

# Surface Mount Aluminum Electrolytic Capacitors NACS Series

## FEATURES

- CYLINDRICAL V-CHIP CONSTRUCTION
- LOW PROFILE, 5.5mm MAXIMUM HEIGHT
- SPACE AND COST SAVINGS
- DESIGNED FOR REFLOW SOLDERING

**RoHS  
Compliant**  
includes all homogeneous materials

\*See Part Number System for Details



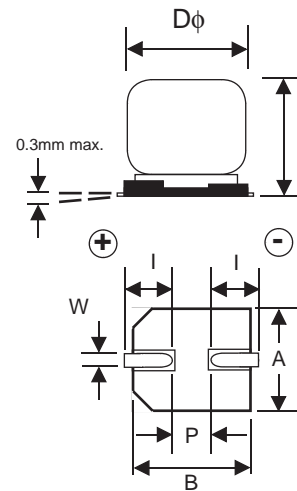
## CHARACTERISTICS

Rated Voltage Rating	6.3 ~ 50Vdc**						
Rated Capacitance Range	4.7 ~ 220 $\mu$ F						
Operating Temperature Range	-40 $^{\circ}$ C ~ +85 $^{\circ}$ C						
Capacitance Tolerance	$\pm$ 20%(M)						
Max. Leakage Current After 2 Minutes at 20 $^{\circ}$ C	0.01CV or 3 $\mu$ A, whichever is greater						
Surge Voltage & Max. Tan $\delta$	W.V. (Vdc)	6.3	10	16	25	35	50
	S.V. (Vdc)	8.0	13	20	32	44	63
	Tan $\delta$ @ 120Hz/20 $^{\circ}$ C	0.28	0.24	0.20	0.16	0.14	0.12
Low Temperature Stability (Impedance Ratio @ 120Hz)	W.V. (Vdc)	6.3	10	16	25	35	50
	Z-20 $^{\circ}$ C/Z +20 $^{\circ}$ C	4	3	2	2	2	2
	Z-40 $^{\circ}$ C/Z +20 $^{\circ}$ C	10	8	6	4	4	4
Load Life Test at Rated W.V. 85 $^{\circ}$ C 2,000 Hours	Capacitance Change	Within $\pm$ 25% of initial measured value					
	Tan $\delta$	Less than 200% of specified value					
	Leakage Current	Less than specified value					

\*\* For higher voltages, 200V and 400V, see NACV series.

## STANDARD PRODUCT AND CASE SIZE D $\phi$ xL (mm)

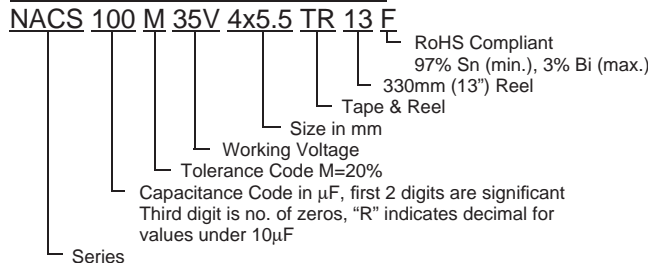
Cap. ( $\mu$ F)	Code	Working Voltage (Vdc)						
		6.3	10	16	25	35	50	
4.7	4R7	-	-	-	-	-	-	4x5.5
10	100	-	-	-	4x5.5	4x5.5	5x5.5	5x5.5
22	220	-	4x5.5	4x5.5	5x5.5	5x5.5	6.3x5.5	6.3x5.5
33	330	4x5.5	4x5.5	5x5.5	5x5.5	6.3x5.5	-	-
47	470	4x5.5	5x5.5	5x5.5	6.3x5.5	-	-	-
56	560	5x5.5	5x5.5	5x5.5	6.3x5.5	-	-	-
100	101	5x5.5	5x5.5	-	-	-	-	-
150	151	6.3x5.5	6.3x5.5	-	-	-	-	-
220	221	6.3x5.5	-	-	-	-	-	-



