

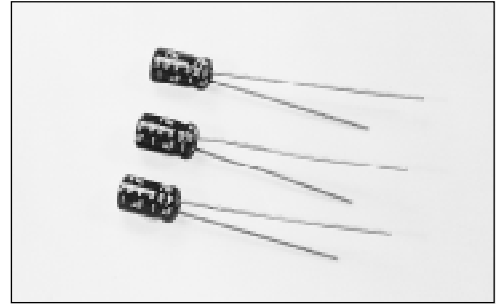
SUBMINIATURE, RADIAL LEADS, POLARIZED

FEATURES

- LOW PROFILE, 7mm HEIGHT
- STABLE & HIGH PERFORMANCE

CHARACTERISTICS

Rated Voltage Range	6.3 ~ 63 VDC							
Capacitance Range	0.1 ~ 220μF							
Operating Temperature Range	-40 ~ +85°C							
Capacitance Tolerance	± 20% (M)							
Max. Leakage Current @ (20°C)	After 2 min.	0.01CV or 3μA, whichever is greater						
Max. Tan δ @ 120Hz/20°C	W.V. (Vdc)	6.3	10	16	25	35	50	63
	S.V. (Vdc)	8	13	20	32	44	63	79
Low Temperature Stability Impedance Ratio @ 120Hz	Tan δ	0.24	0.20	0.16	0.14	0.12	0.10	0.08
	Z-25°C/Z+20°C	4	3	2	2	2	2	2
	Z-40°C/Z+20°C	10	8	6	4	4	4	4
Load Life Test at Rated W.V. 85°C 1,000 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						



LEADED

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

Cap (μF)	Working Voltage (Vdc)						
	6.3	10	16	25	35	50	63
0.1						1.0	1.2
0.22						2.2	2.9
0.33						3.2	4.4
0.47						5.0	5.0
1.0						9	10
2.2						15	17
3.3						18	21
4.7				19	20	23	26
10			25	27	29	34	43
22	29	35	39	43	47	55	65
33	38	43	49	53	60	70	
47	46	53	59	70	75	80	
100	70	80	120	100	105		
220	95	110	110				
330	110						

MAXIMUM ESR (Ω) at 120Hz AND 20°C

Cap (μF)	Working Voltage (Vdc)						
	6.3	10	16	25	35	50	63
0.1						1680	1320
0.22						754	604
0.33						503	404
0.47						353	283
1.0						188	133
2.2						75.4	60.4
3.3						50.3	40.4
4.7				49.5	42.4	35.3	26.3
10			26.6	23.3	19.9	16.6	6.04
22	18.1	15.1	12.1	10.6	9.05	7.54	4.04
33	12.1	10.1	8.05	7.04	6.03	4.80	
47	8.47	7.06	5.65	4.85	4.24	3.53	
100	3.98	3.32	2.88	2.33	1.90		
220	2.49	1.51	1.21				
330	2.21						

STANDARD PRODUCT AND CASE SIZE Table D φ x L (mm)

Cap (μF)	Code	Working Voltage (Vdc)						
		6.3	10	16	25	35	50	63
0.1	R10						4 x 7	4 x 7
0.22	R22						4 x 7	4 x 7
0.33	R33						4 x 7	4 x 7
0.47	R47						4 x 7	4 x 7
1.0	1R0						4 x 7	4 x 7
2.2	2R2						4 x 7	4 x 7
3.3	3R3						4 x 7	4 x 7
4.7	4R7						4 x 7	5 x 7
10	100			4 x 7	4 x 7	4 x 7	5 x 7	6.3 x 7
22	220	4 x 7	4 x 7	4 x 7	5 x 7	5 x 7	6.3 x 7	6.3 x 7
33	330	4 x 7	4 x 7	5 x 7	5 x 7	6.3 x 7	6.3 x 7	
47	470	4 x 7	5 x 7	5 x 7	6.3 x 7	6.3 x 7	6.3 x 7	
100	101	5 x 7	6.3 x 7	6.3 x 7	6.3 x 7	6.3 x 7		
220	221	6.3 x 7	6.3 x 7	6.3 x 7				
330	331	6.3 x 7						

PART NUMBERING SYSTEM

NRES 100 M 35V 4X7 E

Series | Capacitance Code: First 2 characters significant, third character is multiplier | Tolerance Code (M=20%) | Working Voltage (Vdc) | Case Size (Dφ x L) | Lead Free

LEAD SPACING AND DIAMETER (mm)

Case Dia. (Dφ)	4	5	6.3
Leads Dia. (dφ)	0.45	0.45	0.45
Lead Spacing (F)	1.5	2.0	2.5
Dim. α	0.5	0.5	0.5
Dim. β	1.0	1.0	1.0

