

# Surface Mount Aluminum Electrolytic Capacitors NASE Series

## FEATURES

- CYLINDRICAL V-CHIP CONSTRUCTION FOR SURFACE MOUNTING
- SUIT FOR HIGH TEMPERATURE REFLOW SOLDERING (UP TO 260°C)
- 2,000 HOUR LOAD LIFE @ +85°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 ~ 50Vdc						
Rated Capacitance Range	1.0 ~ 1,000µF						
Operating Temp. Range	-40 ~ +85°C						
Capacitance Tolerance	±20% (M)						
Max. Leakage Current After 2 Miuntes @ 20°C	0.01CV or 3µA whichever is greater						
Tan δ @ 120Hz/20°C	W.V. (Vdc)	6.3	10	16	25	35	50
	S.V. (Vdc)	8.0	13	20	32	44	63
	4 ~ 5mm diameter & 6.3x5.5mm 6.3x8mm & 8~10mm diameter	0.26	0.22	0.18	0.16	0.13	0.12
Low Temperature Stability Impedance Ratio @ 120Hz	W.V. (Vdc)	6.3	10	16	25	35	50
	Z-25°C/Z+20°C	4	3	2	2	2	2
	Z-40°C/Z+20°C	8	8	4	4	3	3
Load Life Test @ 85°C All Case Sizes = 2,000 hours	Capacitance Change	Within ±25% of initial measured value					
	Tan δ	Less than ±200% of the specified maximum value					
	Leakage Current	Less than the specified maximum value					

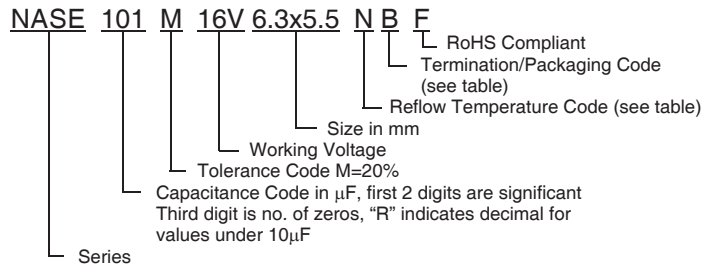
\*See Part Number System for Details

**LOW ESR COMPONENT**  
LIQUID ELECTROLYTE  
For Performance Data see [www.LowESR.com](http://www.LowESR.com)

## STANDARD VALUES AND CASE SIZES (mm)

Cap. (µF)	Code	Working Voltage (Vdc)					
		6.3	10	16	25	35	50
1.0	1R0	-	-	-	-	-	4x5.5
2.2	2R2	-	-	-	-	-	4x5.5
3.3	3R3	-	-	-	-	-	4x5.5
4.7	4R7	-	-	-	4x5.5	4x5.5	4x5.5 5x5.5
10	100	-	-	4x5.5	4x5.5	5x5.5	5x5.5 6.3x5.5
22	220	4x5.5	-	4x5.5 5x5.5	-	6.3x5.5	6.3x5.5
33	330	-	5x5.5	5x5.5	6.3x5.5	6.3x5.5	6.3x8 8x10.5
47	470	5x5.5	-	5x5.5 6.3x5.5	6.3x5.5	6.3x8	8x10.5 10x10.5
100	101	6.3x5.5	6.3x5.5	6.3x5.5	6.3x8	8x10.5 10x10.5	8x10.5 10x10.5
220	221	-	6.3x8	8x10.5	8x10.5 10x10.5	8x10.5 10x10.5	-
330	331	6.3x8	8x10.5	8x10.5 10x10.5	10x10.5	-	-
470	471	8x10.5	8x10.5 10x10.5	8x10.5 10x10.5	10x10.5	-	-
1000	102	10x10.5	-	-	-	-	-

## PART NUMBER SYSTEM



## PEAK REFLOW TEMPERATURE CODES

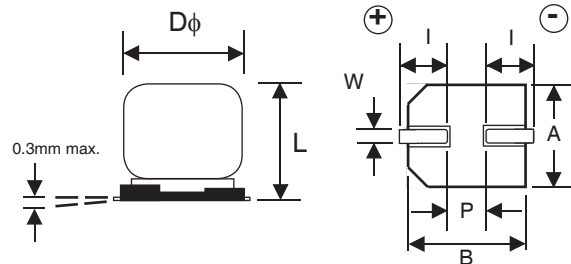
Code	Peak Reflow Temperature
N	260°C
L	250°C

