

**105°C LEAD FREE REFLOW SOLDERING.**  
**ALUMINUM ELECTROLYTIC CAPACITOR, POLARIZED**  
**FEATURES**

**G RoHS COMPLIANT**

- LOAD LIFE : 105°C 3000 ~ 5000 HOURS
- CYLINDRIAL LEADLESS TYPE FOR SURFACE MOUNTING
- LEAD FREE REFLOW SOLDERING IS AVAILABLE

**CHARACTERISTICS**

Rated Voltage Range		6.3 ~ 35 Vdc				
Capacitance Range		330 ~ 2200 $\mu$ F				
Operating Temperature 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				
Rated Voltage (Vdc)		6.3	10	16	25	35
Surge Voltage (Vdc)		8	13	20	32	44
Max. Tan $\delta$ @120Hz/20°C		0.26	0.19	0.16	0.14	0.12
Low Temperature Stability Impedance Ratio @ 120Hz	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 With Rated Voltage	Test	6.3V : 3000 hrs				
		10V : 4000 hrs				
		16~35V : 5000 hrs				
	Capacitance Change	Within $\pm 30\%$ of the initial measured value				
	Tan $\delta$	Less than 300% of the specified value				
Resistance to Soldering Heat	Leakage Current	Less than the specified value				
	After reflow soldering and then being stabilized at +20°C, capacitors shall meet the following limits.					
	Capacitance Change	Within $\pm 15\%$ of the initial measured value				
	Tan $\delta$	Less than the specified value				
	Appearance	No visible damage and no leakage of electrolyte				

**STANDARD PRODUCT TABLE (  $\Phi$ D x L mm )**

R.V.(Vdc) Cap.( $\mu$ F)	6.3	10	16	25	35
330					8X10.5
470				8X10.5	
560					10X10.5
680			8X10.5		
820				10X10.5	
1000		8X10.5	10X10.5		
1200	8X10.5				
1500		10X10.5			
2200	10X10.5				

**MULTIPLIER FOR RIPPLE CURRENT (Frequency coefficient)**

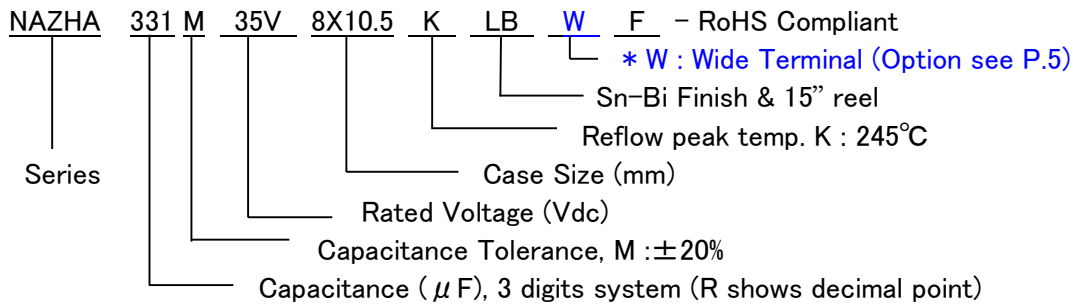
	Frequency (Hz)			
	120	1k	10k	100k~
Coefficient	0.60	0.85	0.95	1.00



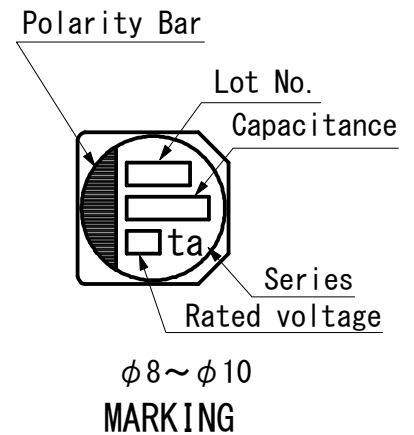
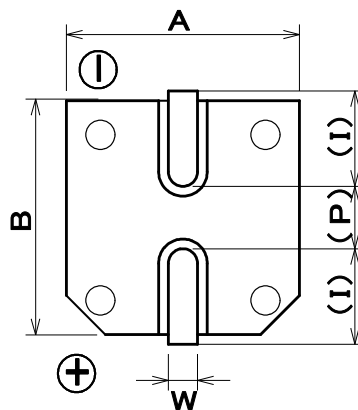
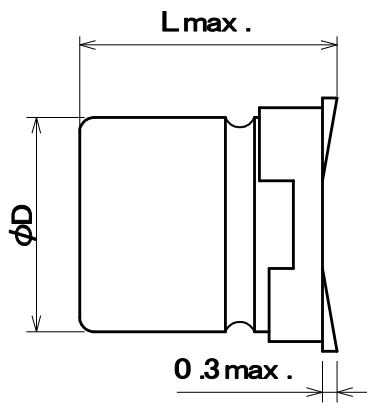
STANDARD PRODUCTS AND SPECIFICATIONS

