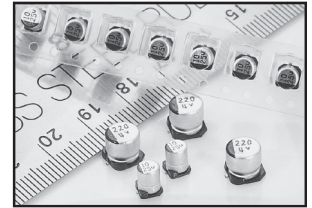


FEATURES

- -55°C TO +105°C OPERATING RANGE
- **MEETS THE REQUIREMENTS OF AEC-Q200***
- HIGH CAPACITANCE AT HIGH TEMPERATURE +105°C
- EXTENDED LIFETIME: 5000 HOURS @ +105°C
- CASE SIZES 6.3x6.3mm ~ 10x12.8mm
- 'W' WIDE TERMINAL OPTION FOR HIGH VIBRATION APPLICATIONS

*Contact NIC for supporting test data

Available with Wide
Anti-Vibration
Terminations



CHARACTERISTICS

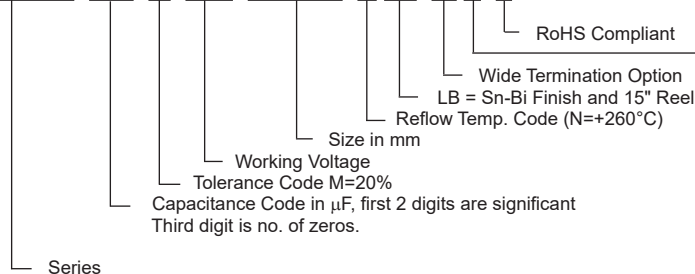
Rated Voltage Range	25 ~ 35VDC		
Rated Capacitance Range	56 ~ 560μF		
Operating Temp. Range	-55 ~ +105°C		
Capacitance Tolerance	±20% (M)		
Max. Leakage Current After 2 Minutes @ 20°C	0.01CV		
Working Voltage & Surge Voltage Ratings	W.V. (Vdc)	25	35
	S.V. (Vdc)	32	44
Tan δ @ 120Hz/20°C		0.14	0.12
Temperature Stability Impedance Ratio @ 120Hz	Z -55°C/Z +20°C	1.0 ~ 2.5	
	Z +105°C/Z +20°C	0.6 ~ 1.0	
Load Life Test at W.V. @ +105°C All Case Sizes: 5,000 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
56	560	-	6.3x6.3
100	101	6.3x6.3	6.3x8
150	151	6.3x8	-
180	181	-	8x10.8
270	271	8x10.8	-
330	331	-	10x10.8
390	391	-	10x12.8
470	471	10x10.8	-
560	561	10x12.8	-

PART NUMBER SYSTEM

NSPE-HC 331 M 35V 10x10.8 N LB W Y F



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

Reflow Code
N = +260°C

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



STANDARD VALUES, CASE SIZES & SPECIFICATIONS

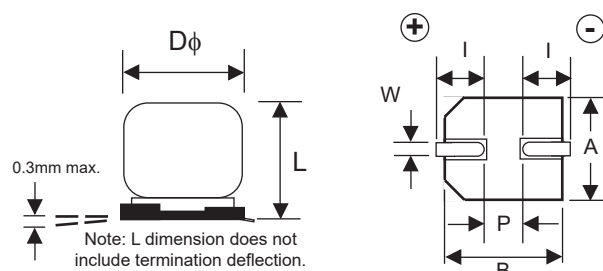
Part Number	Cap. (μF)	Working Voltage	Dissipation Factor @120Hz/+20°C	Max. ESR (Ω) AT 100KHz/+20°C	Max. Ripple Current (mA rms) AT 100KHz/+105°C	Load Life Hours @ +105°C
NSPE-HC101M25V6.3X6.3NLBYF	100	25V	0.14	0.050	1600	5000
NSPE-HC151M25V6.3X8NLBYF	150		0.14	0.030	2000	5000
NSPE-HC271M25V8X10.8NLBYF	270		0.14	0.027	2550	5000
NSPE-HC471M25V10X10.8NLBYF	470		0.14	0.020	3500	5000
NSPE-HC561M25V10X12.8NLBYF	560		0.14	0.016	4000	5000
NSPE-HC560M35V6.3X6.3NLBYF	56	35V	0.12	0.060	1600	5000
NSPE-HC101M35V6.3X8NLBYF	100		0.12	0.035	2000	5000
NSPE-HC181M35V8X10.8NLBYF	180		0.12	0.027	2550	5000
NSPE-HC331M35V10X10.8NLBYF	330		0.12	0.020	3500	5000
NSPE-HC391M35V10X12.8NLBYF	390		0.12	0.017	4000	5000

