91
NRLR221M385V22X40SF		22x40		1.131	0.870	1.42	1.98
NRLR221M385V25X35SF	220	25x35		1.131	0.870	1.48	2.07
NRLR221M385V30X30SF		30x30		1.131	0.870	1.49	2.08
NRLR271M385V22X50SF	270	22x50		0.922	0.709	1.60	2.24
NRLR271M385V25X40SF		25x40		0.922	0.709	1.61	2.25
NRLR271M385V30X30SF	30x30	0.922		0.709	1.64	2.29	

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## STANDARD PRODUCT LIST, CASE SIZE AND SPECIFICATIONS

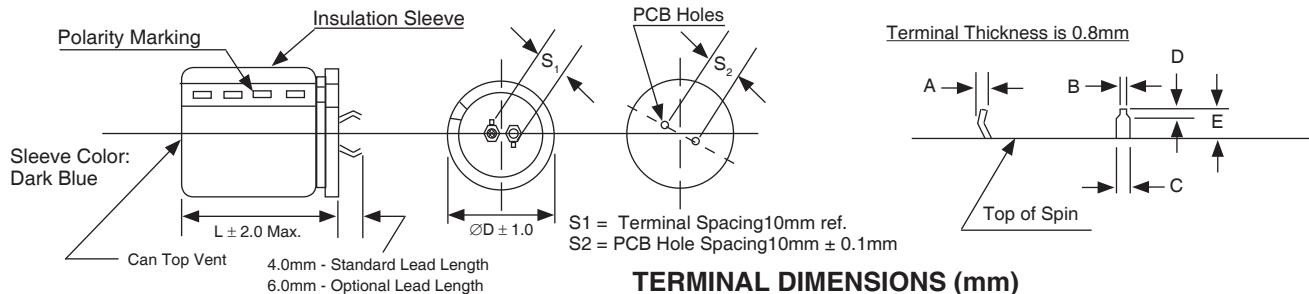
Part Number	Cap (μF)	W.V.	Case Size	ESR (Ω @ 20°C)		Max. Ripple Current (Arms @ 85°C)		
				120Hz	20KHz	120Hz	10K ~ 50KHz	
NRLR331M385V25X45SF	330	385	25x45	0.754	0.580	1.80	2.52	
NRLR331M385V30X35SF			30x35	0.754	0.580	1.85	2.59	
NRLR331M385V35X30SF			35x30	0.754	0.580	1.87	2.61	
NRLR391M385V25X50SF	390		25x50	0.638	0.491	2.04	2.85	
NRLR391M385V30X40SF			30x40	0.638	0.491	2.05	2.87	
NRLR391M385V35X35SF			35x35	0.638	0.491	2.07	2.89	
NRLR471M385V30X45SF	470		30x45	0.530	0.408	2.26	3.16	
NRLR471M385V35X35SF			35x35	0.530	0.408	2.26	3.16	
NRLR561M385V30X50SF	560		30x50	0.445	0.342	2.57	3.59	
NRLR561M385V35X40SF			35x40	0.445	0.342	2.59	3.62	
NRLR681M385V35X45SF	680		35x45	0.366	0.282	2.80	3.92	
NRLR680M400V20X25SF	68		400	20x25	3.658	2.814	0.75	1.05
NRLR820M400V20X30SF	82	20x30		3.033	2.333	0.82	1.14	
NRLR820M400V22X25SF		22x25		3.033	2.333	0.84	1.17	
NRLR101M400V20X30SF	100	20x30		2.487	1.913	0.95	1.33	
NRLR101M400V22X30SF		22x30		2.487	1.913	0.99	1.38	
NRLR121M400V20X35SF	120	20x35		2.073	1.595	1.07	1.49	
NRLR121M400V22X30SF		22x30		2.073	1.595	1.09	1.52	
NRLR121M400V25X25SF		25x25		2.073	1.595	1.13	1.58	
NRLR151M400V20X40SF	150	20x40		1.658	1.276	1.22	1.70	
NRLR151M400V22X35SF		22x35		1.658	1.276	1.24	1.73	
NRLR151M400V25X30SF		25x30		1.658	1.276	1.27	1.77	
