

# Surface Mount Aluminum Electrolytic Capacitors NACV Series

## FEATURES

- CYLINDRICAL V-CHIP CONSTRUCTION FOR SURFACE MOUNT
- HIGH VOLTAGE (160VDC AND 400VDC)
- 8 x10.8mm ~ 16 x17mm CASE SIZES
- LONG LIFE (2000 HOURS AT +105°C)
- DESIGNED FOR REFLOW SOLDERING
- **MEETS THE REQUIREMENTS OF AEC-Q200\***

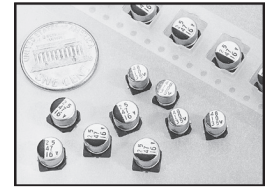
\*Contact NIC for supporting test data

## CHARACTERISTICS

Rated Voltage Range		160	200	250	400
Rated Capacitance Range		10 ~ 82	10 ~ 68	3.3 ~ 47	2.2 ~ 22
Operating Temperature Range		-40 ~ +105°C			
Capacitance Tolerance		±20% (M)			
Max. Leakage Current After 2 Minutes	C ≤ 1000μF	0.03CV + 15μA			
	C > 1000μF	0.02CV + 25μA			
Max. Tanδ @ 120Hz		0.20	0.20	0.20	0.25
Low Temperature Stability (Impedance Ratio @ 120Hz)	Z-25°C/Z+20°C	3	3	3	6
	Z-40°C/Z+20°C	6	6	6	10
High Temperature Load Life at 105°C 2,000 hrs ϕD > 10mm 1,000 hrs ϕD = 8mm	Capacitance Change	Within ±25% of initial measured value			
	Tan δ	Less than 200% of specified value			
	Leakage Current	Less than the specified value			

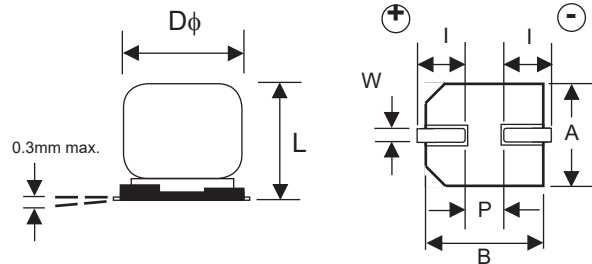
**RoHS  
Compliant**  
includes all homogeneous materials

\*See Part Number System for Details



## STANDARD PRODUCTS AND CASE SIZES (mm)

Cap. (μF)	Code	Working Voltage			
		160	200	250	400
2.2	2R2	-	-	-	8x10.8
3.3	3R3	-	-	8x10.8	10x10.8
4.7	4R7	-	-	8x10.8	10x10.8
6.8	6R8	-	-	8x10.8	12.5x14
10	100	8x10.8	10x10.8	10x10.8	12.5x14
22	220	12.5x14	12.5x14	12.5x14	16x17
33	330	12.5x14	12.5x14	16x17	-
47	470	16x17	16x17	16x17	-
68	680	16x17	16x17	-	-
82	820	16x17	-	-	-



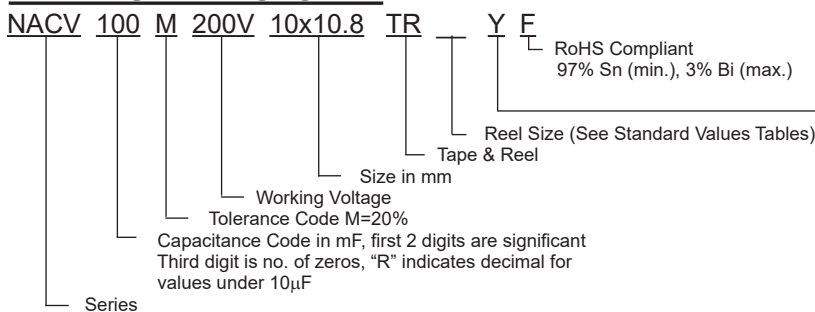
For Automotive Equipment, see part numbering system

## DIMENSIONS (mm)

Case Size	Dφ±0.5	L max.	A±0.2	B±0.2	I±0.2	W	P±0.2
8x10.8	8.0	10.8	8.3	8.3	2.9	0.7~1.1	3.2
10x10.8	10.0	10.8	10.3	10.3	3.2	0.7~1.4	4.6
12.5x14	12.5	14.0	12.8	12.8	4.5	1.0~1.4	4.6
16x17	16.0	17.0	16.3	16.3	5.0	1.7~2.1	7.0