RIPPLE CURRENT FREQUENCY CORRECTION FACTOR

$100 \leq f < 1K$	$1K \leq f < 10K$	$10K \leq f < 50K$	$50K \leq f < 100K$	$100K \leq f < 500K$
0.15	0.35	0.65	0.85	1.00

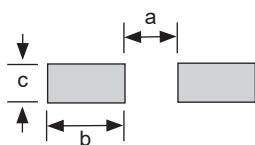
DIMENSIONS (mm)

Case Size	$D\phi \pm 0.5$	L max.	A, B ± 0.2	(I)	(P)	W
6.3x6.3	6.3	6.3	6.6	2.5	2.2	0.5 ~ 0.8
6.3x8	6.3	8.0	6.6	2.5	2.2	0.5 ~ 0.8
8x10.8	8.0	10.8	8.3	2.9	3.2	0.7 ~ 1.0
10x10.8	10.0	10.8	10.3	3.2	4.6	1.0 ~ 1.4
10x12.8	10.0	12.8	10.3	3.2	4.6	1.0 ~ 1.4

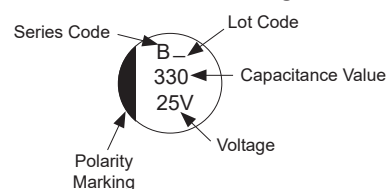


LAND PATTERN DIMENSIONS (mm)

Case Size	a	b	c
6.3x6.3	1.8	3.6	1.8
6.3x8	1.8	3.6	1.8
8x10.8	2.8	4.1	2.1
10x10.8	4.3	4.4	2.5
10x12.8	4.3	4.4	2.5



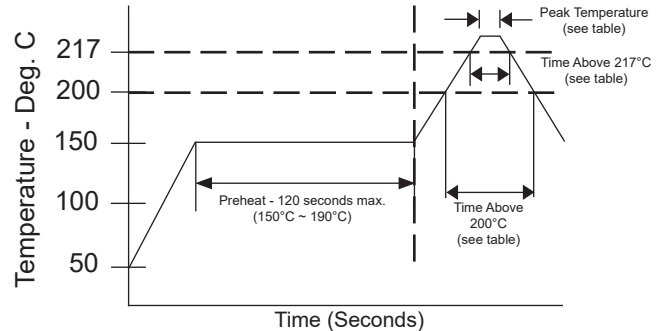
Part Marking



25V ~ 35V PEAK REFLOW TEMPERATURES AND DURATION

Diameter	Peak Temperature	Time above +200°C	Time above +217°C	Time above +230°C	Number of Reflow Cycles
φ6.3	+260°C	Within 70 sec.	Within 40 sec.	Within 30 sec.	2
φ8.0 & φ10mm	+260°C	Within 70 sec.	Within 40 sec.	Within 30 sec.	1
	+245°C	Within 70 sec.	Within 50 sec.	Within 40 sec.	2

Capacitors can withstand two reflow passes under the specified conditions. A one hour natural cooling period to room temperature is required before the second pass through the reflow process.

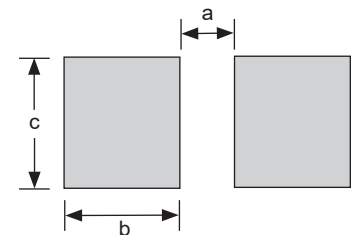
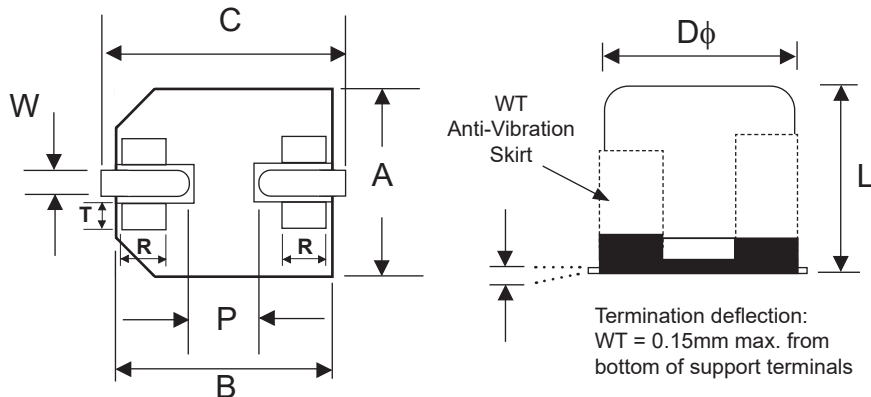


