

Surface Mount Aluminum Electrolytic Capacitors NAYT Series

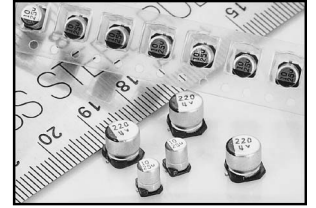
FEATURES

- **HIGH TEMPERATURE +135°C**
- 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	16 ~ 50VDC				
Rated Capacitance Range	47 ~ 1000μF				
Operating Temp. Range	-40 ~ +135°C				
Capacitance Tolerance	±20% (M)				
Max. Leakage Current After 2 Minutes @ 20°C	0.01CV				
Working Voltage & Surge Voltage Ratings	W.V. (Vdc)	16	25	35	50
	S.V. (Vdc)	20	32	44	63
Tan δ @ 120Hz/20°C	Tan δ @ 120Hz/20°C	0.23	0.18	0.16	0.16
Low Temperature Stability Impedance Ratio @ 120Hz	W.V. (Vdc)	16	25	35	50
	Z -25°C/Z +20°C	2	2	2	2
	Z -40°C/Z +20°C	4	3	3	3
Load Life Test at W.V. @ 135°C All Case Sizes: 2,000 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			

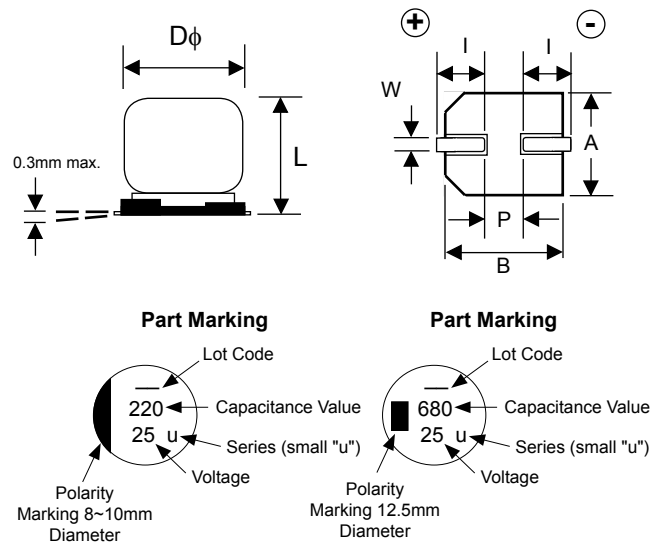


STANDARD PRODUCT AND CASE SIZE Dφ x L (mm)

Cap.(μF)	Code	Working Voltage (Vdc)			
		16	25	35	50
47	470	-	-	-	8x10.8
100	101	-	-	8x10.8	10x10.8
220	221	-	8x10.8	10x10.8	12.5x14
330	331	8x10.8	10x10.8	12.5x14	-
470	471	10x10.8	-	12.5x14	-
680	681	-	12.5x14	-	-
1000	102	12.5x14	-	-	-

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
12.5 x 14	12.5	14.0	12.8	4.5	4.6	1.0 ~ 1.4



PART NUMBER SYSTEM

NAYT 221 M 25V 8x10.8 N LB W Y E

Series
Capacitance Code in μF, first 2 digits are significant
Third digit is no. of zeros, "R" indicates decimal for values under 10μF
Tolerance Code M=20%
Working Voltage
Size in mm
Termination/Packaging Code: B = Sn-Bi, 15" Reel
Reflow Temperature Code
W = Wide Termination (Opt. 8mm ~ 12.5mm dia.)
RoHS Compliant

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

Reflow Code
K = +245°C
L = +250°C
N = +260°C

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 on our website 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



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STANDARD VALUES, CASE SIZES & SPECIFICATIONS

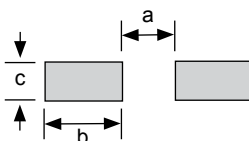
Part Number	Cap. (μF)	Working Voltage	Dissipation Factor @120Hz/20°C	Max. ESR (Ω) AT 100KHz/20°C	Max. Ripple Current (mA rms) AT 100KHz/135°C	Load Life Hours @ +135°C
NAYT331M16V8X10.8NLBYF	330	16V	0.23	0.30	240	2000
NAYT471M16V10X10.8LLBYF	470		0.23	0.20	400	2000
NAYT102M16V12.5X14KLBIF	1000		0.23	0.10	750	2000
NAYT221M25V8X10.8NLBYF	220	25V	0.18	0.30	240	2000
NAYT331M25V10X10.8LLBYF	330		0.18	0.20	400	2000
NAYT681M25V12.5X14KLBIF	680		0.18	0.10	750	2000
NAYT101M35V8X10.8NLBYF	100	35V	0.16	0.30	240	2000
NAYT221M35V10X10.8LLBYF	220		0.16	0.20	400	2000
NAYT331M35V12.5X14KLBIF	330		0.16	0.10	750	2000
NAYT471M35V12.5X14KLBIF	470		0.16	0.10	750	2000
NAYT470M50V8X10.8NLBYF	47	50V	0.16	0.60	160	2000
NAYT101M50V10X10.8LLBYF	100		0.16	0.35	260	2000
NAYT221M50V12.5X14KLBIF	220		0.16	0.15	600	2000

RIPPLE CURRENT FREQUENCY CORRECTION FACTOR

Frequency (Hz)	$100 \leq f < 1K$	$1K \leq f < 10K$	$10K \leq f < 100K$	$100K \leq f$
47μF ~ 1,000μF	0.6	0.85	0.93	1.00

