



www.niccomp.com/pcn | Technical Support: tpmg@niccomp.com

Issued: August 10th, 2017

SUB: EOL Notice

Product Type: Surface Mount Aluminum Electrolytic Capacitors
NIC Series: NACL

Notification: End of Life Notification

The following is notification of the end of life of the NACL series of surface mount aluminum electrolytic capacitors. This end of life notice covers all termination and packaging configurations for the part numbers referenced on the datasheet and in the table below.

Effective: August 10th, 2017

Last Order Date: February 28th, 2018 for existing business with established customers

Last Ship Date: August 28th, 2018 for existing business with established customers

Reason for Discontinuation: Low Demand

Prepared by: Technical Product Marketing Group / tpmg@niccomp.com

➔ Follow NIC PCN alerts to get email notifications of EOL and PCN announcements at www.niccomp.com/pcn

Discontinued Part Numbers	Possible Alternative	Comments
NACL220M6.3V4X5.5TR13F	NACE220M6.3V4X5.5TR13F	Higher LC
NACL330M6.3V5X5.5TR13F	NACE330M6.3V5X5.5TR13F	Higher LC
NACL470M6.3V5X5.5TR13F	NACE470M6.3V5X5.5TR13F	Higher LC
NACL101M6.3V5X5.5TR13F	NACE101M6.3V6.3X5.5TR13F	Higher LC
NACL220M10V5X5.5TR13F	NACE220M10V5X5.5TR13F	Higher LC
NACL330M10V5X5.5TR13F	NACE330M10V5X5.5TR13F	Higher LC
NACL470M10V6.3X5.5TR13F	NACE470M10V6.3X5.5TR13F	Higher LC
NACL101M10V6.3X5.5TR13F	NACE101M10V6.3X5.5TR13F	Higher LC
NACL100M16V4X5.5TR13F	NACE100M16V4X5.5TR13F	Higher LC
NACL220M16V5X5.5TR13F	NACE220M16V5X5.5TR13F	Higher LC
NACL330M16V6.3X5.5TR13F	NACE330M16V6.3X5.5TR13F	Higher LC
NACL470M16V6.3X5.5TR13F	NACE470M16V6.3X5.5TR13F	Higher LC
NACL4R7M25V4X5.5TR13F	NACE4R7M25V4X5.5TR13F	Higher LC
NACL100M25V5X5.5TR13F	NACE100M25V5X5.5TR13F	Higher LC
NACL220M25V6.3X5.5TR13F	NACE220M25V6.3X5.5TR13F	Higher LC
NACL330M25V6.3X5.5TR13F	NACE330M25V6.3X5.5TR13F	Higher LC
NACL4R7M35V4X5.5TR13F	NACE4R7M35V4X5.5TR13F	Higher LC
NACL100M35V5X5.5TR13F	NACE100M35V5X5.5TR13F	Higher LC
NACL220M35V6.3X5.5TR13F	NACE220M35V6.3X5.5TR13F	Higher LC
NACL1R0M50V4X5.5TR13F	NACE1R0M50V4X5.5TR13F	Higher LC
NACL2R2M50V4X5.5TR13F	NACE2R2M50V4X5.5TR13F	Higher LC
NACL3R3M50V4X5.5TR13F	NACE3R3M50V4X5.5TR13F	Higher LC



www.niccomp.com/pcn | Technical Support: tmg@niccomp.com

Discontinued Part Numbers	Possible Alternative	Comments
NACL4R7M50V5X5.5TR13F	NACE4R7M50V5X5.5TR13F	Higher LC
NACL100M50V6.3X5.5TR13F	NACE100M50V6.3X5.5TR13F	Higher LC

Use our Quickbuilder tool to find possible alternatives for the discontinued NRE-LW series parts:

http://www.niccomp.com/QuickBUILDER/qb_capacitor.php

Surface Mount Aluminum Electrolytic Capacitors NACL Series

FEATURES

- CYLINDRICAL V-CHIP CONSTRUCTION
- LOW LEAKAGE CURRENT (0.5μA TO 2.0μA max.)
- LOW COST TANTALUM REPLACEMENT
- DESIGNED FOR REFLOW SOLDERING

