Surface Mount Aluminum Electrolytic Capacitors NACH Series

FEATURES

- CYLINDRICAL V-CHIP CONSTRUCTION
- WIDE TEMPERATURE -40° ~+105°C
- LONG LIFE (+105°C, 2000 HOURS)
- 6.3 mm MAXIMUM HEIGHT
- DESIGNED FOR REFLOW SOLDERING

RoHS Compliant
includes all homogeneous materials
*See Part Number System for Details

CHARACTERISTICS

Rated Voltage Range	4 ~ 50Vdc							
Rate Capacitance Range	0.1 ~ 220µF							
Operating Temp. Range	-40°C ~ +105°C							
Capacitance Tolerance	±20% (M), ±10% (K)*							
Max. Leakage Current After 2 Minutes @ 20°C	0.01CV or 3µA whichever is greater							
Working Voltage/Surge Voltage Max. Tan δ @120Hz/20°C	W.V. (Vdc)	4	6.3	10	16	25	35	50
	S.V. (Vdc)	5	8.0	13	20	32	44	63
	Dissipation Factor	0.50	0.30	0.22	0.16	0.14**	0.12	0.12
Low Temperature Stability Impedance Ratio @ 120Hz	Z-40°C/Z+20°C	7	4	3	2	2	2	2
	Z-55/Z+20°C	12	8	6	4	4	3	3
Load Life Test @105°C 2,000 Hours	Capacitance Change	Within ±25% of initial measured value						
	Tan δ	Less than 200% of specified value						
	Leakage Current	Less than specified value						

* Optional ± 10% (K) Tolerance available on most values. Contact factory for availability.
** DF is 0.16 for NACH470M25V6.3X8

MAXIMUM PERMISSIBLE RIPPLE CURRENT (mA rms AT 120Hz AND 105°C)

Cap. (µF)	Working Voltage (Vdc)						
	4.0	6.3	10	16	25	35	50
0.1	-	-	-	-	-	-	1.0
0.22	-	-	-	-	-	-	2.0
0.33	-	-	-	-	-	-	3.0
0.47	-	-	-	-	-	-	5.0
1.0	-	-	-	-	-	-	10
2.2	-	-	-	-	-	-	16
3.3	-	-	-	-	-	-	16
4.7	-	-	-	-	22	-	23
10	-	-	-	28	-	28	35
22	-	26	-	39	-	55	-
33	-	29	43	-	65	-	-
47	34	46	-	70	-	-	-
100	61	71	-	-	-	-	-
220	82	-	-	-	-	-	-

MAXIMUM ESR (Ω AT 120Hz AND 20°C)

Cap. (µF)	Working Voltage (Vdc)						
	4.0	6.3	10	16	25	35	50
0.1	-	-	-	-	-	-	1993
0.22	-	-	-	-	-	-	906
0.33	-	-	-	-	-	-	604
0.47	-	-	-	-	-	-	424
1.0	-	-	-	-	-	-	199
2.2	-	-	-	-	-	-	90.6
3.3	-	-	-	-	-	-	60.4
4.7	-	-	-	-	49.5	-	42.4
10	-	-	-	26.6	-	19.9	19.9
22	-	22.6	-	12.1	-	9.05	-
33	-	15.1	11.1	-	7.05	-	-
47	17.7	10.6	-	5.66	-	-	-
100	8.31	4.98	-	-	-	-	-
220	3.77	-	-	-	-	-	-

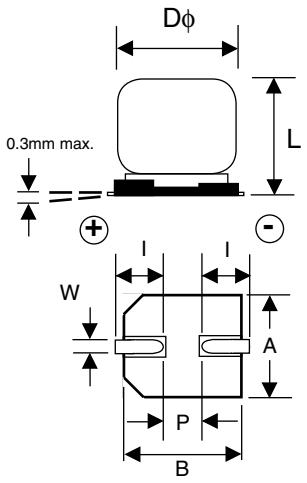
RIPPLE CURRENT FREQUENCY CORRECTION FACTOR

Frequency Hz	50 ≤ f<100	100 ≤ f<1K	1K ≤ f<10K	10K ≤ f < 100K
Correction Factor	0.8	1.0	1.3	1.5

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 DϕxL (mm)

Cap (µF)	Code	Working Voltage (Vdc)						
		4.0	6.3	10	16	25	35	50
0.1	R10	-	-	-	-	-	-	4x6.3
0.22	R22	-	-	-	-	-	-	4x6.3
0.33	R33	-	-	-	-	-	-	4x6.3
0.47	R47	-	-	-	-	-	-	4x6.3
1.0	1R0	-	-	-	-	-	-	4x6.3
2.2	2R2	-	-	-	-	-	-	4x6.3
3.3	3R3	-	-	-	-	-	-	4x6.3
4.7	4R7	-	-	-	-	4x6.3	-	5x6.3
10	100	-	-	-	4x6.3	-	5x6.3	6.3x6.3
22	220	-	4x6.3	-	5x6.3	-	6.3x6.3	-
33	330	-	4x6.3	5x6.3	-	6.3x6.3	-	-
47	470	4x6.3	5x6.3	-	6.3x6.3	-	-	-
100	101	5x6.3	6.3x6.3	-	-	-	-	-
220	221	6.3x6.3	-	-	-	-	-	-



DIMENSIONS (mm)

Case Size	Dϕ ±0.5	L max.	A ±0.2	B ±0.2	I ±0.2	W	P ±0.2
4 x 6.3	4.0	6.3	4.3	4.3	1.8	0.5 ~ 0.8	1.0
5 x 6.3	5.0	6.3	5.3	5.3	2.2	0.5 ~ 0.8	1.5
6.3 x 6.3	6.3	6.3	6.6	6.6	2.5	0.5 ~ 0.8	2.2

PART NUMBER SYSTEM

NACH 100 M 35V 5x6.3 TR 13 F

- F — RoHS Compliant 97% Sn (min.), 3% Bi (max.)
- 13 — 330mm (13") Reel
- TR — Tape & Reel
- 5x6.3 — Size in mm
- 35V — Working Voltage
- M — Tolerance Code M=20%, K=10%
- 100 — Capacitance Code in µF, first 2 digits are significant. Third digit is no. of zeros, "R" indicates decimal for values under 10µF
- NACH — Series