Miniature Aluminum Electrolytic Capacitors

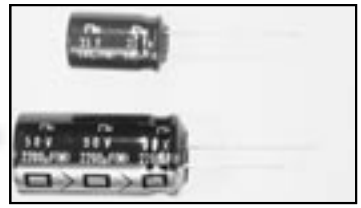
NRSY Series

REDUCED SIZE, LOW IMPEDANCE, RADIAL LEADS, POLARIZED ALUMINUM ELECTROLYTIC CAPACITORS

RoHS Compliant

includes all homogeneous materials

*See Part Number System for Details



FEATURES

- FURTHER REDUCED SIZING
- LOW IMPEDANCE AT HIGH FREQUENCY
- IDEALLY FOR SWITCHERS AND CONVERTERS

CHARACTERISTICS

Rated Voltage Range	6.3 ~ 50Vdc						
Capacitance Range	22 ~ 15,000µF						
Operating Temperature Range	-55 ~ +105°C						
Capacitance Tolerance	±20%(M)						
Max. Leakage Current After 2 minutes At +20°C	0.01CV or 3µA, whichever is greater						
Max. Tan δ @ 120Hz/+20°C	W.V. (Vdc)	6.3	10	16	25	35	50
	S.V. (Vdc)	8	13	20	32	44	63
	C ≤ 1,000µF	0.28	0.24	0.20	0.16	0.14	0.12
	C = 2,200µF	0.30	0.26	0.22	0.18	0.16	0.14
	C = 3,300µF	0.32	0.28	0.24	0.20	0.18	-
	C = 4,700µF	0.34	0.30	0.26	0.22	-	-
	C = 6,800µF	0.38	0.34	0.30	-	-	-
	C = 10,000µF	0.56	0.42	-	-	-	-
	C = 15,000µF	0.56	-	-	-	-	-
Low Temperature Stability Impedance Ratio @ 120Hz	Z-40°C/Z+20°C	3	3	2	2	2	2
	Z-55°C/Z+20°C	6	5	4	4	3	3
Load Life Test at Rated W.V. +105°C 1,000 Hours = 8ϕ or less +105°C 2,000 Hours = 10ϕ +105°C 3,000 Hours = 12.5ϕ up	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 IMPEDANCE (Ω AT 100KHz AND 20°C)

Cap (µF)	Working Voltage (Vdc)					
	6.3	10	16	25	35	50
22	-	-	-	-	-	1.40
33	-	-	-	-	0.72	1.40
47	-	-	-	-	0.50	0.74
100	-	-	0.50	0.30	0.24	0.46
220	0.50	0.30	0.24	0.16	0.15	0.22
330	0.30	0.24	0.16	0.15	0.086	0.18
470	0.24	0.16	0.15	0.086	0.066	0.11
1000	0.15	0.086	0.066	0.047	0.042	0.072
2200	0.066	0.047	0.042	0.040	0.026	0.045
3300	0.047	0.042	0.040	0.026	0.022	-
4700	0.042	0.031	0.026	0.022	-	-
6800	0.031	0.026	0.022	-	-	-
10000	0.026	0.022	-	-	-	-
15000	0.022	-	-	-	-	-

MAXIMUM PERMISSIBLE RIPPLE CURRENT (mA RMS AT 10KHz ~ 200KHz AND 105°C)

Cap (µF)	Working Voltage (Vdc)					
	6.3	10	16	25	35	50
22	-	-	-	-	-	120
33	-	-	-	-	180	130
47	-	-	-	-	180	190
100	-	-	180	280	280	320
220	180	280	280	410	560	520
330	280	280	410	510	710	670
470	280	410	560	710	950	820
1000	560	710	950	1150	1460	1200
2200	950	1150	1460	1650	2000	1750
3300	1150	1460	1650	2000	2200	-
4700	1460	1780	2000	2200	-	-
6800	1780	2000	2200	-	-	-
10000	2000	2200	-	-	-	-
15000	2200	-	-	-	-	-

RIPPLE CURRENT CORRECTION FACTOR

Frequency (Hz)	100<f<1K	1K<f<10K	10K<f
22<C<100	0.55	0.8	1.0
100<C<1000	0.7	0.9	1.0
1000<C	0.9	0.95	1.0

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**
If in doubt or uncertainty, please review your specific application - process details with NIC's technical support personnel: **tpmg@niccomp.com**

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

Cap. (µF)	Code	Working Voltage (Vdc)					
		6.3	10	16	25	35	50
22	220	-	-	-	-	-	5x11
33	330	-	-	-	-	5x11	5x11
47	470	-	-	-	-	5x11	6.3x11
100	101	-	-	5x11	6.3x11	6.3x11	8x11.5
220	221	5x11	6.3x11	6.3x11	8x11.5	8x11.5	10x12.5
330	331	6.3x11	6.3x11	8x11.5	8x11.5	10x12.5	10x16
470	471	6.3x11	8x11.5	8x11.5	10x12.5	10x16	10x20
1000	102	8x11.5	10x12.5	10x16	10x20	12.5x20	12.5x25
2200	222	10x16	10x20	12.5x20	12.5x25	16x25	16x31.5
3300	332	10x20	12.5x20	12.5x25	16x25	16x35.5	-
4700	472	12.5x20	12.5x25	16x25	16x31.5	-	-
6800	682	12.5x25	16x25	16x31.5	-	-	-
10,000	103	16x25	16x31.5	-	-	-	-
15,000	153	16x35.5	-	-	-	-	-

PART NUMBERING SYSTEM

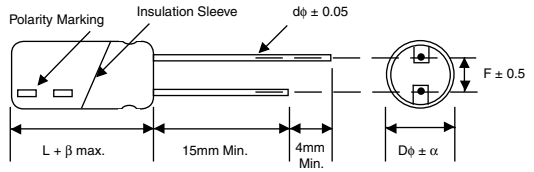
NRSY 102 M 25V 10x25 TB F

- F — RoHS Compliant
- TB — Tape and Box*
- 10x25 — Size (DØ x L)
- 25V — Rated Voltage
- M — Tolerance Code
- 102 — Capacitance Code
- NRSY — Series

*see tape specification for details

LEADSPACE AND DIAMETER (mm)

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



β = L < 20mm = 1.5mm, L ≥ 20mm = 2.0mm