Case Diameter	Termination Material
8 ~ 12.5mm φ	97% Sn, 3% Bi
16mm	100% Sn

## PART NUMBER SYSTEM



Optional: Suitable for automotive equipment, sourced to special production and inspection at IATF-16949 certified production site

## 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)



# Surface Mount Aluminum Electrolytic Capacitors NACV Series

## STANDARD VALUES, CASE SIZES AND SPECIFICATIONS

NIC Part Number	Cap. (μF)	W.V. (Vdc)	Dissipation Factor (Tan δ)	Max. Ripple Current (mA) +105°C/120Hz	Max. ESR (Ω) +20°C/120Hz	Load Life Hours @ +105°C
NACV100M160V8x10.8TR_F	10	160	0.20	57	33.2	1,000
NACV220M160V12.5x14TR_F	22		0.20	112	15.1	2,000
NACV330M160V12.5x14TR_F	33		0.20	137	10.1	2,000
NACV470M160V16x17TR_F	47		0.20	180	7.1	2,000
NACV680M160V16x17TR_F	68		0.20	215	4.9	2,000
NACV820M160V16x17TR_F	82		0.20	235	4.0	2,000
NACV100M200V10x10.8TR_F	10	200	0.20	64	33.2	2,000
NACV220M200V12.5x14TR_F	22		0.20	112	15.1	2,000
NACV330M200V12.5x14TR_F	33		0.20	137	10.1	2,000
NACV470M200V16x17TR_F	47		0.20	180	7.1	2,000
NACV680M200V16x17TR_F	68		0.20	215	4.9	2,000
NACV3R3M250V8x10.8TR_F	3.3		250	0.20	31	100.5
NACV4R7M250V8x10.8TR_F	4.7	0.20		37	70.6	1,000
NACV6R8M250V8x10.8TR_F	6.8	0.20		44	48.8	1,000
NACV100M250V10x10.8TR_F	10	0.20		64	33.2	2,000
NACV220M250V12.5x14TR_F	22	0.20		112	15.1	2,000
NACV330M250V16x17TR_F	33	0.20		150	10.1	2,000
NACV470M250V16x17TR_F	47	0.20		180	7.1	2,000
NACV2R2M400V8x10.8TR_F	2.2	400		0.25	25	188.5
NACV3R3M400V10x10.8TR_F	3.3		0.25	36	125.7	2,000
NACV4R7M400V10x10.8TR_F	4.7		0.25	38	88.2	2,000
NACV6R8M400V12.5x14TR_F	6.8		0.25	47	61.0	2,000
NACV100M400V12.5x14TR_F	10		0.25	57	41.5	2,000
NACV220M400V16x17TR_F	22		0.25	115	18.8	2,000

Part Number Suffix Where \_\_: Preferred (15" reel) = 15, Legacy (13" reel) = 13 (check with NIC for availability)

For Automotive Equipment, see part number system

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

# Surface Mount Aluminum Electrolytic Capacitors NACV Series

## CARRIER TAPE

Case Size	A ±0.2	B ±0.2	C ±0.3	D ±0.1	P ±0.1	T ±0.2
8 X 10.8	8.7	8.7	24.0	11.5	16.0	11.1
10 x 10.8	10.7	10.7	24.0	11.5	16.0	11.2
12.5 x 14	13.2	13.2	32.0	14.2	24.0	14.3
16 x 17	17.5	17.5	44.0	20.2	28.0	17.3

## TR13 330mm (13") REEL

## TR15 380mm (15") REEL

(See page 6 for plastic reel dimensions)

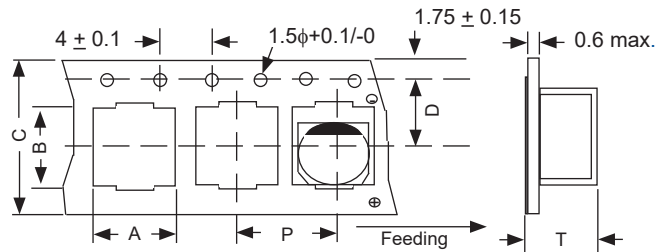
Case Size	W ±1	Quantity Per Reel	
		13" Reel	15" Reel
8 X 10.8	26.0*	300 pcs	N/A
10 x 10.8	26.0*	300 pcs	N/A
12.5 x 14	34.0	N/A	250 pcs
16 x 17	46.0	N/A	200 pcs