**RoHS
Compliant**
includes all homogeneous materials

*See Part Number System for Details



CHARACTERISTICS

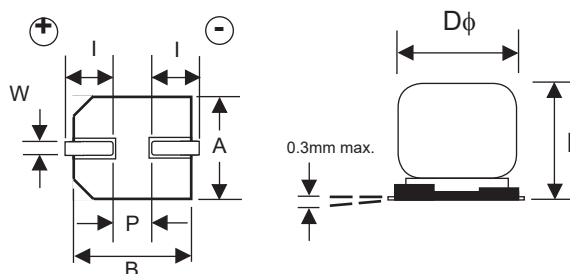
Rated Voltage Rating	6.3 ~ 50Vdc						
Rated Capacitance Range	1.0 ~ 100μF						
Operating Temperature Range	-40° ~ +85°C						
Capacitance Tolerance	±20%(M)						
Max. Leakage Current After 2 Minutes at 20°C	0.002CV or 0.5μA, whichever is greater						
Surge Voltage & Max. Tanδ	W.V. (Vdc)	6.3	10	16	25	35	50
	S.V. (Vdc)	8.0	13	20	32	44	63
	Tanδ @ 120Hz/20°C	0.24	0.20	0.18	0.14	0.12	0.10
Low Temperature Stability (Impedance Ratio @ 120Hz)	W.V. (Vdc)	6.3	10	16	25	35	50
	Z-40°C/Z +20°C	4	3	2	2	2	2
	Z-55°C/Z +20°C	8	8	4	4	4	4
Load Life Test at Rated W.V. 85°C 2,000 Hours	Capacitance Change	Within ±25% of initial measured value					
	Tanδ	Less than 200% of specified value					
	Leakage Current	Less than specified value					

STANDARD PRODUCT AND CASE SIZE Dφ xL (mm)

Cap. (μF)	Working Voltage (Vdc)					
	6.3	10	16	25	35	50
1.0	-	-	-	-	-	4x5.5
2.2	-	-	-	-	-	4x5.5
3.3	-	-	-	-	-	4x5.5
4.7	-	-	-	4x5.5	4x5.5	5x5.5
10	-	-	4x5.5	5x5.5	5x5.5	6.3x5.5
22	4x5.5	5x5.5	5x5.5	6.3x5.5	6.3x5.5	-
33	5x5.5	5x5.5	6.3x5.5	6.3x5.5	-	-
47	5x5.5	6.3x5.5	6.3x5.5	-	-	-
100	5x5.5	6.3x5.5	-	-	-	-

DIMENSIONS (mm)

Case Size	Dφ±0.5	L±0.1	A/B±0.2	I ± 0.2	W	P±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

NACL 470 M 16V 6.3x5.5 TR 13 P E

- NACL: Series
- 470: Capacitance Code in μF, first 2 digits are significant, third digit is no. of zeros, "R" indicates decimal for values under 10μF
- M: Tolerance Code M=20%
- 16V: Working Voltage
- 6.3x5.5: Size in mm
- TR: Tape & Reel
- 13: 330mm (13") Reel
- P: RoHS Compliant
- E: Optional plastic reel (standard material is cardboard). See page 3 & 4

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



NIC COMPONENTS CORP.

