

Issue Date: September 17th, 2024

ID#: 356376

Subject: NACKA End of Life Notification

Notification Type: End of Life

Effected NIC Products: NACKA Series

Effective Date: September 17th, 2024

Description: Due to low market demand NIC is discontinuing the NACKA series of V-chip aluminum electrolytic capacitors.

Effective Date: September 17th, 2024

Last Order Date: March 31st, 2025

Last Ship Date: June 30th, 2025

EOL Part Number	Capacitance	Voltage	Possible Alternative	Comments
NACKA332M6.3V12.5X14TR15F	3300000000	6.3	N/A	
NACKA332M6.3V12.5X14TR15WTF	3300000000	6.3	N/A	
NACKA682M6.3V16X17TR15F	6800000000	6.3	NAZT682M6.3V16X17JLSF	
NACKA682M6.3V16X17TR15WTF	6800000000	6.3	NAZT682M6.3V16X17JLSWF	
NACKA222M10V12.5X14TR15F	2200000000	10	NAZT222M10V12.5X14KLBFB	
NACKA222M10V12.5X14TR15WTF	2200000000	10	NAZT222M10V12.5X14KLBWF	
NACKA472M10V16X17TR15F	4700000000	10	NAZT472M10V16X17JLSF	
NACKA472M10V16X17TR15WTF	4700000000	10	NAZT472M10V16X17JLSWF	
NACKA682M10V18X17TR15F	6800000000	10	NAZT682M10V18X17.5JLSF	Slightly higher profile
NACKA682M10V18X17TR15WTF	6800000000	10	NAZT682M10V18X17.5JLSWF	Slightly higher profile
NACKA152M16V12.5X14TR15F	1500000000	16	NAZT152M16V12.5X14KLBFB	
NACKA152M16V12.5X14TR15WTF	1500000000	16	NAZT152M16V12.5X14KLBWF	
NACKA332M16V16X17TR15F	3300000000	16	NAZT332M16V16X17JLSF	
NACKA332M16V16X17TR15WTF	3300000000	16	NAZT332M16V16X17JLSWF	
NACKA472M16V18X17TR15F	4700000000	16	NAZT472M16V18X17.5JLSF	Slightly higher profile
NACKA472M16V18X17TR15WTF	4700000000	16	NAZT472M16V18X17.5JLSWF	Slightly higher profile
NACKA102M25V12.5X14TR15F	1000000000	25	NAZT102M25V12.5X14KLBFB	
NACKA102M25V12.5X14TR15WTF	1000000000	25	NAZT102M25V12.5X14KLBWF	
NACKA152M25V16X17TR15F	1500000000	25	NAZT152M25V16X17JLSF	
NACKA152M25V16X17TR15WTF	1500000000	25	NAZT152M25V16X17JLSWF	
NACKA222M25V16X17TR15F	2200000000	25	NAZT222M25V16X17JLSF	
NACKA222M25V16X17TR15WTF	2200000000	25	NAZT222M25V16X17JLSWF	
NACKA332M25V18X17TR15F	3300000000	25	NAZT332M25V18X17.5JLSF	Slightly higher profile
NACKA332M25V18X17TR15WTF	3300000000	25	NAZT332M25V18X17.5JLSWF	Slightly higher profile
NACKA471M35V12.5X14TR15F	4700000000	35	NAZT471M35V12.5X14KLBFB	
NACKA471M35V12.5X14TR15WTF	4700000000	35	NAZT471M35V12.5X14KLBWF	

