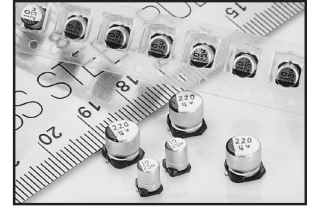


Surface Mount Aluminum Electrolytic Capacitors NATU Series

FEATURES

- **EXTENDED TEMPERATURE +125°C & 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

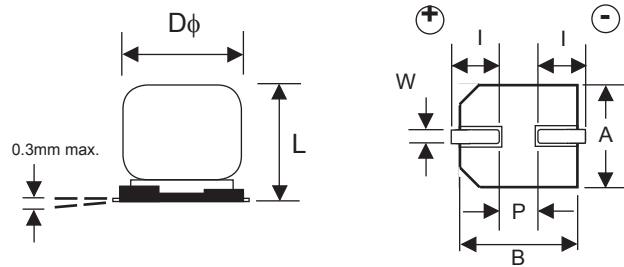


CHARACTERISTICS

Rated Voltage Range	25 ~ 35VDC		
Rated Capacitance Range	100 ~ 330 μ F		
Operating Temp. Range	-40 ~ +125°C		
Capacitance Tolerance	\pm 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 \pm 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 D ϕ xL (mm)

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



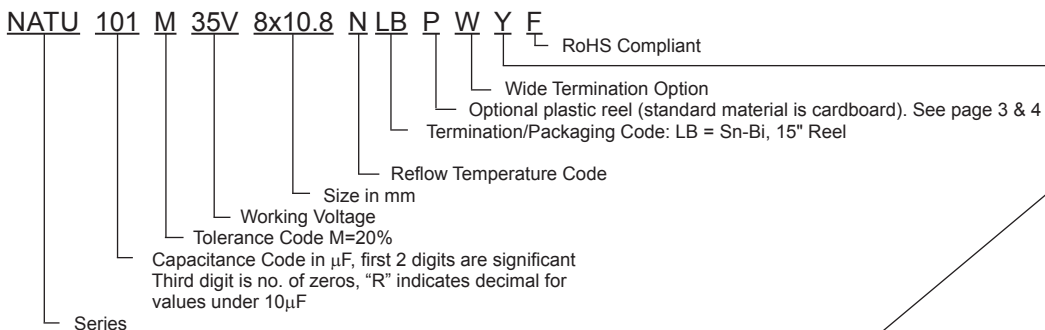
DIMENSIONS (mm)

Case Size	D ϕ \pm 0.5	L max.	A, B \pm 0.2	I \pm 0.3	(P)	W
8 x 10.8	8.0	10.8	8.3	2.9	3.2	0.7 ~ 1.1
10 x 10.8	10.0	10.8	10.3	3.2	4.6	0.7 ~ 1.4

Reflow Code
L = +250°C
N = +260°C

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

PART NUMBER SYSTEM



Suitable for automotive equipment, sourced to special production and inspection at TS-16949 certified production site

PRECAUTIONS

Please review the notes on correct use, safety and precautions found at <https://www.niccomp.com/resource/files/aluminum/AlumApplInfoCautions.pdf>
If in doubt or uncertainty, please review your specific application - process details with NIC's technical support personnel: tpmg@niccomp.com



Surface Mount Aluminum Electrolytic Capacitors NATU Series

STANDARD VALUES, CASE SIZES & SPECIFICATIONS

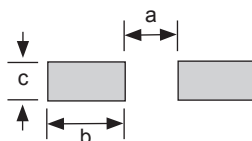
Part Number	Cap. (μF)	Working Voltage	Dissipation Factor @120Hz/20°C	Max. ESR (Ω) AT 100KHz/20°C	Max. Ripple Current (mA rms) AT 100KHz/125°C	Load Life Hours @ +125°C
NATU151M25V8X10.8NLBYF	150	25	0.16	0.30	300	4,000
NATU331M25V10X10.8LLBYF	330		0.16	0.20	500	4,000
NATU101M35V8X10.8NLBYF	100	35	0.14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



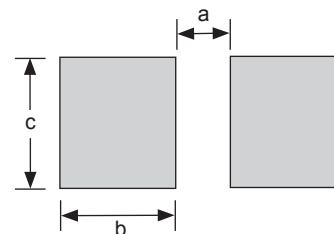
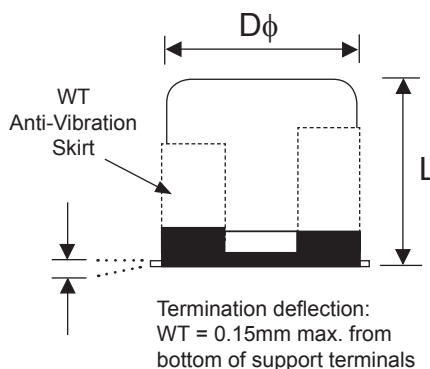
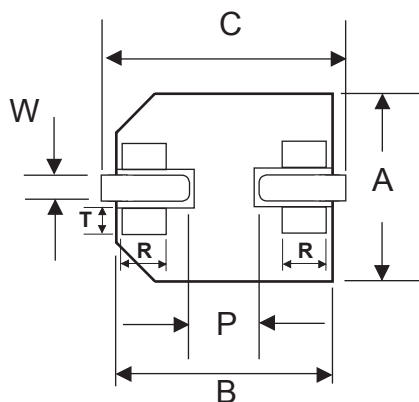
W (WIDE TERMINATIONS) COMPONENT DIM. (mm)