www.niccomp.com

SPECIFICATIONS ARE SUBJECT TO CHANGE

Surface Mount Aluminum Electrolytic Capacitors

NACL Series

STANDARD VALUES, CASE SIZES AND SPECIFICATIONS

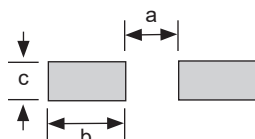
NIC Part Number	Cap. (μF)	W.V. (Vdc)	Dissipation Factor (Tan δ)	Max. Ripple Current (mA) +85°C/120Hz	Max. ESR (Ω) +20°C/120Hz	Load Life Hours @ +85°C
NACL220M6.3V4X5.5TR13F	22	6.3	0.24	31	18.1	2,000
NACL330M6.3V5X5.5TR13F	33		0.24	39	12.6	2,000
NACL470M6.3V5X5.5TR13F	47		0.24	47	8.47	2,000
NACL101M6.3V5X5.5TR13F	100		0.24	71	3.98	2,000
NACL220M10V5X5.5TR13F	22	10	0.20	35	15.1	2,000
NACL330M10V5X5.5TR13F	33		0.20	43	10.1	2,000
NACL470M10V6.3X5.5TR13F	47		0.20	59	7.06	2,000
NACL101M10V6.3X5.5TR13F	100		0.20	76	3.32	2,000
NACL100M16V4X5.5TR13F	10	16	0.18	25	26.5	2,000
NACL220M16V5X5.5TR13F	22		0.18	39	12.1	2,000
NACL330M16V6.3X5.5TR13F	33		0.18	57	8.04	2,000
NACL470M16V6.3X5.5TR13F	47		0.18	68	5.65	2,000
NACL4R7M25V4X5.5TR13F	4.7	25	0.14	18	49.5	2,000
NACL100M25V5X5.5TR13F	10		0.14	28	23.2	2,000
NACL220M25V6.3X5.5TR13F	22		0.14	52	10.6	2,000
NACL330M25V6.3X5.5TR13F	33		0.14	63	7.04	2,000
NACL4R7M35V4X5.5TR13F	4.7	35	0.12	20	42.3	2,000
NACL100M35V5X5.5TR13F	10		0.12	30	19.9	2,000
NACL220M35V6.3X5.5TR13F	22		0.12	54	9.05	2,000
NACL1R0M50V4X5.5TR13F	1.0	50	0.10	10	166	2,000
NACL2R2M50V4X5.5TR13F	2.2		0.10	15	75.4	2,000
NACL3R3M50V4X5.5TR13F	3.3		0.10	18	50.3	2,000
NACL4R7M50V5X5.5TR13F	4.7		0.10	23	35.3	2,000
NACL100M50V6.3X5.5TR13F	10		0.10	34	16.6	2,000

RIPPLE CURRENT FREQUENCY CORRECTION FACTOR

Frequency (Hz)	f ≤ 100	100 > f ≤ 1K	1K > f ≥ 10KHz	f ≥ 100K
Correction Factor	0.8	1.0	1.3	1.5

RECOMMENDED LAND PATTERN DIMENSIONS (mm)

Case Size	a	b	c
4 φ	1.0	2.6	1.8
5 φ	1.4	3.0	1.8
6.3 φ	2.1	3.5	1.8



CARRIER TAPE

Case Size	A ±0.2	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") CARDBOARD REEL

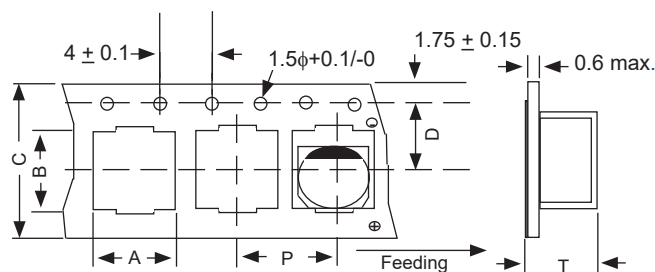
(See page 4 for plastic reel dimensions)

Case Size	W ±1	Quantity Per Reel
		13" Reel
4 x 5.5	14.0	1,500 pcs
5 x 5.5	14.0	1,000 pcs
6.3 x 5.5	18.0	1,000 pcs