EOL Part Number	Capacitance	Voltage	Possible Alternative	Comments
NACKA681M35V12.5X14TR15F	680000000	35	NAZT681M35V12.5X14KLBFB	
NACKA681M35V12.5X14TR15WTF	680000000	35	NAZT681M35V12.5X14KLBWF	
NACKA102M35V16X17TR15F	1000000000	35	NAZT102M35V16X17JLSF	
NACKA102M35V16X17TR15WTF	1000000000	35	NAZT102M35V16X17JLSWF	
NACKA152M35V16X17TR15F	1500000000	35	NAZT152M35V16X17JLSF	
NACKA152M35V16X17TR15WTF	1500000000	35	NAZT152M35V16X17JLSWF	
NACKA331M50V12.5X14TR15F	330000000	50	NAZT331M50V12.5X14KLBFB	
NACKA331M50V12.5X14TR15WTF	330000000	50	NAZT331M50V12.5X14KLBWF	
NACKA391M50V12.5X14TR15F	390000000	50	NAZR391M50V12.5X14KLSF	
NACKA391M50V12.5X14TR15WTF	390000000	50	NAZR391M50V12.5X14KLSWF	
NACKA471M50V16X17TR15F	470000000	50	NAZT471M50V16X17JLSF	
NACKA471M50V16X17TR15WTF	470000000	50	NAZT471M50V16X17JLSWF	
NACKA561M50V16X17TR15F	560000000	50	NAZR561M50V16X17KSF	
NACKA561M50V16X17TR15WTF	560000000	50	NAZR561M50V16X17KSWF	
NACKA681M50V16X17TR15F	680000000	50	NAZT681M50V16X17JLSF	
NACKA681M50V16X17TR15WTF	680000000	50	NAZT681M50V16X17JLSWF	
NACKA102M50V16X17TR15F	1000000000	50	NAZT102M50V16X17JLSF	
NACKA102M50V16X17TR15WTF	1000000000	50	NAZT102M50V16X17JLSWF	
NACKA151M63V12.5X14TR15F	150000000	63	NAZT151M63V12.5X14JLBF	
NACKA151M63V12.5X14TR15WTF	150000000	63	NAZT151M63V12.5X14JLBWF	
NACKA221M63V12.5X14TR15F	220000000	63	NAZT221M63V12.5X14JLBF	
NACKA221M63V12.5X14TR15WTF	220000000	63	NAZT221M63V12.5X14JLBWF	
NACKA471M63V16X17TR15F	470000000	63	NAZT471M63V16X17HLSF	
NACKA471M63V16X17TR15WTF	470000000	63	NAZT471M63V16X17HLSWF	
NACKA681M63V18X17TR15F	680000000	63	NAZR681M63V18X17KSF	
NACKA681M63V18X17TR15WTF	680000000	63	NAZR681M63V18X17KSWF	
NACKA680M80V12.5X14TR15F	68000000	80	NAZR680M80V12.5X14KSF	
NACKA680M80V12.5X14TR15WTF	68000000	80	NAZR680M80V12.5X14KSWF	
NACKA101M80V12.5X14TR15F	100000000	80	NAZT101M80V12.5X14HLBF	
NACKA101M80V12.5X14TR15WTF	100000000	80	NAZT101M80V12.5X14HLBWF	
NACKA151M80V12.5X14TR15F	150000000	80	NAZT151M80V12.5X14HLBF	
NACKA151M80V12.5X14TR15WTF	150000000	80	NAZT151M80V12.5X14HLBWF	
NACKA331M80V16X17TR15F	330000000	80	NAZT331M80V16X17HLSF	
NACKA331M80V16X17TR15WTF	330000000	80	NAZT331M80V16X17HLSWF	
NACKA471M80V18X17TR15F	470000000	80	NAZT471M80V18X17.5HLSF	
NACKA471M80V18X17TR15WTF	470000000	80	NAZT471M80V18X17.5HLSWF	
NACKA470M100V12.5X14TR15F	47000000	100	NAZT470M100V12.5X14HLBF	
NACKA470M100V12.5X14TR15WTF	47000000	100	NAZT470M100V12.5X14HLBWF	
NACKA680M100V12.5X14TR15F	68000000	100	NAZT680M100V12.5X14HLBF	
NACKA680M100V12.5X14TR15WTF	68000000	100	NAZT680M100V12.5X14HLBWF	