NRLR181M400V22X40SF	180	22x40		1.382	1.063	1.41	1.97	
NRLR181M400V25X30SF		25x30		1.382	1.063	1.44	2.01	
NRLR181M400V30X25SF		30x25		1.382	1.063	1.52	2.12	
NRLR221M400V22X45SF	220	22x45		1.131	0.870	1.58	2.21	
NRLR221M400V25X35SF		25x35		1.131	0.870	1.64	2.29	
NRLR221M400V30X30SF		30x30		1.131	0.870	1.66	2.32	
NRLR272M400V25X40SF	270	25x40		0.922	0.709	1.79	2.50	
NRLR272M400V30X30SF		30x30		0.922	0.709	1.82	2.54	
NRLR331M400V25X45SF	330	25x45		0.754	0.580	2.00	2.80	
NRLR331M400V30X35SF		30x35		0.754	0.580	2.05	2.87	
NRLR331M400V35X30SF		35x30		0.754	0.580	2.05	2.87	
NRLR391M400V30X40SF	390	30x40		0.638	0.491	2.26	3.16	
NRLR391M400V35X35SF		35x35		0.638	0.491	2.28	3.19	
NRLR471M400V30X45SF	470	30x45		0.530	0.408	2.51	3.51	
NRLR471M400V35X40SF		35x40		0.530	0.408	2.54	3.55	
NRLR561M400V30X50SF	560	30x50		0.445	0.342	2.85	3.99	
NRLR561M400V35X40SF		35x40		0.445	0.342	2.85	3.99	
NRLR681M400V35X50SF	680	35x50		0.366	0.282	3.10	4.34	
NRLR680M420V20X25SF	68	420		20x25	6.096	4.689	0.70	0.98
NRLR820M420V20X30SF	82			20x30	5.055	3.889	0.80	1.12
NRLR820M420V22X25SF				22x25	5.055	3.889	0.85	1.19
NRLR101M420V20X35SF	100			20x35	4.145	3.189	0.90	1.26
NRLR101M420V22X30SF				22x30	4.145	3.189	0.97	1.35
NRLR101M420V25X25SF	120			25x25	4.145	3.189	0.98	1.37
NRLR121M420V20X35SF				20x35	3.454	2.657	1.04	1.45
NRLR121M420V22X30SF				22x30	3.454	2.657	1.07	1.49
NRLR121M420V25X25SF	150			25x25	3.454	2.657	1.08	1.51
NRLR151M420V20X40SF				20x40	2.764	2.126	1.17	1.63
NRLR151M420V22X35SF	180			22x35	2.764	2.126	1.21	1.69
NRLR151M420V25X30SF				25x30	2.764	2.126	1.26	1.76
NRLR151M420V30X25SF				30x25	2.764	2.126	1.30	1.82
NRLR181M420V22X40SF	180			22x40	2.303	1.772	1.33	1.86
NRLR181M420V25X35SF				25x35	2.303	1.772	1.42	1.98
NRLR181M420V30X25SF				30x25	2.303	1.772	1.48	2.07