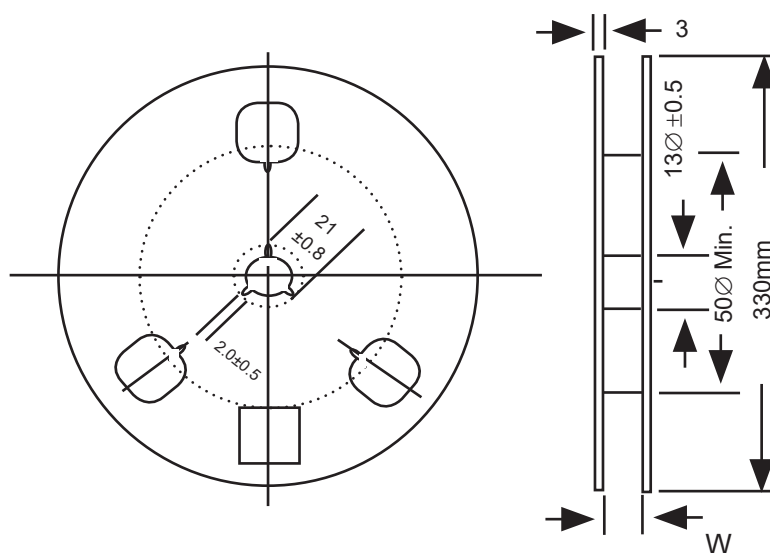
TAPING SPECIFICATIONS (mm)

- 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

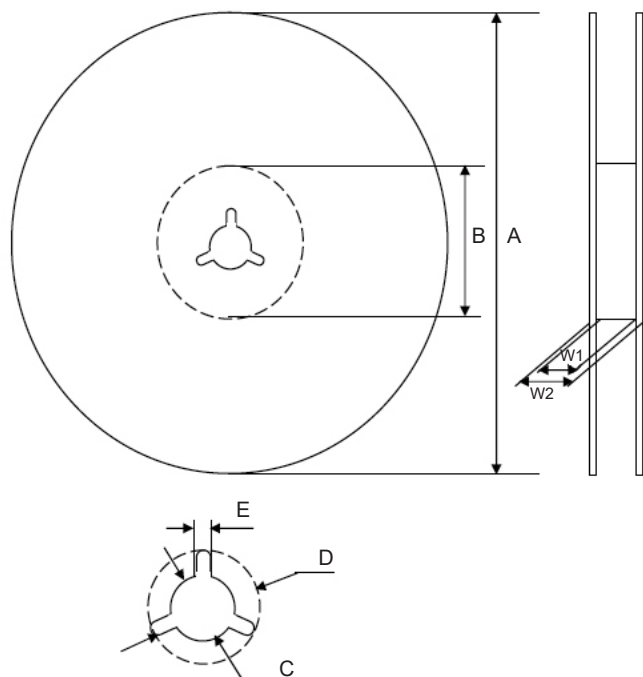


STANDARD REEL (CARDBOARD)



Surface Mount Aluminum Electrolytic Capacitors NACL Series

Optional V-Chip 13" (330mm) Plastic Reels (TR13PF suffix)



Dimensions (mm)

Case Size	Tape Width	W1	W2
4x5.5, 5x5.5	12.0	12.4 ~ 14.4	15.5 ~ 20.0
6.3x5.5	16.0	16.4 ~ 18.4	19.5 ~ 24.0

Case Size	Tape Width	A	B	C	D	E
4x5.5, 5x5.5	12.0	$\phi 330$	$\phi 50 \sim 105$	$\phi 13$ ± 0.5	$\phi 21$ ± 1.0	2.0
6.3x5.5	16.0	± 2.0				± 0.5

Color
Black or Blue

TR13PF 330mm (13") PLASTIC REEL

(See page 4 for plastic reel dimensions)

Case Size	W ± 1	Quantity Per Reel
		13" Reel
4 x 5.5	14.0	1,500 pcs
5 x 5.5	14.0	1,000 pcs
6.3 x 5.5	18.0	1,000 pcs