EOL Part Number	Capacitance	Voltage	Possible Alternative	Comments
NACKA101M100V16X17TR15F	100000000	100	NAZT101M100V16X17HLSF	
NACKA101M100V16X17TR15WTF	100000000	100	NAZT101M100V16X17HLSWF	
NACKA151M100V16X17TR15F	150000000	100	NAZT151M100V16X17HLSF	
NACKA151M100V16X17TR15WTF	150000000	100	NAZT151M100V16X17HLSWF	
NACKA221M100V18X17TR15F	220000000	100	NAZR221M100V18X17KSF	
NACKA221M100V18X17TR15WTF	220000000	100	NAZR221M100V18X17KSWF	
NACKA331M100V18X17TR15F	330000000	100	NAZT331M100V18X22HLSF	Slightly higher profile
NACKA331M100V18X17TR15WTF	330000000	100	NAZT331M100V18X22HLSWF	Slightly higher profile

Prepared by NIC
Components TPMG, tpmg@niccomp.com

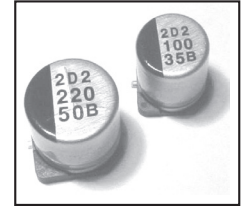
NACKA Series

Surface Mount Aluminum Electrolytic Capacitors



FEATURES

- CYLINDRICAL V-CHIP CONSTRUCTION FOR SURFACE MOUNTING
- LOW IMPEDANCE AND WIDE TEMPERATURE
- LONG LIFE (5,000 HOURS @ 105°C)
- AVAILABLE WITH ANTI-VIBRATION WIDE TERMINATIONS
- DESIGNED FOR AUTOMATIC MOUNTING AND REFLOW SOLDERING



CHARACTERISTICS

Rated Voltage Range	6.3 ~ 100Vdc										
Rated Capacitance Range	47 ~ 6,800µF										
Operating Temperature Range	-55°C ~ +105°C										
Capacitance Tolerance	±20%(M)										
Maximum Leakage Current after 2 minutes @ 20°C	0.01CV whichever is greater										
Maximum Tanδ @ 120Hz/20°C	W.V. (Vdc)		6.3	10	16	25	35	50	63	80	100
	S.V. (Vdc)		8.0	13	20	32	44	63	79	100	125
	All Case Sizes	C ≤ 1,000µF	0.26	0.19	0.16	0.14	0.12	0.12	0.10	0.08	0.07
		C = 1,500µF	-	-	0.16	0.16	0.12	-	-	-	-
		C = 2,200µF	-	0.21	-	0.16	-	-	-	-	-
		C = 3,300µF	0.30	-	0.20	0.18	-	-	-	-	-
C = 4,700µF		-	0.25	0.22	-	-	-	-	-	-	
C = 6,800µF	0.36	0.29	-	-	-	-	-	-	-		
Low Temperature Stability Impedance Ratio @ 120Hz	Z -25°C/Z +20°C		2	2	2	2	2	2	2	2	2
	Z -40°C/Z +20°C		3	3	3	3	3	3	3	3	3
	Z -55°C/Z +20°C		4	4	4	3	3	3	3	3	3
Load Life Test @ 105°C 5,000 Hours	Capacitance Change		Within ±30% of initial measured value								
	Tanδ		Less than 200% of specified value								
	Leakage Current		Less than specified maximum value								
Shelf Life Test @ 105°C 1,000 Hours	Capacitance Change		Within ±30% of initial measured value								
	Tanδ		Less than 200% of specified value								
	Leakage Current		Less than specified maximum value								
Resistance to Soldering Heat Within Recommended Reflow Conditions	Capacitance Change		Within ±10% of initial measured value								
	Tanδ		Less than specified maximum value								
	Leakage Current		Less than specified maximum value								

STANDARD PRODUCT AND CASE SIZE Dφ xL (mm)

Cap (µF)	Code	Working Voltage (Vdc)								
		6.3	10	16	25	35	50	63	80	100
47	470	-	-	-	-	-	-	-	-	12.5x14
68	680	-	-	-	-	-	-	-	12.5x14	12.5x14
100	101	-	-	-	-	-	-	-	12.5x14	16x17
150	151	-	-	-	-	-	-	12.5x14	12.5x14	16x17
220	221	-	-	-	-	-	-	12.5x14	-	18x17
330	331	-	-	-	-	-	12.5x14	-	16x17	18x17
390	391	-	-	-	-	-	12.5x14	-	-	-
470	471	-	-	-	-	12.5x14	16x17	16x17	18x17	-
560	561	-	-	-	-	-	16x17	-	-	-
680	681	-	-	-	-	12.5x14	16x17	18x17	-	-
1000	102	-	-	-	12.5x14	16x17	16x17	-	-	-
1500	152	-	-	12.5x14	16x17	16x17	-	-	-	-
2200	222	-	12.5x14	-	16x17	-	-	-	-	-
3300	332	12.5x14	-	16x17	18x17	-	-	-	-	-
4700	472	-	16x17	18x17	-	-	-	-	-	-
6800	682	16x17	18x17	-	-	-	-	-	-	-

