NSPE-J Series
Hybird Aluminum Electrolytic Capacitors

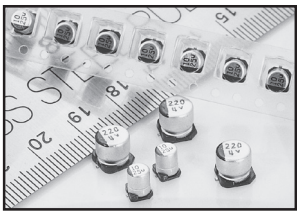
AEC-Q200 QUALIFIED

ROHS/REACH COMPLIANT HALOGEN FREE

NIC COMPONENTS
Performance Passives By Design

FEATURES
- -40°C TO +150°C OPERATING RANGE
- MEETS THE REQUIREMENTS OF AEC-Q200*
- HIGH RIPPLE CURRENT RATING AT HIGH TEMPERATURE
- EXTENDED LIFETIME: 1000 HOURS @ +150°C (OVER 20K HOURS @ +105°C)
- 6.3x8mm SIZES
- 'W' WIDE TERMINAL OPTION FOR HIGH VIBRATION APPLICATIONS

*Contact NIC for supporting test data

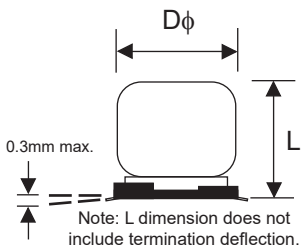


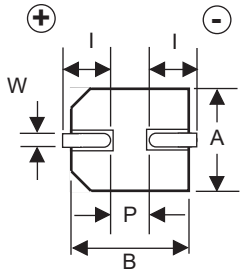
CHARACTERISTICS

Rated Voltage Range	25 ~ 35VDC		
Rated Capacitance Range	47 ~ 68µF		
Operating Temp. Range	-40 ~ +150°C		
Capacitance Tolerance	±20% (M)		
Max. Leakage Current After 2 Minutes @ 20°C	0.05CV		
Working Voltage & Surge Voltage Ratings	W.V. (Vdc)	25	35
	S.V. (Vdc)	32	44
Tan δ @ 120Hz/20°C		0.16	
Temperature Stability Impedance Ratio @ 120Hz	Z -40°C/Z +20°C	1.0 ~ 2.5	
	Z +150°C/Z +20°C	0.6 ~ 1.0	
Load Life Test at W.V. @ 150°C All Case Sizes: 1,000 Hours	Capacitance Change	Within ±30% of initial measured value	
	ESR, Tan δ	Less than 200% of specified max. value	
	Leakage Current	Less than specified max. value	

STANDARD PRODUCT AND CASE SIZE Dϕ xL (mm)

Cap.(µF)	Code	Working Voltage (Vdc)	
		25	35
47	470	-	6.3x8
68	680	6.3x8	-

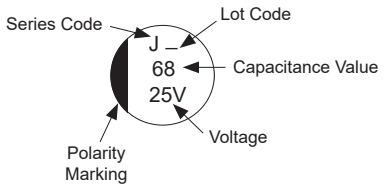




DIMENSIONS (mm)

Case Size	Dϕ ±0.5	L max.	A, B ±0.2	I ±0.3	(P)	W
6.3x8	6.3	8.0	6.6	2.5	2.2	0.5 ~ 0.8

Part Marking



PART NUMBER SYSTEM

NSPE-J 680 M 25V 6.8x8 N LB W Y F

- NSPE-J — Series
- 680 — Capacitance Code in µF, first 2 digits are significant. Third digit is no. of zeros.
- M — Tolerance Code M=20%
- 25V — Working Voltage
- 6.8x8 — Size in mm
- N — Reflow Temp. Code (N=+260°C)
- LB — LB = Sn-Bi Finish and 15" Reel
- W — Wide Termination Option ≥8mm diameter
- Y — Suitable for automotive equipment, sourced to special production and inspection at IATF-16949 certified production site
- F — RoHS Compliant

Termination & Packaging Code
LB = Sn-Bi / 15" reel

Reflow Code
N = +260°C

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COMPONENTS
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STANDARD VALUES, CASE SIZES & SPECIFICATIONS

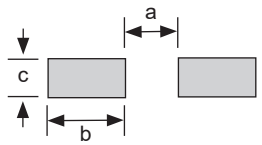
Part Number	Cap. (µF)	Working Voltage	Dissipaton Factpr @120Hz/20°C	Max. ESR (Ω) AT 100KHz/20°C	Max. Ripple Current (mA rms) AT 100KHz/150°C	Load Life Hours @ +150°C
NSPE-J680M25V6.3X8NLBYF	68	25V	0.16	0.045	540	1000
NSPE-J470M35V6.3X8NLBYF	47	35V	0.16	0.060	510	1000