LAND PATTERN DIMENSIONS (mm)

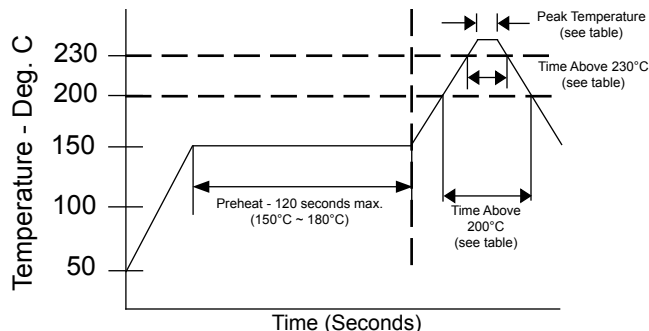
Case Size	a	b	c
8x10.8	2.8	4.1	2.1
10x10.8	4.3	4.4	2.5
12.5x14	4.3	5.8	2.5



PEAK REFLOW TEMPERATURES AND DURATION

Diameter	Time above 200°C	Time above 230°C	Peak Temperature 5 seconds
φ8mm	Within 80 sec.	Within 40 sec.	+260°C
φ10mm	Within 70 sec.	Within 40 sec.	+250°C
φ12.5mm	Within 60 sec.	Within 30 sec.	+245°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.

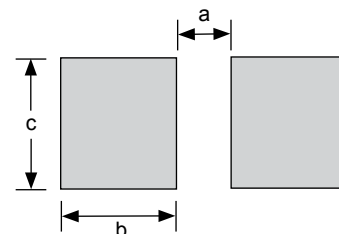
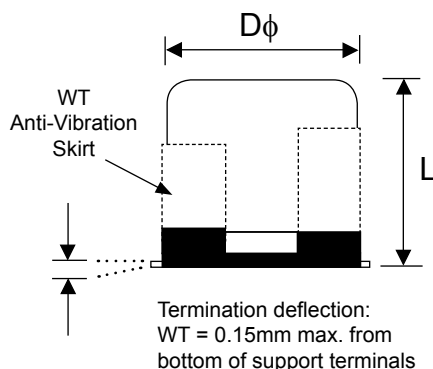
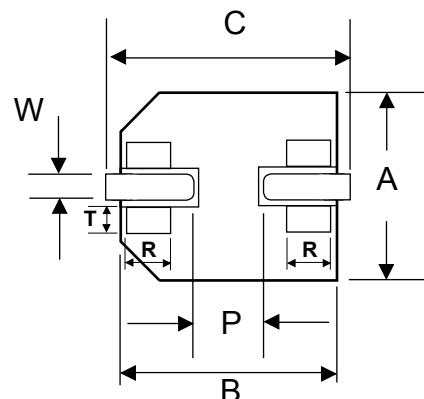


W (WIDE TERMINATIONS) COMPONENT DIM. (mm)

Case Size	Dφ ±0.5	L max.	A, B ±0.2	C ±0.2	P ±0.2	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)
12.5x14	12.5	14.5	13.5	14.2	4.6	1.0 ~ 1.4	(2.2)	(2.4)

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
12.5x14	3.8	6.1	6.9



W (Wide Terminations) Anti-Vibration Test	
Test Method	Direction: X, Y, Z axis Frequency & Duration: 5 to 2000Hz reciprocation, 2 hours each direction Peak to Peak Amplitude: 5mm Peak Acceleration: 30G Sweep Type: Log
Δ Capacitance	Within $\pm 10\%$ of initial value
Tangent of Loss	$\leq$ Specified value
Leakage Current	$\leq$ Specified value

CARRIER TAPE

Case Size	A ± 0.2	B ± 0.2	C ± 0.3	D ± 0.1	P ± 0.1	T ± 0.2	t max.	S ± 0.1
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	-
12.5x14	13.2	13.2	32.0	14.2	24.0	14.3	0.6	28.4

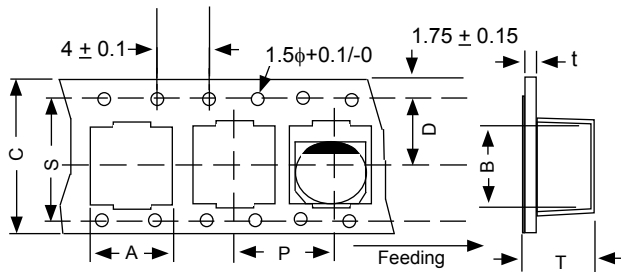
TR15 380mm (15") REEL

Case Size	W ± 1.0	Qty per Reel 15" (380mm)
8x10.8	26	500
10x10.8	26	500
12.5x14	34	250

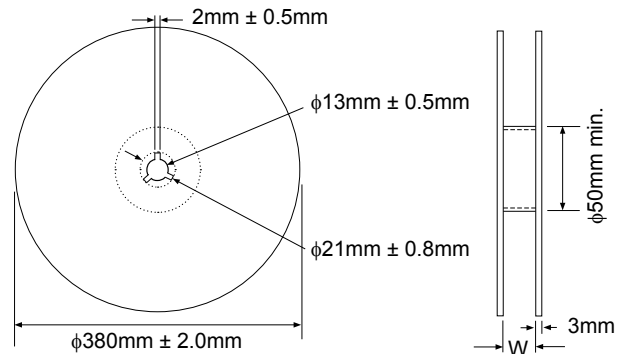
TAPING SPECIFICATIONS (mm)

- 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



REEL



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