\*W+3/-1

## TAPING SPECIFICATIONS (mm)

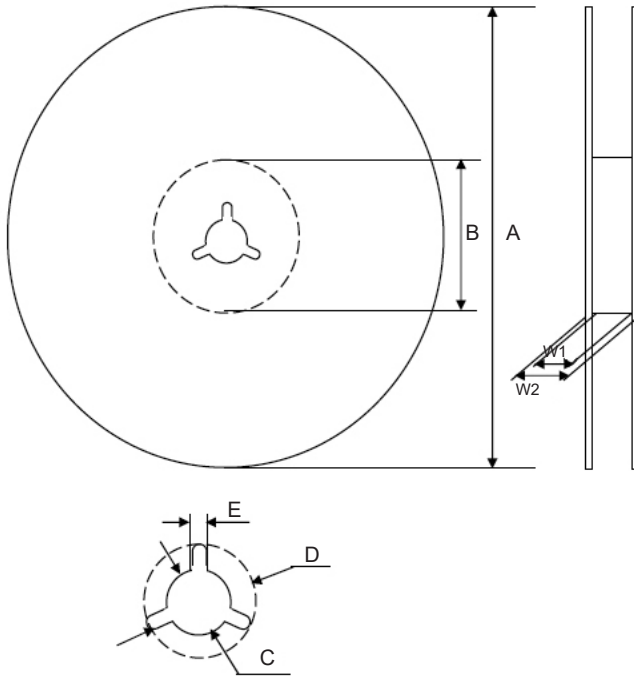
- Both Leader and Trailer tape: Minimum 40mm (1.57") empty carrier tape pockets.
- Leader tape: Approximately 20cm of cover tape at leader.
- Connection: Maximum 3 connections (slices) per reel.

## CARRIER



# Surface Mount Aluminum Electrolytic Capacitors NACV Series

## Preferred V-Chip 380mm Reels (TR15 suffix)



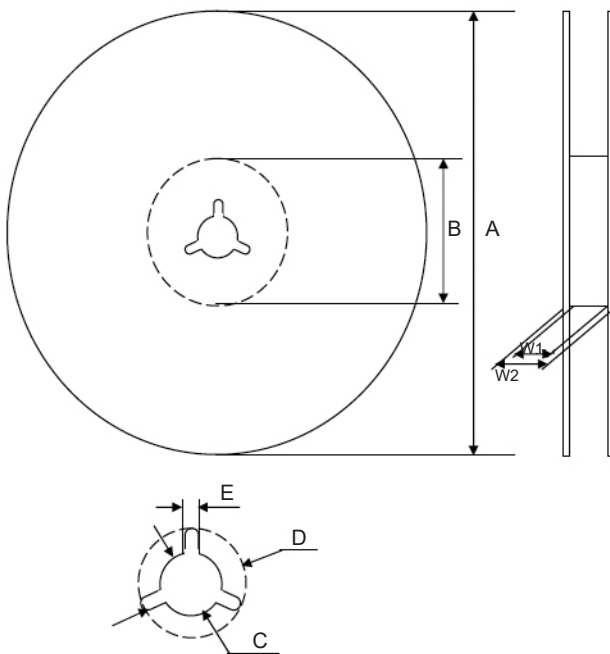
### Dimensions (mm)

Case Size	Tape Width	W1	W2
12.5x14	32.0	33.0 ~ 34.0	36.5 ~ 38.5
16x17	44.0	45.0 ~ 46.0	48.5 ~ 50.5

Case Size	Tape Width	A	B	C	D	E
12.5x14	32.0	$\phi 380$	$\phi 80 \sim 105$	$\phi 13$	$\phi 21$	2.0
16x17	44.0	$\pm 2$		$\pm 0.5$	$\pm 1.0$	$\pm 0.5$

Color
Black or Blue

## Optional V-Chip 330mm Reels (TR13 suffix)



### Dimensions (mm)

Case Size	Tape Width	W1	W2
8x10.8, 10x10.8	24.0	24.4 ~ 26.4	27.5 ~ 32.0

Case Size	Tape Width	A	B	C	D	E
8x10.8, 10x10.8	24.0	$\phi 330$	$\phi 50 \sim 105$	$\phi 13$	$\phi 21$	2.0
		$\pm 2$		$\pm 0.5$	$\pm 1.0$	$\pm 0.5$

Color
Black or Blue

Case Size	Quantity Per Reel	
	13" Reel	15" Reel
8 X 10.8	300 pcs	N/A
10 x 10.8	300 pcs	N/A
12.5 x 14	N/A	250 pcs
16 x 17	N/A	200 pcs