## 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	Qty/Reel
4x5.5	4.0	5.5	4.3	4.3	1.8	0.5~0.8	1.0	1,500
5x5.5	5.0	5.5	5.3	5.3	2.2	0.5~0.8	1.4	1,000
6.3x5.5	6.3	5.5	6.6	6.6	2.7	0.5~0.8	2.2	1,000
6.3x8	6.3	8.0	6.6	6.6	2.7	0.5~0.8	2.2	500
8x10.5	8.0	10.5	8.3	8.3	2.9	0.7~1.1	3.2	300
10x10.5	10.0	10.5	10.3	10.3	3.2	0.8~1.4	4.6	300



## 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.niccomp.com/precautions](http://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](mailto:tpmg@niccomp.com)



# Surface Mount Aluminum Electrolytic Capacitors NASE Series

## STANDARD VALUES, CASE SIZES AND SPECIFICATIONS

NIC Part Number	Cap. (µF)	W.V. (Vdc)	Dissipation Factor (Tan δ)	Max. Ripple Current (mA) +85°C/120Hz	Load Life Hours @ +85°C	
NASE220M6.3V4X5.5NBF	22	6.3	0.26	29	2,000	
NASE470M6.3V5X5.5NBF	47		0.26	46	2,000	
NASE101M6.3V6.3X5.5NBF	100		0.26	71	2,000	
NASE331M6.3V6.3X8NBF	330		0.35	190	2,000	
NASE471M6.3V8X10.5LBF	470		0.35	380	2,000	
NASE102M6.3V10X10.5LBF	1000		0.35	700	2,000	
NASE330M10V5X5.5NBF	33	10	0.22	43	2,000	
NASE101M10V6.3X5.5NBF	100		0.22	71	2,000	
NASE221M10V6.3X8NBF	220		0.26	175	2,000	
NASE331M10V8X10.5LBF	330		0.26	330	2,000	
NASE471M10V8X10.5LBF	470		0.26	380	2,000	
NASE471M10V10X10.5LBF	470		0.26	680	2,000	
NASE100M16V4X5.5NBF	10	16	0.18	25	2,000	
NASE220M16V4X5.5NBF	22		0.18	30	2,000	
NASE220M16V5X5.5NBF	22		0.18	39	2,000	
NASE330M16V5X5.5NBF	33		0.18	43	2,000	
NASE470M16V5X5.5NBF	47		0.18	50	2,000	
NASE470M16V6.3X5.5NBF	47		0.18	60	2,000	
NASE101M16V6.3X5.5NBF	100		0.18	86	2,000	
NASE221M16V8X10.5LBF	220		0.20	290	2,000	
NASE331M16V8X10.5LBF	330		0.20	330	2,000	
NASE331M16V10X10.5LBF	330		0.20	670	2,000	
NASE471M16V8X10.5LBF	470		0.20	385	2,000	
NASE471M16V10X10.5LBF	470		0.20	690	2,000	
NASE4R7M25V4X5.5NBF	4.7		25	0.16	18	2,000
NASE100M25V4X5.5NBF	10			0.16	25	2,000
NASE330M25V6.3X5.5NBF	33	0.16		54	2,000	
NASE470M25V6.3X5.5NBF	47	0.16		60	2,000	
NASE101M25V6.3X8NBF	100	0.16		145	2,000	
NASE221M25V8X10.5LBF	220	0.16		300	2,000	
NASE221M25V10X10.5LBF	220	0.16		560	2,000	
NASE331M25V10X10.5LBF	330	0.16		680	2,000	
NASE471M25V10X10.5LBF	470	0.16		680	2,000	
NASE4R7M35V4X5.5NBF	4.7	35	0.13	18	2,000	
NASE100M35V5X5.5NBF	10		0.13	30	2,000	
NASE220M35V6.3X5.5NBF	22		0.13	48	2,000	
NASE330M35V6.3X5.5NBF	33		0.13	58	2,000	
NASE470M35V6.3X8NBF	47		0.14	105	2,000	
NASE101M35V8X10.5LBF	100		0.14	280	2,000	
NASE101M35V10X10.5LBF	100		0.14	480	2,000	
NASE221M35V8X10.5LBF	220		0.14	280	2,000	
NASE221M35V10X10.5LBF	220		0.14	570	2,000	
NASE1R0M50V4X5.5NBF	1.0	50	0.12	8.4	2,000	
NASE2R2M50V4X5.5NBF	2.2		0.12	14	2,000	
NASE3R3M50V4X5.5NBF	3.3		0.12	17	2,000	
NASE4R7M50V4X5.5NBF	4.7		0.12	18	2,000	
NASE4R7M50V5X5.5NBF	4.7		0.12	22	2,000	
NASE100M50V5X5.5NBF	10		0.12	30	2,000	
NASE100M50V6.3X5.5NBF	10		0.12	35	2,000	
NASE220M50V6.3X5.5NBF	22		0.12	48	2,000	
NASE330M50V6.3X8NBF	33		0.12	95	2,000	
NASE330M50V8X10.5LBF	33		0.12	200	2,000	
NASE470M50V8X10.5LBF	47		0.12	240	2,000	
NASE470M50V10X10.5LBF	47		0.12	280	2,000	
NASE101M50V8X10.5LBF	100		0.12	320	2,000	
NASE101M50V10X10.5LBF	100		0.12	500	2,000	



