

# NAZHA Series

## Surface Mount Aluminum Electrolytic Capacitors



### FEATURES

- CYLINDRICAL V-CHIP CONSTRUCTION FOR SURFACE MOUNTING
- REDUCED SIZE
- AVAILABLE WITH ANTI-VIBRATION TERMINATIONS
- SUIT FOR HIGH TEMPERATURE REFLOW SOLDERING (UP TO 245°C)
- UP TO 5,000 HOUR LOAD LIFE @ +105°C
- DESIGNED FOR AUTOMATIC MOUNTING AND REFLOW SOLDERING
- MEETS THE REQUIREMENTS OF AEC-Q200\*



\*Contact NIC for supporting test data

### CHARACTERISTICS

Rated Voltage Rating	6.3 ~ 35Vdc					
Rated Capacitance Range	330 ~ 2,200 $\mu$ F					
Operating Temp. Range	-55 ~ +105°C					
Capacitance Tolerance	$\pm$ 20% (M)					
Max. Leakage Current After 2 Minutes @ 20°C	0.01CV or 3 $\mu$ A whichever is greater					
Tan $\delta$ @ 120Hz/20°C	W.V. (Vdc)	6.3	10	16	25	35
	S.V. (Vdc)	8.0	13	20	32	44
	Tan $\delta$ @ 120Hz/20°C	0.26	0.19	0.16	0.14	0.12
Low Temperature Stability Impedance Ratio @ 120Hz	W.V. (Vdc)	6.3	10	16	25	35
	Z-25°C/Z+20°C	2	2	2	2	2
	Z-40°C/Z+20°C	3	3	3	3	3
	Z-55°C/Z+20°C	4	4	4	3	3
Load Life Test @ 105°C 6.3V = 3,000 hours 10V = 4,000 hours 16V ~ 35V = 5,000 hours	Capacitance Change	Within $\pm$ 35% of initial measured value				
	Tan $\delta$	Less than $\pm$ 300% of the specified maximum value				
	Leakage Current	Less than the specified maximum value				

### STANDARD VALUES AND CASE SIZES (mm)

Cap. ( $\mu$ F)	Code	Working Voltage (Vdc)				
		6.3	10	16	25	35
330	331	-	-	-	-	8x10.5
470	471	-	-	-	8x10.5	-
560	561	-	-	-	-	10x10.5
680	681	-	-	8x10.5	-	-
820	821	-	-	-	10x10.5	-
1000	102	-	8x10.5	10x10.5	-	-
1200	122	8x10.5	-	-	-	-
1500	152	-	10x10.5	-	-	-
2200	222	10x10.5	-	-	-	-

### PEAK REFLOW TEMPERATURE CODES

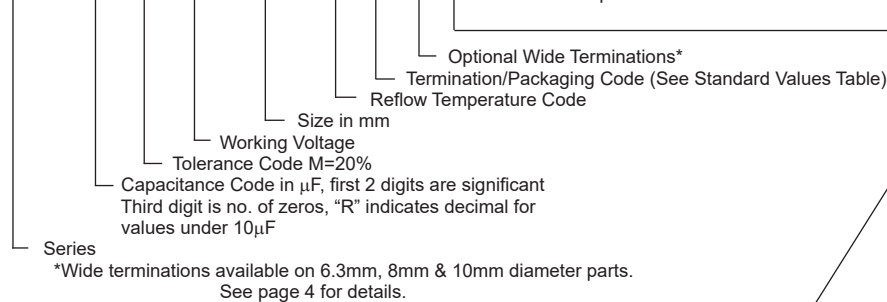
Code	Peak Reflow Temperature
K	245°C

### TERMINATION FINISH & PACKAGING OPTIONS CODES

Code	Finish & Reel Size
LB	Sn-Bi Finish & 15" Reel

### PART NUMBER SYSTEM

NAZHA 681 M 16V 8x10.5 K LB W Y E



Optional: AEC-Q200 parts available suitable for automotive equipment, sourced to special production and inspection at IATF-16949 certified production site

