

Hybrid Aluminum Electrolytic Capacitors

NSPE-T Series

- CYLINDRICAL V-CHIP CONSTRUCTION FOR SURFACE MOUNTING
- EXTENDED LOAD LIFE AT HIGH TEMPERATURE (2,000 ~ 3,000 HOURS @ +125°C)
- HIGH VOLTAGE RATINGS (25 ~ 100VDC)
- LOW ESR AND HIGH RIPPLE CURRENT RATINGS
- 6.3x8mm ~ 10x10.8mm CASE SIZES
- REFLOW SOLDERING RATED TO +260°C (+250°C 80V & 100V)

*Expanded
80V & 100V
Values*



CHARACTERISTICS

Rated Voltage Range	25 ~ 100Vdc							
Rated Capacitance Range	3.9 ~ 270μF							
Operating Temp. Range	-55 ~ +125°C							
Capacitance Tolerance	±20% (M)							
Max. Leakage Current After 2 Minutes @ 20°C	Less than 0.05CV or 100μA whichever is greater							
Working and Surge Voltage Ratings	W.V. (Vdc)	25	35	50	63	80	100	
	S.V. (Vdc)	32	44	63	79	100	125	
Tan δ @ 120Hz/20°C		0.16						
Impedance Ratio	Z -55°C/Z +20°C	1 ~ 2.5						
	Z +125°C/Z +20°C	0.6 ~ 1.0						
Load Life Test @ 125°C and Rated Voltage	W.V. (Vdc)	25	35	50	63	80	100	
	Case Dia.	φ6.3mm	2000 hrs.					
		φ8 & 10mm	3000 hrs.					
	Capacitance Change	Within ±30% of initial measured value						
	Tan δ and ESR	Less than 200% of specified max. value						
	Leakage Current	Less than specified max. value						
	ESR	Less than 200% of specified max. value						
Resistance to Soldering Heat	Hot Plate at +250°C for 30 seconds with electrodes facing downward							
	Capacitance Change	Within ±10% of the initial measured value						
	Dissipation Factor	Less than the initial limit						
	Leakage Current	Less than the initial limit						

STANDARD PRODUCTS AND CASE SIZES Dφ x L (mm)

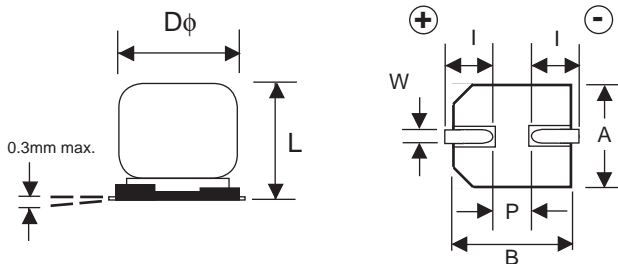
PART NUMBER	Cap. (μF)	Working Voltage	Case Size (D X L) mm	Max. Tan δ 120Hz/20°C	Max. ESR (mΩ) AT 100kHz/20°C	Max. Ripple Current (mA rms) AT 100kHz/125°C	Load Life Hours (+125°C)
NSPE-T680M25V6.3X8NBYF	68	25	6.3X8	0.16	45	980	2000
NSPE-T151M25V8X10.8NBYF	150		8X10.8	0.16	27	1330	3000
NSPE-T271M25V10X10.8NBYF	270		10X10.8	0.16	22	1520	3000
NSPE-T470M35V6.3X8NBYF	47	35	6.3X8	0.16	60	910	2000
NSPE-T101M35V8X10.8NBYF	100		8X10.8	0.16	30	1260	3000
NSPE-T151M35V10X10.8NBYF	150		10X10.8	0.16	23	1480	3000
NSPE-T100M50V6.3X8NBYF	10	50	6.3X8	0.16	80	840	2000
NSPE-T330M50V8X10.8NBYF	33		8X10.8	0.16	35	1170	3000
NSPE-T560M50V10X10.8NBYF	56		10X10.8	0.16	25	1390	3000
NSPE-T3R9M63V6.3X8NBYF	3.9	63	6.3X8	0.16	100	740	2000
NSPE-T220M63V8X10.8NBYF	22		8X10.8	0.16	40	1090	3000
NSPE-T330M63V10X10.8NBYF	33		10X10.8	0.16	30	1260	3000
NSPE-T120M80V10X10.8LBXYF	12	80	10X10.8	0.16	70	900	3000
NSPE-T100M100V10X10.8LBXYF	10	100	10X10.8	0.16	80	870	3000

New Values

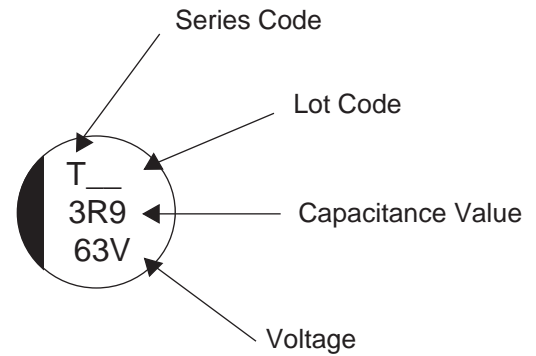


DIMENSIONS (mm)