Part number	R.V. (V.DC)	Capacitance ( $\mu$ F)	$\tan \delta$ 120Hz/20°C	ESR $\Omega$ , 100kHz, 20°C	Ripple Current mA rms, 100kHz, 105°C
NAZHA122M6.3V8X10.5KLBF	6.3V	1200	0.26	0.08	850
NAZHA222M6.3V10X10.5KLBF		2200	0.28	0.06	1190
NAZHA102M10V8X10.5KLBF	10V	1000	0.19	0.08	850
NAZHA152M10V10X10.5KLBF		1500	0.19	0.06	1190
NAZHA681M16V8X10.5KLBF	16V	680	0.16	0.08	850
NAZHA102M16V10X10.5KLBF		1000	0.16	0.06	1190
NAZHA471M25V8X10.5KLBF	25V	470	0.14	0.08	850
NAZHA821M25V10X10.5KLBF		820	0.14	0.06	1190
NAZHA331M35V8X10.5KLBF	35V	330	0.12	0.08	850
NAZHA561M35V10X10.5KLBF		560	0.12	0.06	1190

PART NUMBER SYSTEM



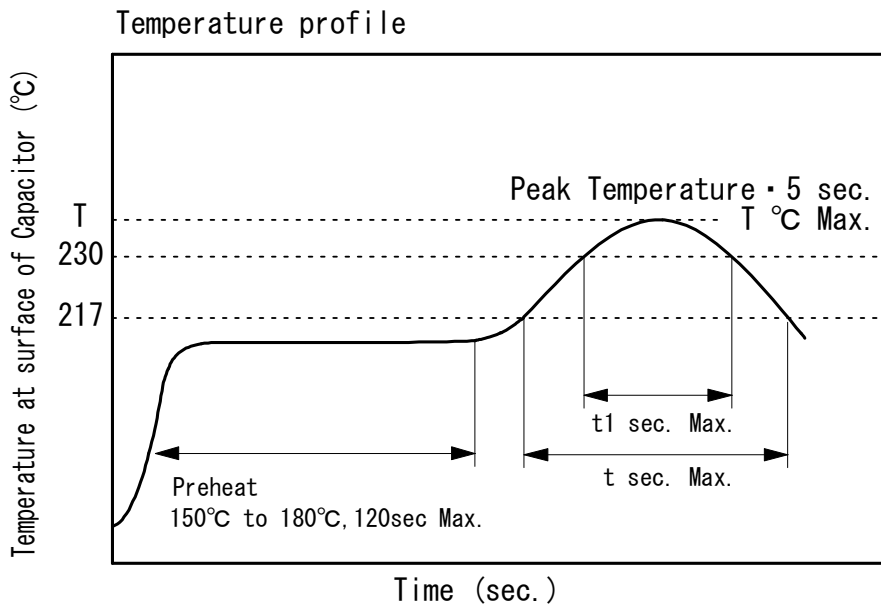
DIMENSIONS (mm)



Case Size	$\phi D \pm 0.5$	L max	$A \pm 0.2$	$B \pm 0.2$	( I )	W	( P )
8X10.5	8	10.5	8.3	8.3	2.9	0.8~1.1	3.1
10X10.5	10	10.5	10.3	10.3	3.2	0.8~1.1	4.5

( ) : Reference value

PERMISSIBLE REFLOW TEMPERATURE PROFILE

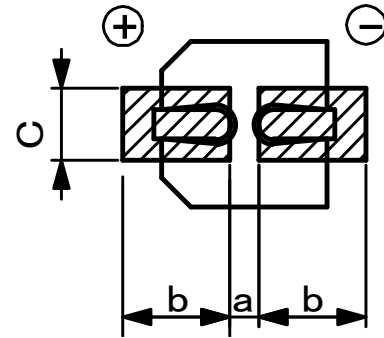


Size	Peak temperature(T) (Within 5 sec.)	Time for more than 230°C(t1)	Time for more than 217°C(t)	Reflow cycle
Φ8~Φ10	245°C	30s	40s	2

Capacitors can withstand two reflow processes on the above conditions.  
 Second reflow shall be taken after more than one-hour natural cooling time  
 and taken after the return to normal temperatures of PCB board and components.

RECOMMEND LAND PATTERN (mm)

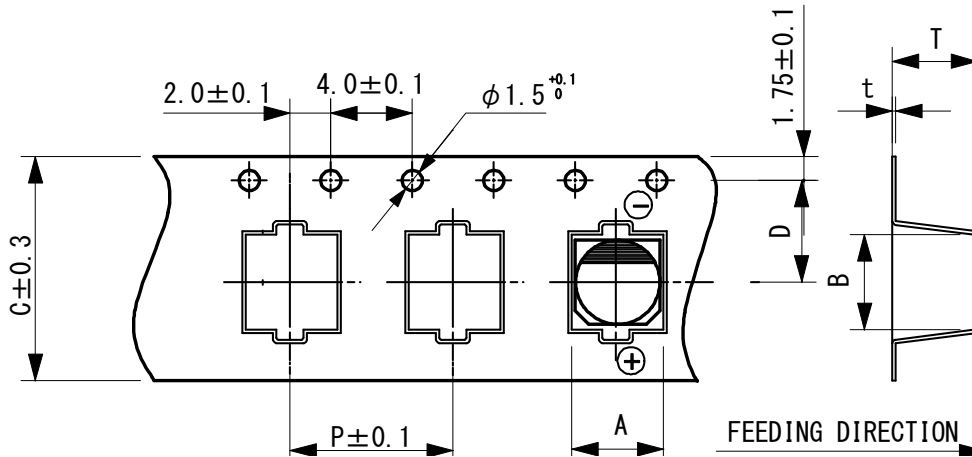
Size	a	b	c
Φ8	3.0	4.1	2.2
Φ10	4.5	4.3	2.2