W (WIDE TERMINATIONS) COMPONENT DIM. (mm)

Case Size	Dφ ±0.5	L max.	A, B ±0.2	C ±0.2	P	W	R	T
6.3x6.3	6.3	6.5	6.6	7.3	(2.2)	0.5 ~ 0.8	(1.8)	(0.8)
6.3x8	6.3	8.2	6.6	7.3	(2.2)	0.5 ~ 0.8	(1.8)	(0.8)
8x10.8	8.0	11.2	8.3	9.0	(3.2)	0.7 ~ 1.0	(0.7)	(1.3)
10x10.8	10.0	11.2	10.3	11.0	(4.6)	1.0 ~ 1.4	(2.1)	(1.1)
10x12.8	10.0	13.0	10.3	11.0	(4.6)	1.0 ~ 1.4	(2.1)	(1.1)

W (WIDE TERMINATIONS) LAND PATTERN DIM. (mm)

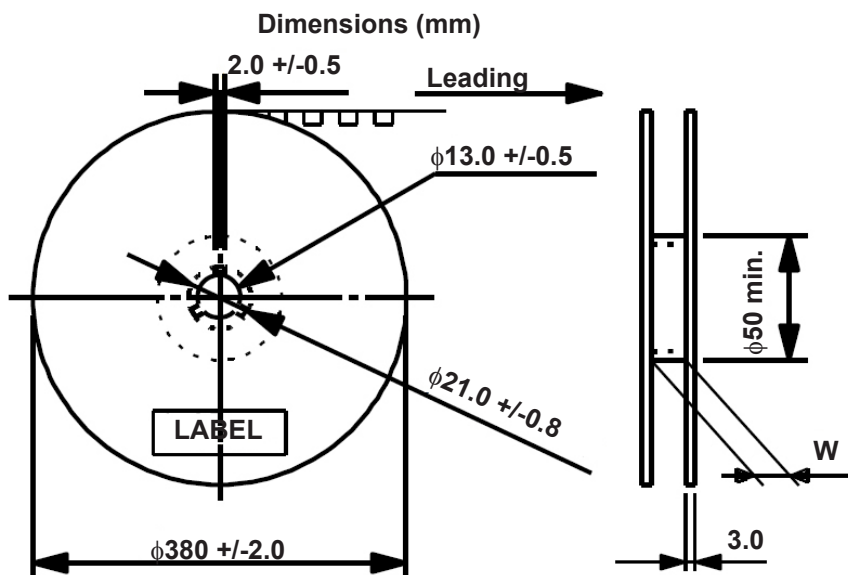
Case Size	a	b	c
6.3x6.3	1.6	4.0	3.0
6.3x8	1.6	4.0	3.0
8x10.8	2.5	4.5	4.7
10x10.8	3.8	4.8	4.7
10x12.8	3.8	4.8	4.7



W (Wide Terminations) Anti-Vibration Test	
Test Method	Direction: X, Y, Z axis Frequency & Duration: 5 to 2000Hz reciprocation for 20 minutes, 2 hours total in each direction Peak to Peak Amplitude: 5mm Peak Acceleration: 30G Sweep Type: Log Thickness of Solder Paste: 0.20mm ± 0.03mm
Capacitance	During test measured value to be stabilized
Appearance	No remarkable abnormality

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

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



Reel Quantity

Case Size	W ⁺³ / ₋₁	Qty per Reel 15" (380mm)
6.3x6.3	18	1000
6.3x8	18	900
8x10.8	26	500
10x10.8	26	500
10x12.8	26	400

CARRIER TAPE

Case Size	A ± 0.2	B ± 0.2	C ± 0.3	D ± 0.1	P ± 0.1	T ± 0.2	t max.
6.3x6.3	7.0	7.0	16.0	7.5	12.0	6.5	0.6
6.3x8	7.0	7.0	16.0	7.5	12.0	8.2	0.6
8x10.8	8.7	8.7	24.0	11.5	16.0	11.1	0.6
10x10.8	10.7	10.7	24.0	11.5	16.0	11.2	0.6
10x12.8	10.7	10.7	24.0	11.5	16.0	13.3	0.6

TAPING SPECIFICATIONS (mm)

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

CARRIER