RIPPLE CURRENT FREQUENCY CORRECTION FACTOR

Frequency (Hz)	100 ≤ f <1K	1K ≤ f <10K	10K ≤ f <100K	100K ≤ f
47µF ~ 68µF	0.10	0.35	0.70	1.00

LAND PATTERN DIMENSIONS (mm)

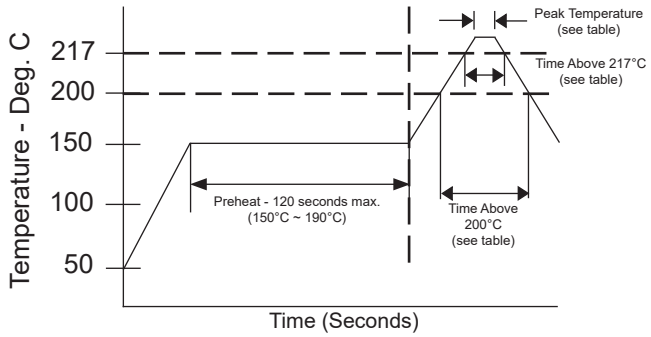
Case Size	a	b	c
6.3x8	1.8	3.6	1.8



PEAK REFLOW TEMPERATURES AND DURATION

Diameter	Time above 200°C	Time above 217°C	Time above 230°C	Peak Temperature 5 seconds
ϕ6.3mm	Within 100 sec.	Within 80 sec.	Within 40 sec.	+260°C

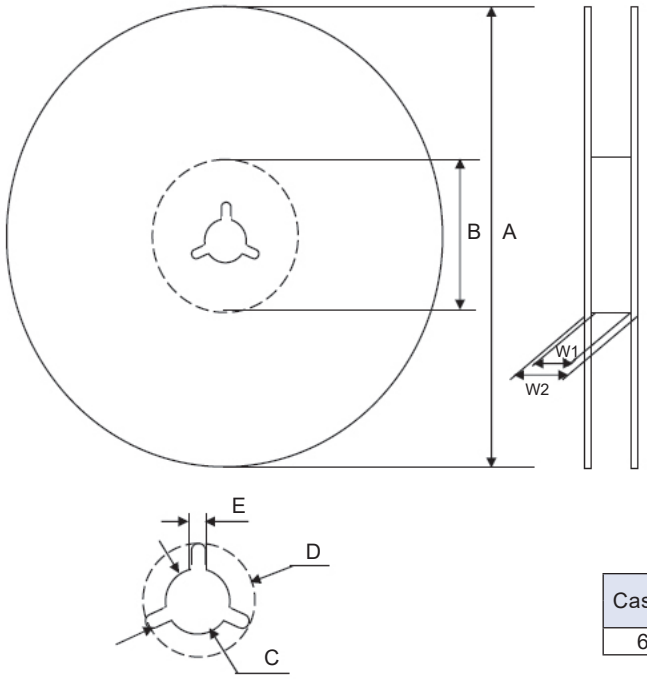
Capacitors can withstand two reflow passes under the specified conditions. Capacitors must be allowed to cool to room temperature before the second reflow pass.



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**

V-Chip 15" (380mm) Reels (LB suffix)



Dimensions (mm)

Case Size	Tape Width	W1	W2
6.3x8	16.0	16.5 ~ 18.5	19.5 ~ 24.0

Case Size	Tape Width	A	B	C	D	E
6.3x8	16.0	ϕ380 ±2	ϕ80~105	ϕ13 ±0.5	ϕ21 ±1.0	2.0 ±0.5

Color
Black

Case Size	Qty per Reel
	15" (380mm)
6.3x8	900

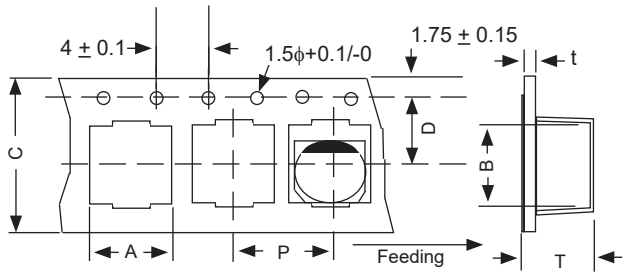
CARRIER TAPE

Case Size	A ±0.2	B ±0.2	C ±0.3	D ±0.1	P ±0.1	T ±0.2	t max.
6.3x8	7.0	7.0	16.0	7.5	12.0	8.2	0.6

TAPING SPECIFICATIONS (mm)

1. Both Leader and Trailer tape: Minimum 10 empty carrier tape pockets.
2. Leader tape: Approximately 20cm of cover tape at leader.
3. Connection: Maximum 3 connections (slices) per reel.

CARRIER



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