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

NACKA Series

Surface Mount Aluminum Electrolytic Capacitors



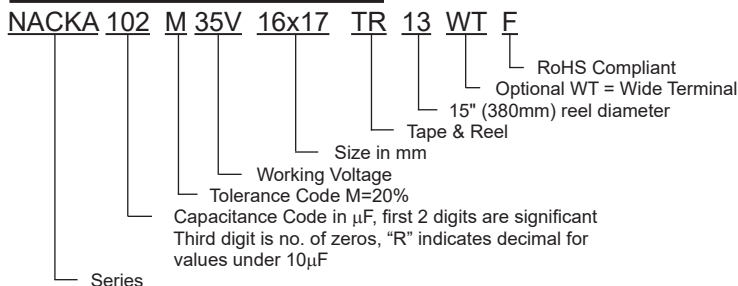
STANDARD VALUES, CASE SIZES AND SPECIFICATIONS

NIC Part Number*	Cap. (μF)	W.V. (Vdc)	Dissipation Factor (Tan δ)	Max. Ripple Current (mA) +105°C/100KHz	Max. Impedance (Ω) +20°C/100KHz	Load Life Hours @ +105°C
NACKA332M6.3V12.5X14TR15F	3300	6.3	0.30	1100	0.060	5,000
NACKA682M6.3V16X17TR15F	6800		0.36	1800	0.035	5,000
NACKA222M10V12.5X14TR15F	2200	10	0.21	1100	0.060	5,000
NACKA472M10V16X17TR15F	4700		0.25	1800	0.035	5,000
NACKA682M10V18X17TR15F	6800		0.29	2060	0.033	5,000
NACKA152M16V12.5X14TR15F	1500	16	0.16	1100	0.060	5,000
NACKA332M16V16X17TR15F	3300		0.20	1800	0.035	5,000
NACKA472M16V18X17TR15F	4700		0.22	2060	0.033	5,000
NACKA102M25V12.5X14TR15F	1000	25	0.14	1100	0.060	5,000
NACKA152M25V16X17TR15F	1500		0.16	1800	0.035	5,000
NACKA222M25V16X17TR15F	2200		0.16	1800	0.035	5,000
NACKA332M25V18X17TR15F	3300		0.18	2060	0.033	5,000
NACKA471M35V12.5X14TR15F	470	35	0.12	1100	0.060	5,000
NACKA681M35V12.5X14TR15F	680		0.12	1100	0.060	5,000
NACKA102M35V16X17TR15F	1000		0.12	1800	0.035	5,000
NACKA152M35V16X17TR15F	1500		0.12	1800	0.035	5,000
NACKA331M50V12.5X14TR15F	330	50	0.12	900	0.120	5,000
NACKA391M50V12.5X14TR15F	390		0.12	900	0.120	5,000
NACKA471M50V16X17TR15F	470		0.12	1610	0.073	5,000
NACKA561M50V16X17TR15F	560		0.12	1610	0.073	5,000
NACKA681M50V16X17TR15F	680		0.12	1610	0.073	5,000
NACKA102M50V16X17TR15F	1000		0.12	1610	0.073	5,000
NACKA151M63V12.5X14TR15F	150	63	0.10	800	0.160	5,000
NACKA221M63V12.5X14TR15F	220		0.10	800	0.160	5,000
NACKA471M63V16X17TR15F	470		0.10	1410	0.082	5,000
NACKA681M63V18X17TR15F	680		0.10	1680	0.080	5,000
NACKA680M80V12.5X14TR15F	68	80	0.08	500	0.320	5,000
NACKA101M80V12.5X14TR15F	100		0.08	500	0.320	5,000
NACKA151M80V12.5X14TR15F	150		0.08	500	0.320	5,000
NACKA331M80V16X17TR15F	330		0.08	793	0.170	5,000
NACKA471M80V18X17TR15F	470		0.08	917	0.153	5,000
NACKA470M100V12.5X14TR15F	47	100	0.07	500	0.320	5,000
NACKA680M100V12.5X14TR15F	68		0.07	500	0.320	5,000
NACKA101M100V16X17TR15F	100		0.07	793	0.170	5,000
NACKA151M100V16X17TR15F	150		0.07	793	0.170	5,000
NACKA221M100V18X17TR15F	220		0.07	917	0.153	5,000
NACKA331M100V18X17TR15F	330		0.07	917	0.153	5,000