TAPING SPECIFICATIONS

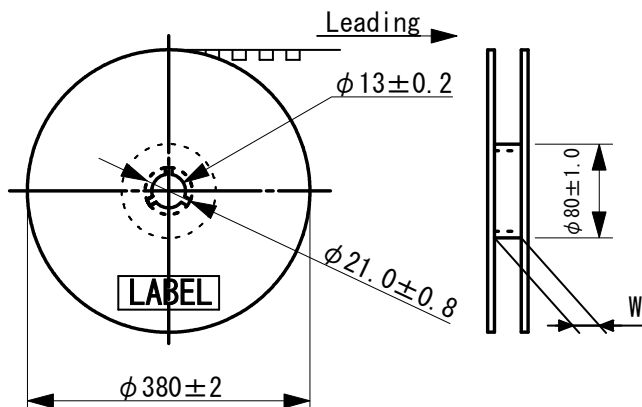
1. Leader and fixed tape : About 20 cm and about 10 cm.
2. Connection : Within 3 connections per reel.

CARRIER TAPE DIMENSIONS (mm) :



Case Size	A	B	C ±0.3	D	P ±0.1	T	t ±0.1
8X10.5	8.7	8.7	24.0	11.5	16.0	11.0	0.4
10X10.5	10.7	10.7	24.0	11.5	16.0	11.0	0.4

REEL DIMENSIONS (mm) :

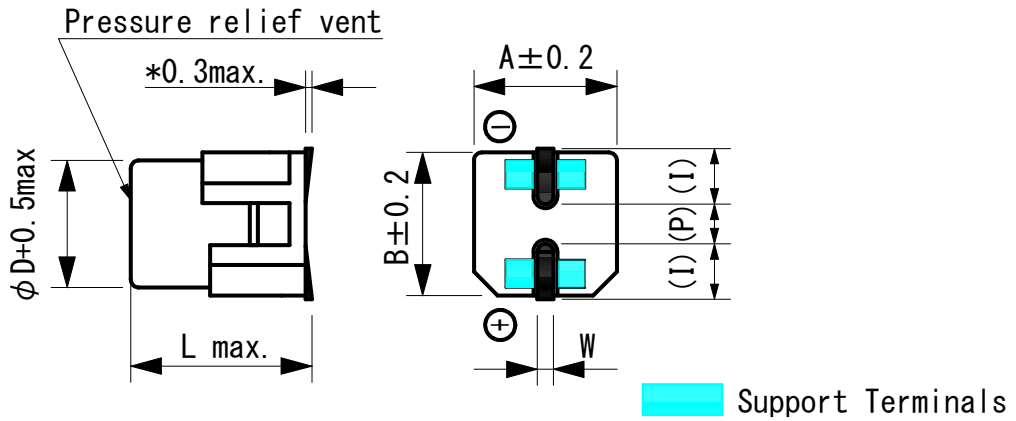


Case Size	W	Q'ty per reel (pcs) TR15 (380mm)
8X10.5	25.5	500
10X10.5	25.5	500

**Anti-vibration type**

Note : Regarding the vibration test of the anti-vibration package, we will respond to individual requests.

**DIMENSIONS (mm)**



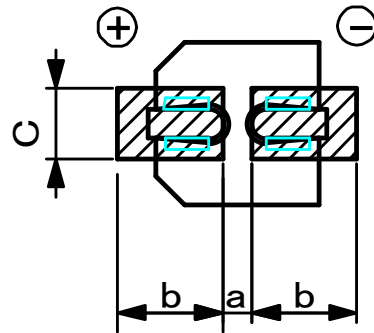
\* distance from the bottom of the support terminals

Case Size	φD+0.5max	L max.	A±0.2	B±0.2	W	(I)	(P)
8X10.5WT	8	11.0	8.3	8.3	0.7~1.1	(3.1)	(3.1)
10X10.5WT	10	11.0	10.3	10.3	0.7~1.1	(3.4)	(4.5)

( ) : Reference value

**RECOMMEND LAND PATTERN (mm)**

Size	a	b	c
Φ8	2.5	4.5	4.2
Φ10	3.9	4.8	4.2



**TAPING SPECIFICATIONS**

\*Please refer to TAPING SPECIFICATIONS of NAZHA series.