

Surface Mount Aluminum Electrolytic Capacitors NAZK Series

FEATURES

- CYLINDRICAL V-CHIP CONSTRUCTION FOR SURFACE MOUNTING
- SUIT FOR HIGH TEMPERATURE REFLOW SOLDERING (UP TO 260°C)
- LOW IMPEDANCE AND HIGH RIPPLE CURRENT
- 2,000 HOUR LOAD LIFE @ +105°C
- DESIGNED FOR AUTOMATIC MOUNTING AND REFLOW SOLDERING

SAC Alloy Compatible
230°C ~ 260°C

RoHS
Compliant

includes all homogeneous materials



CHARACTERISTICS

Rated Voltage Rating	6.3 ~ 35Vdc					
Rated Capacitance Range	4.7 ~ 1,000µF					
Operating Temp. Range	-55 ~ +105°C					
Capacitance Tolerance	±20% (M)					
Max. Leakage Current After 2 Minutes @ 20°C	0.01CV or 3µA whichever is greater					
Tan δ @ 120Hz/20°C	W.V. (Vdc)	6.3	10	16	25	35
	S.V. (Vdc)	8.0	13	20	32	44
	Tan δ	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-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 All Case Sizes = 2,000 hours	Capacitance Change	Within ±30% of initial measured value				
	Tan δ	Less than ±200% of the specified maximum value				
	Leakage Current	Less than the specified maximum value				

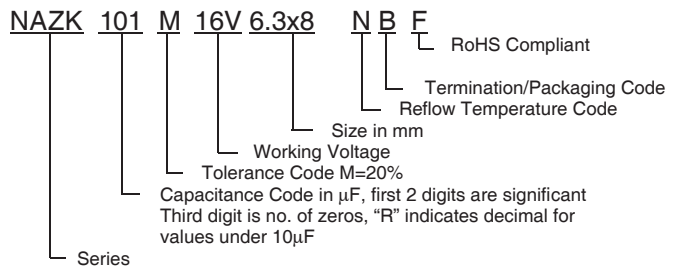
*See Part Number System for Details

LOW ESR COMPONENT
LIQUID ELECTROLYTE
For Performance Data see www.LowESR.com

STANDARD VALUES AND CASE SIZES (mm)

Cap (µF)	Code	Working Voltage (Vdc)				
		6.3	10	16	25	35
4.7	4R7	----				4x6.1
10	100	-	-	4x6.1	-	4x6.1 5x6.1
22	220	4x6.1	-	4x6.1 5x6.1	-	5x6.1 6.3x6.1
33	330	-	4x6.1	5x6.1	5x6.1 6.3x6.1	6.3x6.1
47	470	4x6.1 5x6.1	-	5x6.1 6.3x6.1	6.3x6.1	6.3x6.1 6.3x8
100	101	5x6.1 6.3x6.1	-	6.3x6.1 6.3x8	6.3x8	6.3x8 8x10.5
220	221	6.3x6.1 6.3x8	6.3x8	6.3x8	8x10.5	8x10.5
330	331	6.3x8	-	8x10.5	8x10.5	10x10.5
470	471	-	8x10.5	8x10.5	10x10.5	-
680	681	-	8x10.5	10x10.5	-	-
1000	102	8x10.5	10x10.5	-	-	-

PART NUMBER SYSTEM



PEAK REFLOW TEMPERATURE CODES

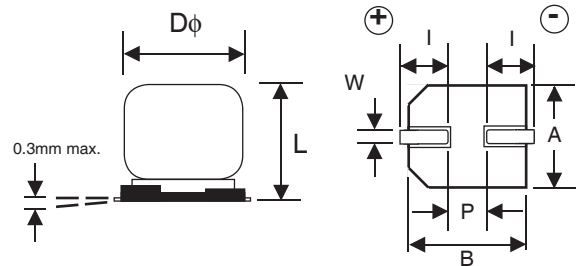
Code	Peak Reflow Temperature
N	260°C
L	250°C

TERMINATION FINISH & PACKAGING OPTIONS CODES

Code	Finish & Reel Size
B	Sn-Bi Finish & 13" Reel
LB	Sn-Bi Finish & 15" Reel
S	100% Sn Finish & 13" Reel
LS	100% Sn Finish & 15" Reel