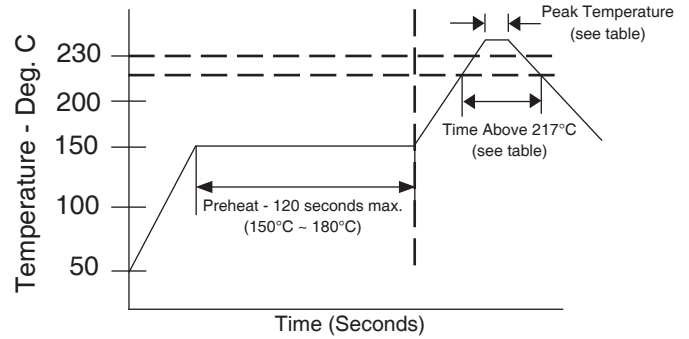
## RIPPLE CURRENT FREQUENCY CORRECTION FACTORS

Frequency	50/60Hz	120Hz	500Hz	1KHz	10KHz
1 $\mu$ F	0.5	1.00	1.20	1.30	1.50
2.2~4.7 $\mu$ F	0.65	1.00	1.20	1.30	1.50
10~47 $\mu$ F	0.80	1.00	1.20	1.30	1.50
100~1000 $\mu$ F	0.80	1.00	1.10	1.15	1.20

## PEAK REFLOW TEMPERATURE AND DURATION

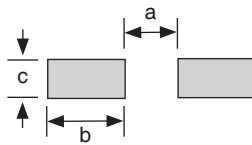
Diameter	Time above 217°C	Peak Temperature 5 seconds
4 ~ 6.3mm $\phi$	60 sec. max.	260°C
8 ~ 10mm $\phi$	60 sec. max.	250°C

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
4x5.5	1.0	2.6	1.8
5x5.5	1.4	3.0	1.8
6x3x5.5 6.3x8	2.1	3.5	1.8
8x10.5	2.8	4.1	2.1
10x10.5	4.3	4.4	2.2



Review & Compare Reflow Soldering Heat Limits  
V-chip SMT Aluminum Electrolytic Capacitors  
[www.niccomp.com/RSL](http://www.niccomp.com/RSL)

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## CARRIER TAPE

Case Size	A ±0.5	B ±0.2	C ±0.3	D ±0.1	P ±0.1	T ±0.2
4 x 5.5	4.7	4.7	12.0	5.5	8.0	5.8
5 x 5.5	5.7	5.7	12.0	5.5	12.0	5.8
6.3 x 5.5	7.0	7.0	16.0	7.5	12.0	5.8
6.3 x 8	7.0	7.0	16.0	7.5	12.0	8.3
8 X 10.5	8.7	8.7	24.0	11.5	16.0	11.1
10 x 10.5	10.7	10.7	24.0	11.5	16.0	11.2

## TR13 330mm (13") REEL

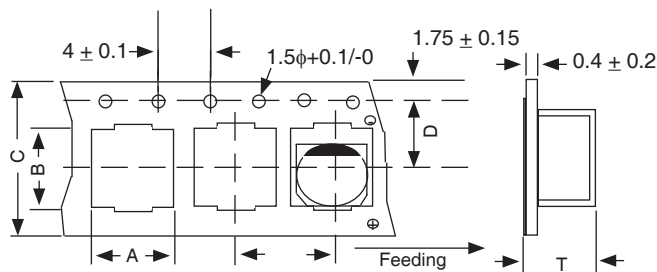
## TR15 380mm (15") REEL

Case Size	W ±1.0	Quantity Per Reel	
		13" Reel	15" Reel
4 x 5.5	14.0	1,500 pcs	2,000 pcs
5 x 5.5	14.0	1,000 pcs	-
6.3 x 5.5	18.0	1,000 pcs	-
6.3 x 8	18.0	500 pcs	900 pcs
8 X 10.5	26.0	300 pcs	500 pcs
10 x 8	26.0	400 pcs	500 pcs

## TAPING SPECIFICATIONS (mm)

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

## CARRIER



## REEL

