

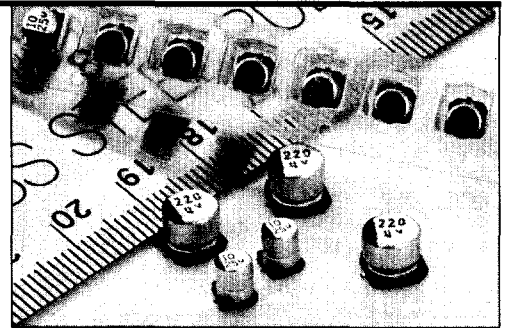
Surface Mount Aluminum Electrolytic Capacitors

NACP Series

SURFACE MOUNT

FEATURES

- CYLINDRICAL LEADLESS TYPE FOR SURFACE MOUNTING
- LOW PROFILE, 4.0mm & 4.6mm MAXIMUM HEIGHT
- DESIGNED FOR AUTOMATIC MOUNTING AND REFLOW SOLDERING



CHARACTERISTICS

Rated Voltage Range	4 ~ 50 Vdc							
Rated Capacitance Range	0.1 ~ 220μF							
Operating Temp. Range	-40° ~ +85°C							
Capacitance Tolerance	±20%(M)							
Max. Leakage Current After 2 Minutes at 20°C	0.01CV or 3μA, whichever is greater							
Surge Voltage & Max. Tanδ	W.V. (Vdc)	4	6.3	10	16	25	35	50
	S.V. (Vdc)	5	8.0	13	20	32	44	63
	Tanδ @ 120Hz/20°C	0.40	0.30	0.24	0.20	0.16	0.14	0.12
Low Temperature Stability (Impedance Ratio @ 120Hz)	W.V. (Vdc)	4	6.3	10	16	25	35	50
	Z-25°C/Z +20°C	7	4	3	2	2	2	2
	Z-40°C/Z +20°C	15	10	8	6	4	4	4
Load Life Test at Rated W.V. 85°C 1,000 Hours	Capacitance Change	Within ± 25% of initial value						
	Tanδ	Less than 200% of specified value						
	Leakage Current	Less than the specified value						

MAXIMUM PERMISSIBLE RIPPLE

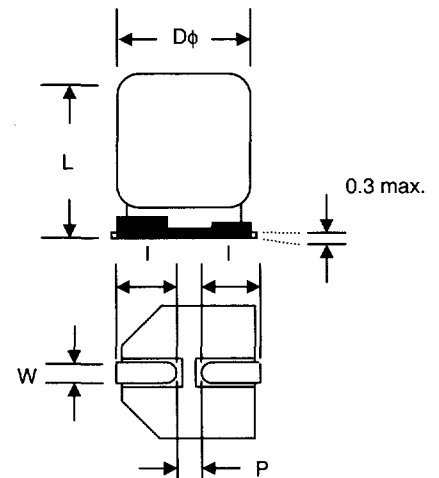
CURRENT (mA rms AT 120Hz AND 85°C)

Cap (μF)	Working Voltage (Vdc)						
	4	6.3	10	16	25	35	50
0.1							1.0
0.22							2.0
0.33							2.8
0.47							4.0
1.0							8.4
2.2							14
3.3							17
4.7					17	18	21
10				23	27	29	33
22		28	33	37	47	49	
33	28	37	41	51	57		
47	33	45	53	61			
100	56	70	74				
220	96						

Denotes 4mm Height

MAXIMUM E.S.R. (Ω AT 20°C AND 120Hz)

Cap (μF)	Working Voltage (Vdc)						
	4	6.3	10	16	25	35	50
0.1							1990
0.22							905
0.33							603
0.47							423
1.0							199
2.2						106	90.5
3.3					80.5	70.5	60.3
4.7				70.7	56.5	49.4	42.3
10			39.9	33.2	26.5	23.2	19.9
22	30.2	22.6	18.1	15.1	12.1	10.8	
33	20.1	15.1	12.6	10.1	8.1		
47	14.1	10.6	8.5	7.1			
100	6.6	5.0					
220	3.0						



STANDARD PRODUCTION SIZE Dø x L (mm)

Cap (μF)	Working Voltage (Vdc)						
	4	6.3	10	16	25	35	50
0.1							4x4.5
0.22							4x4.5
0.33							4x4.5
0.47							4x4.5
1.0							4x4.5
2.2							4x4.5
3.3							4x4.5
4.7					4x4.5	4x4.5	5x4.5
10				4x4.5	5x4.5	5x4.5	6.3x4.5
22		4x4.5	5x4.5	5x4.5	6.3x4.5	6.3x4.5	
33	4x4.5	5x4.5	5x4.5	6.3x4.5	6.3x4.5		
47	4x4.5	5x4.5	6.3x4.5	6.3x4.5			
100	5x4.5	6.3x4.5	6.3x4.5				
220	6.3x4.5						

See page 18 for complete size details.

DIMENSIONS (mm)

Case Size	Dφ ± 0.5	L ± 0.1	A ± 0.2	B ± 0.2	I ± 0.2	W	P ± 0.2
4x4.5	4	4.5	4.3	4.3	1.8	0.5 ~ 0.8	1.0
5x4.5	5	4.5	5.3	5.3	2.1	0.5 ~ 0.8	1.4
6.3x4.5	6.3	4.5	6.6	6.6	2.5	0.5 ~ 0.8	2.2

RIPPLE CURRENT CORRECTION FACTOR

Cap (μF)	Frequency			
	100~<1KHz	1K~<10KHz	10K~<100KHz	≥100K
0.47 ~ 4.7	1.0	1.3	1.5	2.0
10 ~ 33	1.0	1.2	1.3	1.45
47 ~ 220	1.0	1.1	1.2	1.3

PART NUMBERING SYSTEM

NACP 470 M 16V 6.3X4.5 TR 13

- NACP: Series
- 470: Capacitance Code in μF, first 2 digits are significant, Third digit is no. of zeros, "R" indicates decimal for For under 10μF
- M: Tolerance Code M=20%
- 16V: Working Voltage
- 6.3X4.5: Size in mm
- TR: Tape and Reel
- 13: 330mm (13") Reel



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