DIMENSIONS (mm) AND REEL QUANTITIES

Case Size	φD±0.5	L max.	A±0.2	B±0.2	I±0.3	W	P±0.3
4x6.1	4	6.1	4.3	4.3	1.8	0.5~0.8	1.0
5x6.1	5	6.1	5.3	5.3	2.2	0.5~0.8	1.3
6.3x6.1	6.3	6.1	6.6	6.6	2.7	0.5~0.8	1.8
6.3x8	6.3	8.0	6.6	6.6	2.5	0.5~0.8	2.2
8x10.5	8.0	10.5	8.3	8.3	2.9	0.7~1.1	3.2
10x10.5	10.0	10.5	10.3	10.3	3.2	0.8~1.4	4.6



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.nicomp.com/precautions
If in doubt or uncertainty, please review your specific application - process details with NIC's technical support personnel: tpmg@nicomp.com



Surface Mount Aluminum Electrolytic Capacitors NAZK Series

STANDARD VALUES, CASE SIZES AND SPECIFICATIONS

NIC Part Number	Cap. (μF)	W.V. (Vdc)	Dissipation Factor (Tan δ)	Max. Impedance (Ω) +20°C/100KHz	Max. Ripple Current (mA) +105°C/100KHz	Load Life Hours @ +105°C	
NAZK220M6.3V4X6.1NBF	22	6.3	0.26	1.35	90	2,000	
NAZK470M6.3V4X6.1NBF	47		0.26	1.35	90	2,000	
NAZK470M6.3V5X6.1NBF	47		0.26	0.70	170	2,000	
NAZK101M6.3V5X6.1NBF	100		0.26	0.70	170	2,000	
NAZK101M6.3V6.3X6.1NBF	100		0.26	0.36	250	2,000	
NAZK221M6.3V6.3X6.1NBF	220		0.26	0.36	250	2,000	
NAZK221M6.3V6.3X8NBF	220		0.26	0.34	300	2,000	
NAZK331M6.3V6.3X8NBF	330		0.26	0.34	300	2,000	
NAZK102M6.3V8X10.5LBF	1000		0.26	0.16	600	2,000	
NAZK330M10V4X6.1NBF	33		10	0.19	1.35	90	2,000
NAZK221M10V6.3X8NBF	220	0.19		0.34	300	2,000	
NAZK471M10V8X10.5LBF	470	0.19		0.16	600	2,000	
NAZK681M10V8X10.5LBF	680	0.19		0.16	600	2,000	
NAZK102M10V10X10.5LBF	1000	0.19		0.08	850	2,000	
NAZK100M16V4X6.1NBF	10	16		0.16	1.35	90	2,000
NAZK220M16V4X6.1NBF	22		0.16	1.35	90	2,000	
NAZK220M16V5X6.1NBF	22		0.16	0.70	170	2,000	
NAZK330M16V5X6.1NBF	33		0.16	0.70	170	2,000	
NAZK470M16V5X6.1NBF	47		0.16	0.70	170	2,000	
NAZK470M16V6.3X6.1NBF	47		0.16	0.36	250	2,000	
NAZK101M16V6.3X6.1NBF	100		0.16	0.36	250	2,000	
NAZK101M16V6.3X8NBF	100		0.16	0.34	300	2,000	
NAZK221M16V6.3X8NBF	220		0.16	0.34	300	2,000	
NAZK331M16V8X10.5LBF	330		0.16	0.16	600	2,000	
NAZK471M16V8X10.5LBF	470		0.16	0.16	600	2,000	
NAZK681M16V10X10.5LBF	680		0.16	0.08	850	2,000	
NAZK330M25V5X6.1NBF	33		25	0.14	0.70	170	2,000
NAZK330M25V6.3X6.1NBF	33			0.14	0.36	250	2,000
NAZK470M25V6.3X6.1NBF	47			0.14	0.36	250	2,000
NAZK101M25V6.3X8NBF	100			0.14	0.34	300	2,000
NAZK221M25V8X10.5LBF	220	0.14		0.16	600	2,000	
NAZK331M25V8X10.5LBF	330	0.14		0.16	600	2,000	
NAZK471M25V10X10.5LBF	470	0.14		0.09	850	2,000	
NAZK4R7M35V4X6.1NBF	4.7	0.12		1.45	90	2,000	
NAZK100M35V4X6.1NBF	10	0.12	1.45	90	2,000		
NAZK100M35V5X6.1NBF	10	0.12	0.70	170	2,000		
NAZK220M35V5X6.1NBF	22	0.12	0.70	170	2,000		
NAZK220M35V6.3X6.1NBF	22	0.12	0.36	250	2,000		
NAZK330M35V6.3X6.1NBF	33	0.12	0.36	250	2,000		
NAZK470M35V6.3X6.1NBF	47	0.12	0.36	250	2,000		
NAZK470M35V6.3X8NBF	47	0.12	0.34	300	2,000		
NAZK101M35V6.3X8NBF	100	0.12	0.34	300	2,000		
NAZK101M35V8X10.5LBF	100	0.12	0.16	600	2,000		
NAZK221M35V8X10.5LBF	220	0.12	0.16	600	2,000		
NAZK331M35V10X10.5LBF	330	0.12	0.09	850	2,000		

