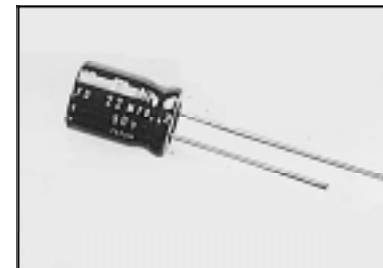


RADIAL LEADS NON-POLARIZED ALUMINUM ELECTROLYTIC CAPACITORS

FEATURES

- DESIGNED FOR APPLICATIONS WHERE POLARITY IS REVERSIBLE OR UNKNOWN
- LOW AC VOLTAGE CAN BE SUPERIMPOSED WITHIN THE LIMITED RIPPLE CURRENT
- STANDARD AND REDUCED CASE SIZES
- MINIMUM ORDERS MAY APPLY



LEADED

CHARACTERISTICS

Capacitance Range		0.47 ~ 1,000μF					
Operating Temperature Range		-40 ~ +85°C					
Rated Voltage Range		10 ~ 100 VDC					
Capacitance Tolerance		± 10%(K), ± 20%(M)					
Max. Leakage Current @ (20°C)	After 5 min.	0.03CV + 6μA					
Max. Tan δ @ 120Hz/25°C		W.V. (Vdc)	10	16	25	35	100
		S.V. (Vdc)	13	20	32	44	125
		Tan δ	0.20	0.18	0.16	0.14	0.09
Low Temperature Stability Impedance Ratio @ 120Hz		Z-25°C/Z+20°C	3	2	2	2	2
		Z-40°C/Z+20°C	8	6	4	3	3
Load Life Test at Rated W.V. 85°C 2,000 Hours (Polarity Shall Be Reversed Every 250 Hours)		Capacitance Change	Within ± 25% of initial measured value				
		Tan δ	Less than 200% of specified maximum value				
		Leakage Current	Less than specified maximum value				

MAXIMUM PERMISSIBLE RIPPLE CURRENT (mA rms) AT 85°C AND 120Hz

Cap. (μF)	Working Voltage (Vdc)					
	10	16	25	35	50	100
0.47					5.0	8.0
1.0					10	15
2.2					20	25
3.3					28	30
4.7			25	30	38	45
10		28	40	45	50	70
22	38	50	60	75	90	120
33	58	60	80	90	110	170
47	70	85	90	125	135	200
100	125	165	180	200	250	
220	225	260	320	350	410	
330	295	360	425	440		
470	390	420	540	585		
1000	620	740				

PART NUMBERING SYSTEM

NNR 101 M 25V 8X11 F
 NNR: Series
 101: Cap. Code: First 2 characters significant
 M: Tolerance Code (M=20%)
 25V: Working Voltage (Vdc)
 8X11: Case Size (Dφ x L)
 F: Lead Free

LEAD SPACING AND DIAMETER (mm)

Case Dia. (DØ)	5	6.3	8	10	12.5	16	18
Lead Dia. (dØ)	0.5	0.5	0.6	0.6	0.6	0.8	0.8
Lead Spacing (F) (NOMINAL)	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Dim. α	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Dim. β	1.5	1.5	1.5	1.5	1.5	2.0	2.0

STANDARD PRODUCTS AND CASE SIZE TABLE: D φ x L (mm)

Cap (μF)	Code	Working Voltage (WVDC)					
		10	16	25	35	50	100
0.47	R47					5x11	5x11
1.0	1R0					5x11	5x11
2.2	2R2					5x11	5x11
3.3	3R3					5x11	6.3x11
4.7	4R7			5x11	5x11	5x11	6.3x11
10	100		5x11	5x11	5x11	6.3x11	8x12.5
22	220	5x11	5x11	5x11	6.3x11	6.3x11	10x16
33	330	5x11	5x11	6.3x11	6.3x11	8x11.5	10x20
47	470	5x11	6.3x11	6.3x11	8x11.5	10x12.5	12.5x25
100	101	6.3x11	8x11.5	8x12.5	10x12.5	10x20	
220	221	8x12.5	10x12.5	10x16	10x20	12.5x25	
330	331	10x12.5	10x16	10x20	12.5x25		
470	471	10x16	10x20	12.5x20	12.5x25		
1000	102	12.5x20	12.5x25				