RIPPLE CURRENT FREQUENCY CORRECTION FACTORS

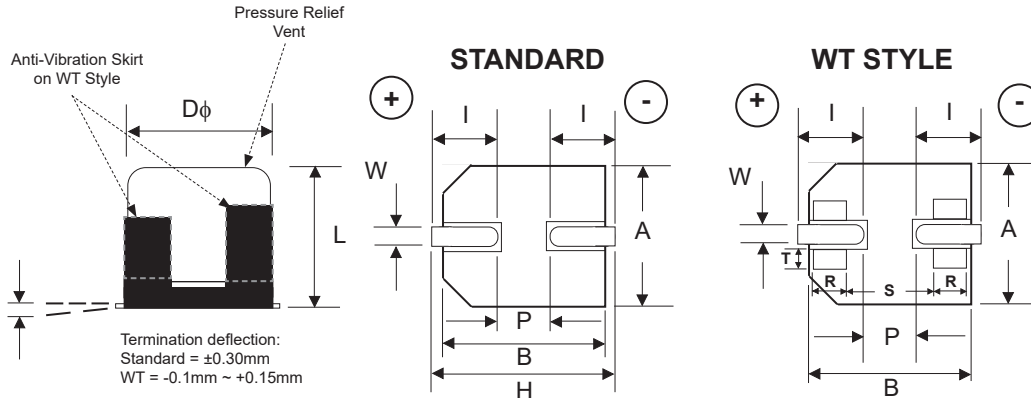
120Hz	1KHz	10KHz	100KHz
0.75	0.90	0.95	1.00

PART NUMBER SYSTEM



DIMENSIONS (mm)

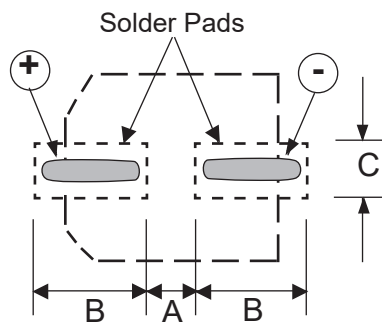
Case Size	D ϕ \pm 0.5	L max.	A, B \pm 0.2	H max.	I \pm 0.3	P \pm 0.3	W	R	S	T
12.5 x 14	12.5	14.0	13.5	15.0	4.7	4.4	0.90 \pm 0.30	-	-	-
16 x 17	16.0	17.0	17.0	19.0	5.5	6.7	1.20 \pm 0.30	-	-	-
18 x 17	18.0	17.0	19.0	21.0	6.7	6.7	1.20 \pm 0.30	-	-	-
12.5 x 14WT	12.5	14.3	13.5	15.0	4.7	4.4	1.20 \pm 0.30	2.2 \pm 0.2	7.1 \pm 0.2	2.4 \pm 0.2
16 x 17WT	16.0	17.3	17.0	19.0	5.5	6.7	1.40 \pm 0.20	3.0 \pm 0.2	9.0 \pm 0.2	1.9 \pm 0.2
18 x 17WT	18.0	17.3	19.0	21.0	6.7	6.7	1.40 \pm 0.20	3.0 \pm 0.2	11.0 \pm 0.2	1.9 \pm 0.2