RIPPLE CURRENT FREQUENCY CORRECTION FACTORS

Frequency	120Hz	500Hz	1KHz	10KHz
4.7μF	0.42	0.60	0.80	1.00
10 ~ 33μF	0.45	0.75	0.90	1.00
47 ~ 100μF	0.50	0.80	0.95	1.00
220 ~ 1000μF	0.60	0.85	0.95	1.00

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

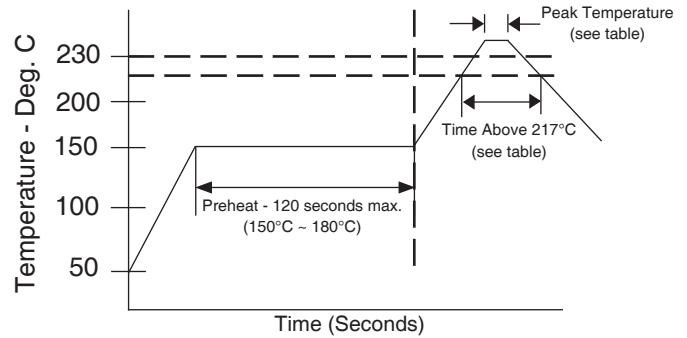


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PEAK REFLOW TEMPERATURE AND DURATION

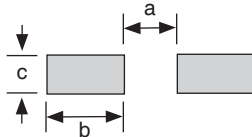
Diameter	Time above 217°C	Peak Temperature 5 seconds
6.3mm ϕ	60 sec. max.	260°C
8 ~ 10mm ϕ	60 sec. max.	250°C

Capacitors can withstand two times reflow at the above conditions. Second reflow shall be at least one hour after natural cool to room temperature.



RECOMMENDED LAND PATTERN DIMENSIONS (mm)

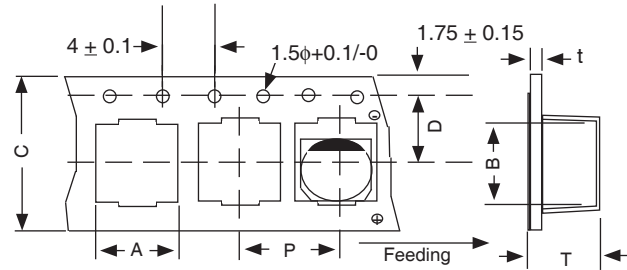
Case Size	a	b	c
4x6.1	1.0	2.6	1.6
5x6.1	1.4	3.0	1.6
6.3x6.1	2.1	3.5	1.6
6.3x8	2.1	3.5	1.8
8x10.5	2.8	4.1	2.1
10x10.5	4.3	4.4	2.5



TAPING SPECIFICATIONS (mm)

- Both Leader and Trailer tape: Minimum 40mm (1.57") empty carrier tape pockets.
- Leader tape: Approximately 20cm of cover tape at leader.
- Connection: Maximum 3 connections (slices) per reel.

Case Size	A	B	C	D	P	T	t
4x6.1	± 0.5	± 0.5	± 0.3	± 0.1	± 0.1	± 0.2	± 0.1
5x6.1	4.7	4.7	12.0	5.5	8.0	6.4	0.4
6.3x6.1	7.0	7.0	16.0	7.5	12.0	6.4	0.4
6.3x8	7.0	7.0	16.0	7.5	12.0	8.2	0.4
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 ± 1.0	Qty per Reel	
		13" (330mm)	15" (380mm)
4x6.1	14	1,200	2,000
5x6.1	14	800	1,000
6.3x6.1	18	800	1,000
6.3x8	18	500	900
8x10.5	26	300	500
10x10.5	26	300	500