Case Size	Dφ ±0.5	L max.	A, B ±0.2	C ±0.2	P	W	R	T
8x10.8	8.0	11.2	8.3	9.0	(3.2)	0.7 ~ 1.0	(0.7)	(1.3)
10x10.8	10.0	11.2	10.3	11.0	(4.6)	1.0 ~ 1.4	(0.7)	(1.3)

(Reference dimensions)

W (WIDE TERMINATIONS) LAND PATTERN DIM. (mm)

Case Size	a	b	c
8x10.8	2.5	4.5	4.7
10x10.8	3.8	4.8	4.7



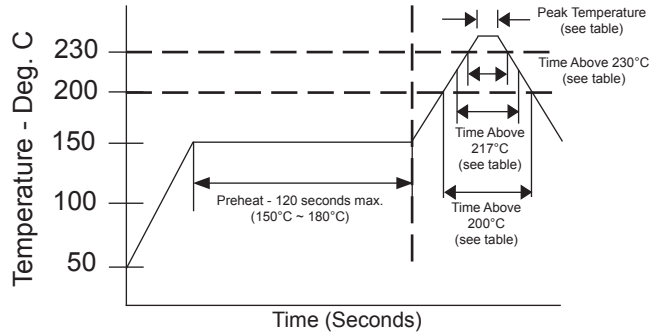
Review & Compare Reflow Soldering Heat Limits
V-chip SMT Aluminum Electrolytic Capacitors
www.niccomp.com/RSL



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.



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

LBF 380mm (15") CARDBOARD REEL

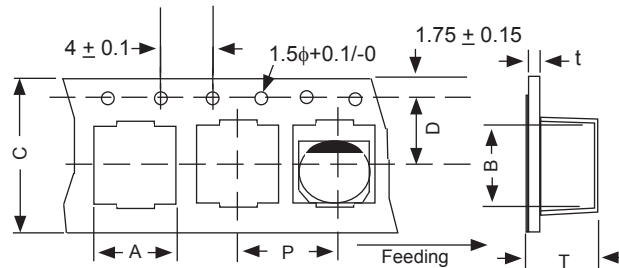
(See page 4 for plastic reel dimensions)

Case Size	W +3/-1	Qty per Reel
		15" (380mm)
8x10.8, 10x10.8	26	500

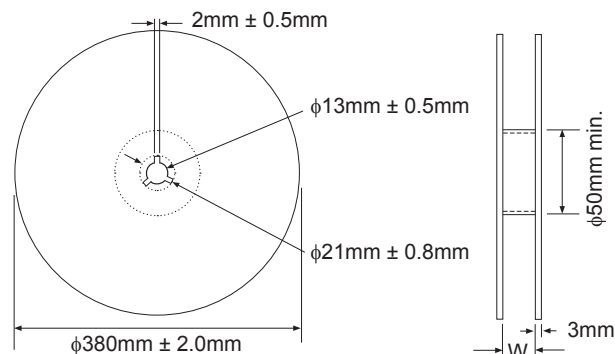
TAPING SPECIFICATIONS (mm)

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

CARRIER

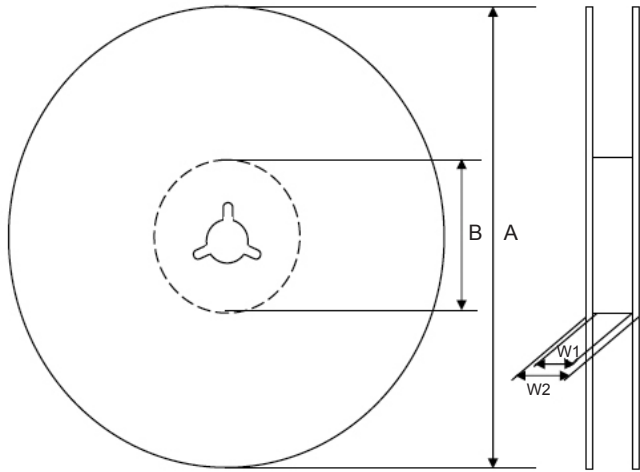


CARDBOARD REEL



Surface Mount Aluminum Electrolytic Capacitors NATU Series

Optional V-Chip 15" (380mm) Plastic Reels (LBPF suffix)

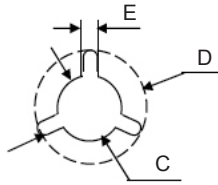


Dimensions (mm)

Case Size	Tape Width	W1	W2
8x10.8, 10x10.8	24.0	24.5 ~ 26.0	27.5 ~ 32.0

Case Size	Tape Width	A	B	C	D	E
8x10.8, 10x10.8	24.0	$\phi 380 \pm 2$	$\phi 80 \sim 105$	$\phi 13 \pm 0.5$	$\phi 21 \pm 1.0$	2.0 ± 0.5

Color
Black or Blue



Case Size	Qty per Reel
	15" (380mm)
8x10.8, 10x10.8	500