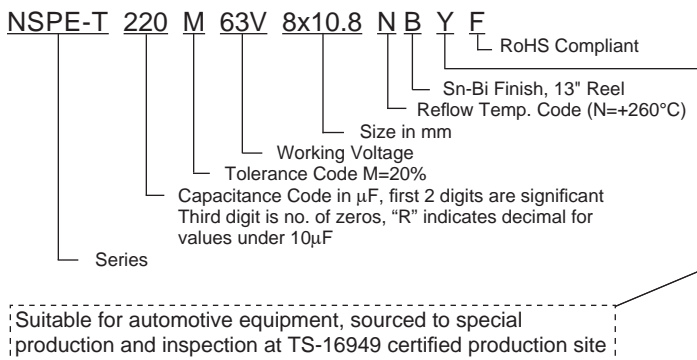
Case Size	Dφ ±0.5	L max.	A, B ±0.2	W	I ±0.2	P ±0.2
6.3x8	6.3	8.0	6.6	0.5 ~ 0.8	2.5	2.2
8x10.8	8.0	10.8	8.3	0.7 ~ 1.0	2.9	3.2
10x10.8	10	10.8	10.3	1.0 ~ 1.4	3.2	4.6



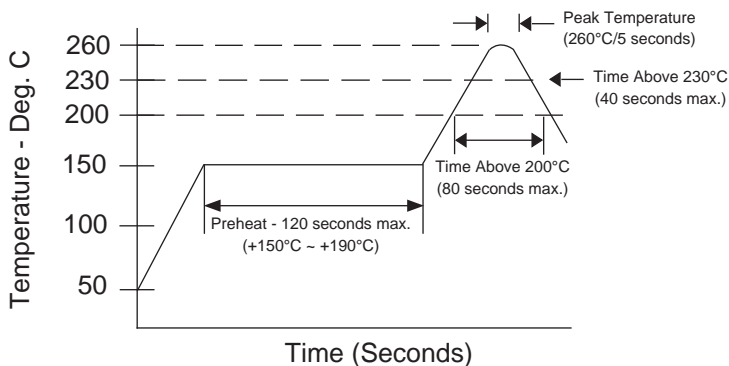
Part Marking



PART NUMBER SYSTEM

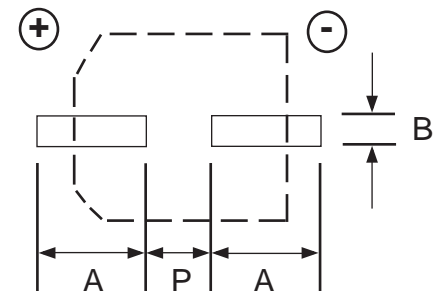


RECOMMENDED REFLOW SOLDERING PROFILE*



LAND PATTERN DIM. (mm)

Case Dia.	A	B	P
6.3	3.5	1.8	2.1
8	4.1	2.1	2.8
10	4.4	2.5	4.3



PEAK TEMPERATURE AND DURATION

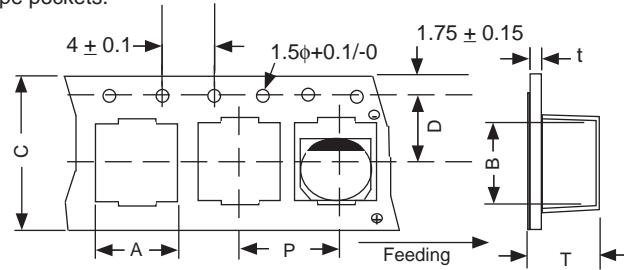
Diameter	Time Above +200°C	Time Above +217°C	Time Above +230°C	Peak Temperature
6.3 ~ 63V	100 sec. max.	80 sec. max.	40 sec. max.	+260°C (5 sec. max.)
80 ~ 100V				+250°C (5 sec. max.)

*Two reflow passes are permissible with a cool down to room temperature required between the first and second pass.

TAPING SPECIFICATIONS (mm)

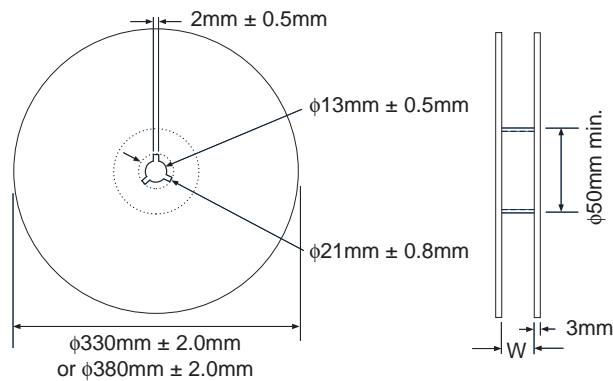
- Both Leader and Trailer tape: Minimum 40mm (1.57") empty carrier tape pockets.
- Leader tape: Approximately 20cm of cover tape at leader.
- Connection: Maximum 3 connections (slices) per reel.

Case Size	A ±0.5	B ±0.5	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
8x10.8	8.7	8.7	24.0	11.5	16.0	11.0	0.6
10x10.8	10.7	10.7	24.0	11.5	16.0	11.0	0.6



REEL DIMENSIONS (mm)

Case Size	W ±1.0	Qty per Reel 13" (330mm)
6.3x8	18	500
8x10.5	26	300
10x10.5	26	300



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
 If in doubt or uncertainty, please review your specific application - process details with NIC's technical support personnel: tpmg@niccomp.com