## DIMENSIONS (mm)

Case Size	D $\phi$ $\pm$ 0.5	L max.	A/B $\pm$ 0.2	I $\pm$ 0.2	W	P $\pm$ 0.2
4x5.5	4.0	5.5	4.3	1.8	0.5 ~ 0.8	1.0
5x5.5	5.0	5.5	5.3	2.1	0.5 ~ 0.8	1.4
6.3x5.5	6.3	5.5	6.6	2.5	0.5 ~ 0.8	2.2

## PART NUMBER SYSTEM



## 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)



## 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	Max. ESR (Ω) +20°C/120Hz	Load Life Hours @ +85°C
NACS330M6.3V4X5.5TR13F	33	6.3	0.28	31	14.1	2,000
NACS470M6.3V4X5.5TR13F	47		0.28	36	9.88	2,000
NACS560M6.3V5X5.5TR13F	56		0.28	46	8.29	2,000
NACS101M6.3V5X5.5TR13F	100		0.28	47	4.64	2,000
NACS151M6.3V6.3X5.5TR13F	150		0.28	71	3.10	2,000
NACS221M6.3V6.3X5.5TR13F	220		0.28	74	2.11	2,000
NACS220M10V4X5.5TR13F	22	10	0.24	28	18.1	2,000
NACS330M10V4X5.5TR13F	33		0.24	32	12.6	2,000
NACS470M10V5X5.5TR13F	47		0.24	43	8.47	2,000
NACS560M10V5X5.5TR13F	56		0.24	46	7.11	2,000
NACS101M10V5X5.5TR13F	100		0.24	50	3.98	2,000
NACS151M10V6.3X5.5TR13F	150		0.24	76	2.66	2,000
NACS220M16V4X5.5TR13F	22	16	0.20	28	15.1	2,000
NACS330M16V5X5.5TR13F	33		0.20	40	10.1	2,000
NACS470M16V5X5.5TR13F	47		0.20	44	7.06	2,000
NACS560M16V5X5.5TR13F	56		0.20	48	5.92	2,000
NACS100M25V4X5.5TR13F	10	25	0.16	20	26.5	2,000
NACS220M25V5X5.5TR13F	22		0.16	35	12.1	2,000
NACS330M25V5X5.5TR13F	33		0.16	42	8.04	2,000
NACS470M25V6.3X5.5TR13F	47		0.16	65	5.65	2,000
NACS560M25V6.3X5.5TR13F	56		0.16	68	4.74	2,000
NACS100M35V4X5.5TR13F	10	35	0.14	20	23.2	2,000
NACS220M35V5X5.5TR13F	22		0.14	36	10.6	2,000
NACS330M35V6.3X5.5TR13F	33		0.14	65	7.04	2,000
NACS4R7M50V4X5.5TR13F	4.7	50	0.12	18	42.3	2,000
NACS100M50V5X5.5TR13F	10		0.12	27	19.9	2,000
NACS220M50V6.3X5.5TR13F	22		0.12	40	9.05	2,000

## RIPPLE CURRENT FREQUENCY CORRECTION FACTOR

Frequency Hz	50 ≤ f < 100	100 ≤ f < 1K	1K ≤ f < 10K	f ≥ 10K
Correction Factor	0.8	1.0	1.3	1.5

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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

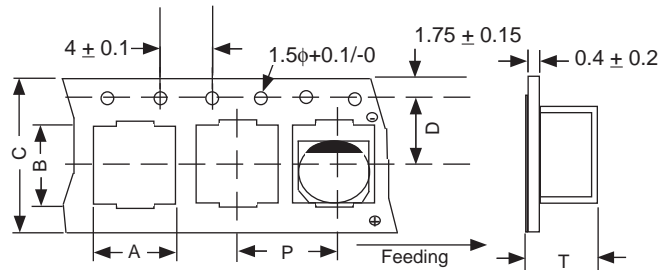
## TR13 330mm (13") REEL TR15 380mm (15") REEL

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	1,000 pcs
6.3 x 5.5	18.0	1,000 pcs	1,000 pcs

## 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



### REEL