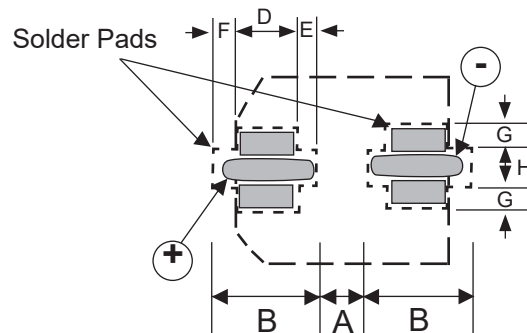
LAND PATTERN DIMENSIONS (mm)

Case Size	A	B	C	D	E	F	G	H
12.5x14	4.0	5.7	2.0	-	-	-	-	-
16x17	6.0	6.5	2.5	-	-	-	-	-
18x17	6.0	7.5	2.5	-	-	-	-	-
12.5x14WT	3.9	6.0	6.9	2.8	1.3	1.9	2.2	2.5
16x17WT	5.8	6.8	6.2	3.6	1.3	1.9	1.7	2.8
18x17WT	5.8	7.3	6.2	3.6	1.8	1.9	1.7	2.8

STANDARD TERMINATION



WT STYLE TERMINATION



WT (Wide Terminations) Anti-Vibration Test	
Test Method	Direction: X, Y, Z axis Frequency & Duration: 5 to 2000Hz reciprocation for 20 minutes, 2 hours each direction Peak to Peak Amplitude: 5mm Peak Acceleration: 30G Sweep Type: Log
Δ Capacitance	Within \pm 10% of initial value
Tangent of Loss	\leq Specified value
Leakage Current	\leq Specified value

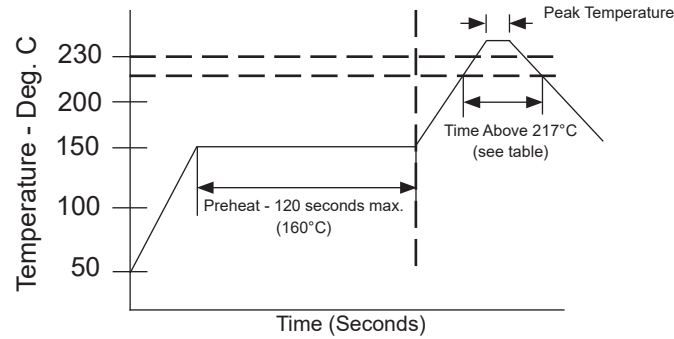
Review & Compare Reflow Soldering Heat Limits
V-chip SMT Aluminum Electrolytic Capacitors
www.niccomp.com/RSL

PEAK REFLOW TEMPERATURE AND DURATION

Diameter	Rated Voltage	Time above 217°C	Time above 240°C	Peak Temperature	Max. Number of Reflow Passes
φ12.5~18	6.3V~35V	90 sec. max.	30 sec. max.	245°C max.	2*
	50V~63V	30 sec. max.	5 sec. max.	245°C max.	2*
	80V~100V	30 sec. max.	5 sec. max.	245°C max.	1

*Second reflow shall be at least one hour after natural cool to room temperature.

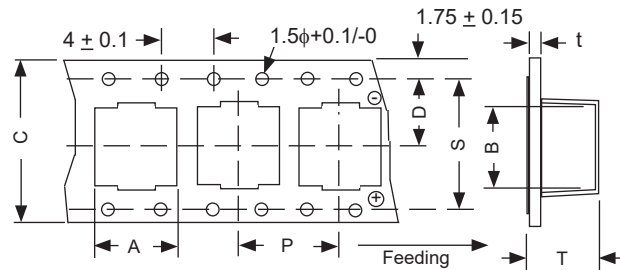
Note: VPS Soldering is not recommended



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	F	P	T	t
12.5x14	±0.5	±0.5	±0.3	±0.1	±0.1	±0.2	±0.1
16x17	17.5	17.5	44.0	20.2	28.0	17.5	0.5
18x17	19.5	19.5	44.0	20.2	32.0	17.5	0.5



REEL DIMENSIONS (mm) AND QUANTITY

Case Size	W	Qty per Reel
	±1.0	15" (380mm)
12.5x14	34	250
16x17	46	200
18x17	46	150