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### STANDARD VALUES, CASE SIZES AND SPECIFICATIONS

NIC Part Number	Cap. (μF)	W.V. (Vdc)	Dissipation Factor (Tan δ)	Max. ESR (Ω) +20°C/100KHz	Max. Ripple Current (mA) +105°C/100KHz	Load Life Hours @ +105°C
NAZHA122M6.3V8X10.5KLBF	1200	6.3	0.26	0.08	850	3,000
NAZHA222M6.3V10X10.5KLBF	2200		0.28	0.06	1190	3,000
NAZHA102M10V8X10.5KLBF	1000	10	0.19	0.08	850	4,000
NAZHA152M10V10X10.5KLBF	1500		0.19	0.06	1190	4,000
NAZHA681M16V8X10.5KLBF	680	16	0.16	0.08	850	5,000
NAZHA102M16V10X10.5KLBF	1000		0.16	0.06	1190	5,000
NAZHA471M25V8X10.5KLBF	470	25	0.14	0.08	850	5,000
NAZHA821M25V10X10.5KLBF	820		0.14	0.06	1190	5,000
NAZHA331M35V8X10.5KLBF	330	35	0.12	0.08	850	5,000
NAZHA561M35V10X10.5KLBF	560		0.12	0.06	1190	5,000

### RIPPLE CURRENT FREQUENCY CORRECTION FACTORS

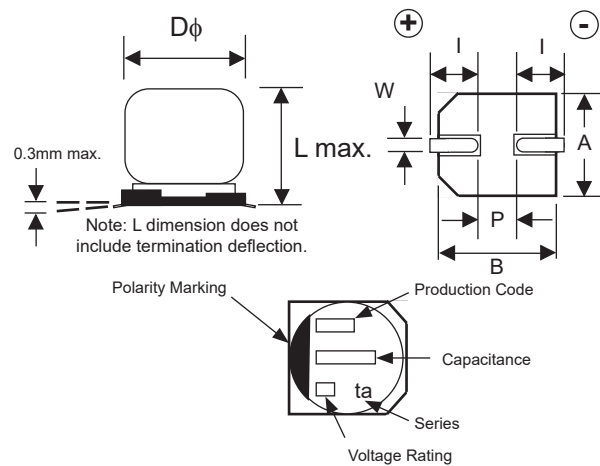
Frequency	120Hz	1KHz	10KHz	100KHz~
All Values	0.60	0.85	0.95	1.00

### COMPONENT DIMENSIONS (mm)

Case Size	φD±0.5	L max.	A±0.2	B±0.2	(l)	W	(P)
8x10.5*	8.0	10.5	8.3	8.3	2.9	0.7~1.1	3.1
10x10.5*	10.0	10.5	10.3	10.3	3.2	0.8~1.4	4.5

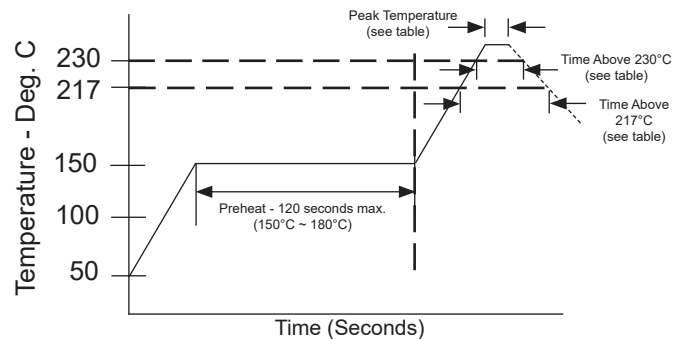
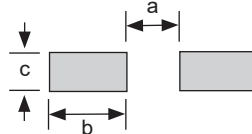
\*See page 3 wide termination component dimensions.

( ) indicates reference dimension



### RECOMMENDED LAND PATTERN DIMENSIONS (mm)

Case Size	a	b	c
8x10.5	2.8	4.2	2.2
10x10.5	4.3	4.4	2.5



### PEAK REFLOW TEMPERATURE AND DURATION

Diameter	Peak Temperature (within 5 sec.)	Time $\geq 230^\circ\text{C}$	Time $\geq 217^\circ\text{C}$	Number of Reflow Passes*
8 ~ 10mm $\phi$	245°C	30	40	2

\*Second reflow shall be at least one hour after natural cool to room temperature.