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## STANDARD PRODUCT LIST, CASE SIZE AND SPECIFICATIONS

Part Number	Cap (μF)	W.V.	Case Size	ESR (Ω @ 20°C)		Max. Ripple Current (Arms @ 85°C)	
				120Hz	20KHz	120Hz	10K ~ 50KHz
NRLR221M420V22X45SF	220	420	22x45	1.884	1.450	1.55	2.17
NRLR221M420V25X35SF			25x35	1.884	1.450	1.58	2.21
NRLR221M420V30X30SF			30x30	1.884	1.450	1.65	2.31
NRLR271M420V25X40SF	270		25x40	1.536	1.181	1.74	2.43
NRLR271M420V30X35SF			30x35	1.536	1.181	1.90	2.66
NRLR271M420V35X30SF			35x30	1.536	1.181	1.94	2.71
NRLR331M420V25X50SF	330		25x50	1.256	0.967	2.20	3.08
NRLR331M420V30X35SF			30x35	1.256	0.967	1.98	2.77
NRLR331M420V35X35SF			35x35	1.256	0.967	2.17	3.03
NRLR391M420V30X40SF	390		30x40	1.063	0.818	2.22	3.10
NRLR391M420V35X35SF			35x35	1.063	0.818	2.27	3.17
NRLR471M420V30X45SF	470		30x45	0.882	0.679	2.50	3.50
NRLR471M420V35X40SF		35x40	0.882	0.679	2.61	3.65	
NRLR561M420V35X45SF	560	35x45	0.741	0.570	2.95	4.13	
NRLR560M450V20X25SF	56	450	20x25	7.402	5.694	0.61	0.85
NRLR680M450V20X30SF			20x30	6.096	4.689	0.70	0.98
NRLR680M450V22X25SF	68		22x25	6.096	4.689	0.71	0.99
NRLR820M450V20X35SF			20x35	5.055	3.889	0.80	1.12
NRLR820M450V22X25SF	82		22x25	5.055	3.889	0.86	1.20
NRLR101M450V20X35SF			20x35	4.145	3.189	0.88	1.23
NRLR101M450V22X30SF	100		22x30	4.145	3.189	0.95	1.33
NRLR101M450V25X25SF			25x25	4.145	3.189	0.97	1.35
NRLR121M450V20X40SF			20x40	3.454	2.657	0.99	1.38
NRLR121M450V22X35SF	120		22x35	3.454	2.657	1.07	1.49
NRLR121M450V25X30SF			25x30	3.454	2.657	1.09	1.52
NRLR121M450V30X25SF			30x25	3.454	2.657	1.12	1.56
NRLR151M450V22X40SF	150	22x40	2.764	2.126	1.18	1.65	
NRLR151M450V25X30SF		25x30	2.764	2.126	1.25	1.75	
NRLR151M450V30X25SF		30x25	2.764	2.126	1.29	1.80	
NRLR181M450V22X45SF	180	22x45	2.303	1.772	1.32	1.84	
NRLR181M450V25X35SF		25x35	2.303	1.772	1.40	1.96	
NRLR181M450V30X30SF		30x30	2.303	1.772	1.45	2.03	
NRLR221M450V25X40SF	220	25x40	1.884	1.450	1.59	2.22	
NRLR221M450V30X30SF		30x30	1.884	1.450	1.64	2.29	
NRLR221M450V35X30SF		35x30	1.884	1.450	1.66	2.32	
NRLR271M450V25X45SF	270	25x45	1.536	1.181	1.73	2.42	
NRLR271M450V30X35SF		30x35	1.536	1.181	1.89	2.64	
NRLR271M450V35X30SF		35x30	1.536	1.181	1.90	2.66	
NRLR331M450V25X50SF	330	25x50	1.256	0.967	2.12	2.96	
NRLR331M450V30X40SF		30x40	1.256	0.967	2.12	2.96	
NRLR331M450V35X35SF		35x35	1.256	0.967	2.15	3.01	
NRLR391M450V30X45SF	390	30x45	1.063	0.818	2.35	3.29	
NRLR391M450V35X40SF		35x40	1.063	0.818	2.38	3.33	
NRLR471M450V30X50SF	470	30x50	0.882	0.679	2.65	3.71	
NRLR471M450V35X45SF		35x45	0.882	0.679	2.68	3.75	
NRLR561M450V35X50SF	560	35x50	0.741	0.570	2.88	4.03	



### TERMINAL DIMENSIONS (mm)

Terminal Length	A	B	C	D	E
S = 4.0	2.0 max.	0.9 ± 0.1	1.5 ± 0.1	1.5 ± 0.3	4.0 ± 0.50
L = 6.0				2.7 ± 0.3	6.0 ± 1.00

