Surface Mount Aluminum Electrolytic Capacitors NATU Series

FEATURES

- **EXTENDED TEMPERATURE +125ºC & LONG LIFE (4,000 HOURS)**
- CYLINDRICAL V-CHIP CONSTRUCTION FOR SURFACE MOUNTING
- DESIGNED FOR AUTOMATIC MOUNTING AND REFLOW SOLDERING
- MEETS THE REQUIREMENTS OF AEC-Q200*

*Contact NIC for supporting test data

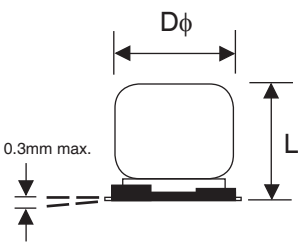


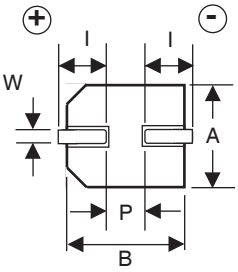
CHARACTERISTICS

Rated Voltage Range	25 ~ 35VDC		
Rated Capacitance Range	100 ~ 330µF		
Operating Temp. Range	-40 ~ +125°C		
Capacitance Tolerance	±20% (M)		
Max. Leakage Current After 2 Minutes @ 20°C	0.01CV		
Tan δ @ 120Hz/20°C	W.V. (Vdc)	25	35
	S.V. (Vdc)	32	44
	Tan δ @ 120Hz/20°C	0.16	0.14
Low Temperature Stability Impedance Ratio @ 120Hz	W.V. (Vdc)	25	35
	Z -25°C/Z +20°C	2	2
	Z -40°C/Z +20°C	3	3
Load Life Test at W.V. @ 125°C All Case Sizes: 4,000 Hours	Capacitance Change	Within ±30% of initial measured value	
	Tan δ	Less than 300% of specified max. value	
	Leakage Current	Less than specified max. value	

STANDARD PRODUCT AND CASE SIZE Dϕ xL (mm)

Cap.(µF)	Code	Working Voltage (Vdc)	
		25	35
100	101	-	8X10.8
150	151	8X10.8	-
220	221	-	10X10.8
330	331	10X10.8	-





DIMENSIONS (mm)

Case Size	Dϕ ±0.5	L max.	A, B ±0.2	I ±0.3	P ±0.3	W
8 x 10.8	8.0	10.8	8.3	2.9	3.2	0.7 ~ 1.0
10 x 10.8	10.0	10.8	10.3	3.2	4.6	1.0 ~ 1.4

Reflow Code
L = +250°C
N = +260°C

Termination / Packaging Code
B = Sn-Bi / 13" reel
LB = Sn-Bi / 15" reel

PART NUMBER SYSTEM

NATU 101 M 35V 8x10.8 N B Y F

- F — RoHS Compliant
- Y — Suitable for automotive equipment, sourced to special production and inspection at TS-16949 certified production site
- B — Termination/Packaging Code: B = Sn-Bi, 13" Reel; LB = Sn-Bi, 15" Reel
- N — Reflow Temperature Code
- 8x10.8 — Size in mm
- 35V — Working Voltage
- M — Tolerance Code M=20%
- 101 — Capacitance Code in µF, first 2 digits are significant. Third digit is no. of zeros, "R" indicates decimal for values under 10µF
- NATU — Series

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 VALUES, CASE SIZES & SPECIFICATIONS

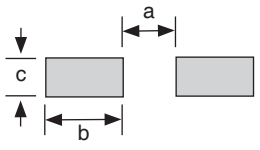
Part Number	Cap. (μF)	Working Voltage	Dissipaton Factpr @120Hz/20°C	Max. ESR (Ω) AT 100KHz/20°C	Max. Ripple Current (mA rms) AT 100KHz/125°C	Load Life Hours @ +125°C
NATU151M25V8X10.8NBYF	150	25	0.16	0.30	300	4,000
NATU331M25V10X10.8LBYF	330		0.16	0.20	500	4,000
NATU101M35V8X10.8NBYF	100	35	0.14	0.30	300	4,000
NATU221M35V10X10.8LBYF	220		0.14	0.20	500	4,000

RIPPLE CURRENT FREQUENCY CORRECTION FACTOR

Frequency (Hz)	100 ≤ f <1K	1K ≤ f <10K	10K ≤ f <100K	100K ≤ f
100μF ~ 330μF	0.6	0.85	0.93	1.00

LAND PATTERN DIMENSIONS (mm)

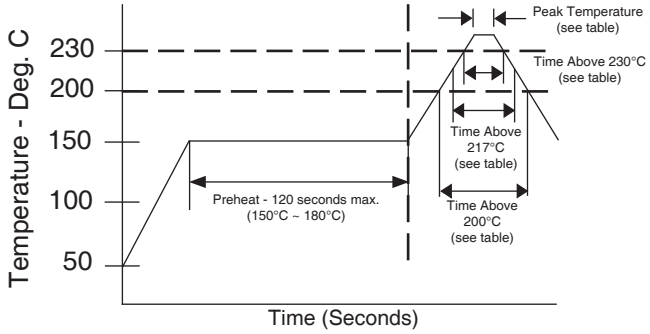
Case Size	a	b	c
8x10.8	2.8	4.1	2.1
10x10.8	4.3	4.4	2.5



PEAK REFLOW TEMPERATURES AND DURATION

Diameter	Time above 200°C	Time above 217°C	Time above 230°C	Peak Temperature 5 seconds
8mm ϕ	80 sec. max.	70 sec. max.	40 sec. max.	260°C
10mm ϕ	70 sec. max.	60 sec. max.	40 sec. max.	250°C

Capacitors can withstand two reflow passes under the specified conditions. Capacitors must be allowed to cool to room temperature before the second reflow pass.



Review & Compare Reflow Soldering Heat Limits
V-chip SMT Aluminum Electrolytic Capacitors
www.niccomp.com/RSL

CARRIER TAPE

Case Size	A ±0.2	B ±0.2	C ±0.3	D ±0.1	P ±0.1	T ±0.2	t max.
8x10.8	8.7	8.7	24.0	11.5	16.0	11.1	0.6
10x10.8	10.7	10.7	24.0	11.5	16.0	11.2	0.6

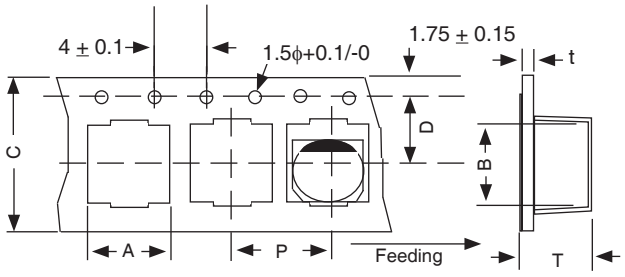
TR13 330mm (13") REEL
TR15 380mm (15") REEL

Case Size	W ±1.0	Qty per Reel	
		13" (330mm)	15" (380mm)
8x10.8	26	300	500
10x10.8	26	300	500

TAPING SPECIFICATIONS (mm)

1. Both Leader and Trailer tape: Minimum 10 empty carrier tape pockets.
2. Leader tape: Approximately 20cm of cover tape at leader.
3. Connection: Maximum 3 connections (slices) per reel.

CARRIER



REEL