### RESISTANCE TO SOLDERING HEAT

Resistance to Soldering Heat	After reflow soldering the capacitor shall be stabilized at room temperature prior to measuring.	
	Capacitance Change	Within $\pm 15\%$ of initial measured value
	Tan $\delta$	Less than specified maximum value
	Appearance	No significant change can be observed

### Performance Passives By Design

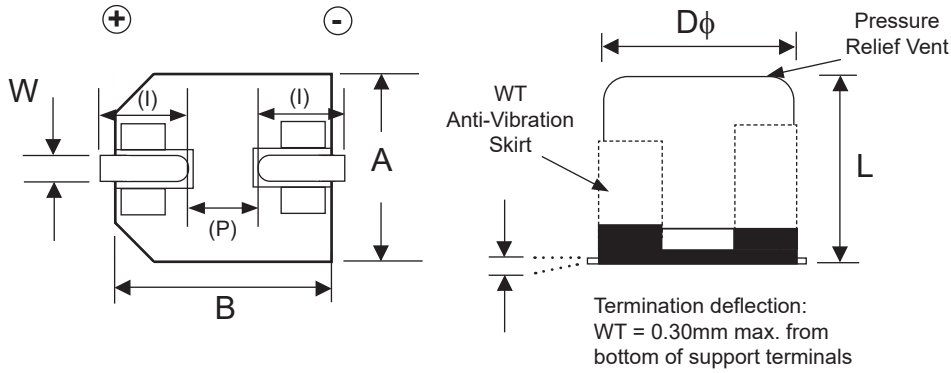
# NAZHA Series

## Surface Mount Aluminum Electrolytic Capacitors



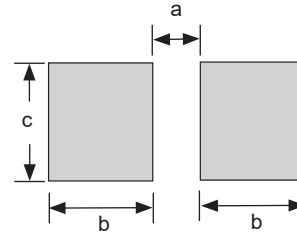
### WIDE TERMINATION (WT) DIM. (mm)

Case Size	$D\phi \pm 0.5$	L max.	A, B $\pm 0.2$	P ref.	I ref.	W
8x10.5	8.0	11.2	8.3	(3.1)	(3.0)	0.7 ~ 1.1
10x10.5	10.0	11.2	10.3	(4.5)	(3.3)	0.7 ~ 1.4



### WT LAND PATTERN DIM. (mm)

Case Size	a	b	c
8x10.5	2.5	4.5	4.7
10x10.5	3.8	4.9	4.7



### 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](mailto:tpmg@niccomp.com)

# NAZHA Series

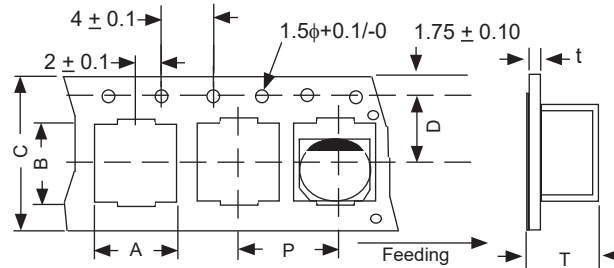
## Surface Mount Aluminum Electrolytic Capacitors



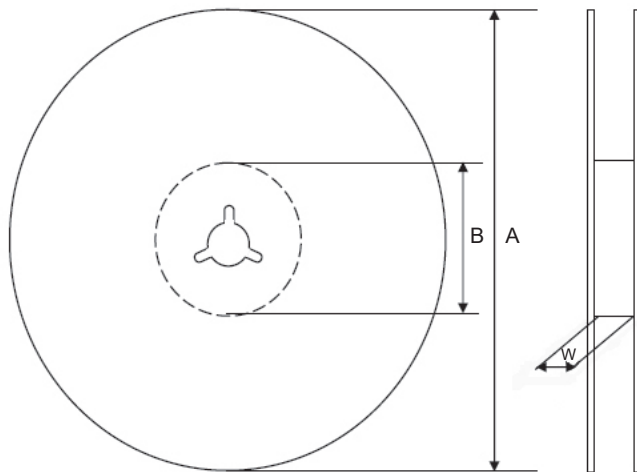
### CARRIER TAPE DIMENSIONS

Case Size	A ref.	B ref.	C ±0.3	D ref.	P ±0.1	T ±0.2	t max.
8x10.5	8.7	8.7	24.0	11.5	16.0	11.0	0.6
10x10.5	10.7	10.7	24.0	11.5	16.0	11.0	

1. Leader and trailer will have a minimum of 10 empty pockets and 20cm of extended cover tape.
2. A maximum of 3 connections (splices) per reel.



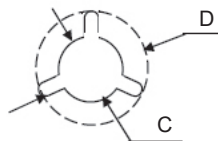
### V-Chip 15" (380mm) Reels (LB suffix)



#### Dimensions (mm)

Case Size	W
8x10.5, 10x10.5	25.5

Case Size	A	B	C	D
8x10.5	φ380 ±2.0	φ50 min.	φ13 ±0.2	φ21 ±0.8
10x10.5				



Case Size	Reel Quantity
	15" (380mm)
8x10.5	500
10x10.5	500