

NSPY Series

Surface Mount Solid Polymer Electrolytic Capacitors



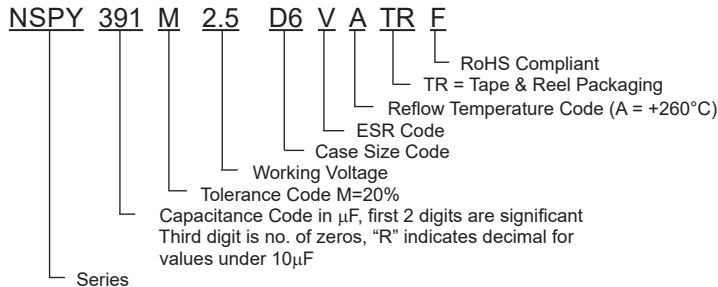
FEATURES

- FLAT TYPE CONDUCTIVE POLYMER ALUMINUM ELECTROLYTIC CAPACITOR
- HIGH TEMPERATURE RESISTANCE UP TO 135°C
- HIGH DURABILITY AGAINST HIGH TEMPERATURE AND HIGH HUMIDITY
- LOW ESR DOWN TO 3mΩ, HIGH CAPACITANCE
- EXTREMELY LONG LIFE SUITABLE TO TELECOM, SERVER, ETC.

CHARACTERISTICS

Rated Voltage Rating	2.0 ~ 6.3Vdc				
Rated Capacitance Range	120 ~ 560μF				
Operating Temp. Range	-55 ~ +135°C				
Capacitance Tolerance	±20% (M)				
Max. Leakage Current After 2 Minutes @ 20°C	≤0.1CV				
Max. Tan δ at 120Hz & 20°C	0.1				
Voltage Ratings	W.V. (Vdc)	2.0	2.5	4.0	6.3
	S.V. (Vdc)	2.5	3.1	5.0	8.0
Load Life Test @ 135°C All Case Sizes = 5,500 hours	Capacitance Change	Within ±20% of initial measured value			
	Tan δ	Less than ±200% of the specified maximum value			
	ESR	Less than ±200% of the specified maximum value			
	Leakage Current	Less than ±300% of the specified maximum value			
Damp Heat Test 1,000+48/-0 hours @+85°C, 85%RH and Rated Voltage	Capacitance Change	6.3V	Within -20%/+50% of initial measured value		
		4.0V	Within -20%/+60% of initial measured value		
		2.0V & 2.5V	Within -20%/+70% of initial measured value		
	Tan δ	Less than ±200% of the specified maximum value			
	Leakage Current	Less than ±500% of the specified maximum value			

PART NUMBER SYSTEM



PRECAUTIONS

Please review the notes on correct use, safety and precautions found at <https://www.niccomp.com/wp-content/uploads/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

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STANDARD VALUES, CASE SIZES AND SPECIFICATIONS

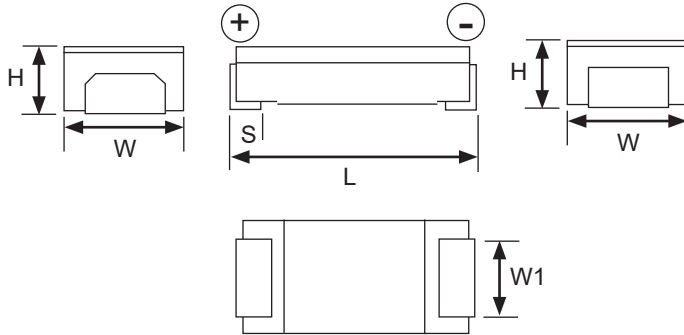
NIC Part Number	Cap. (μF)	W.V. (Vdc) ≤+105°C	W.V. (Vdc) >+105°C	Max. Ripple Current (mA) +45°C/100KHz	Max. LC (μA after 2 min.)	Maximum ESR (Ω) +20°C/100KHz	Load Life Hours @ +135°C	Height (mm)
NSPY331M2D6ZATRF	330	2.0	1.6	6,300	66.0	9.0	5,500	1.9 ± 0.1
NSPY471M2D6ZATRF	470			6,300	94.0	9.0	5,500	
NSPY471M2D6UATRF	470			8,500	94.0	4.5	5,500	
NSPY471M2D6VATRF	470			10,200	94.0	3.0	5,500	
NSPY221M2.5D6ZATRF	220	2.5	2.0	6,300	55.0	9.0	5,500	
NSPY331M2.5D6ZATRF	330			6,300	82.5	9.0	5,500	
NSPY391M2.5D6ZATRF	390			6,300	97.5	9.0	5,500	
NSPY391M2.5D6UATRF	390			8,500	97.5	4.5	5,500	
NSPY391M2.5D6VATRF	390			10,200	97.5	3.0	5,500	
NSPY151M4D6ATRF	150	4.0	3.2	5,100	60.0	15	5,500	
NSPY181M4D6ATRF	180			5,100	72.0	15	5,500	
NSPY221M4D6ATRF	220			5,100	88.0	15	5,500	
NSPY121M6.3D6ATRF	120	6.3	5.0	5,100	75.6	15	5,500	
NSPY151M6.3D6ATRF	150			5,100	94.5	15	5,500	
NSPY561M2D7ZATRF	560			6,300	112.0	9.0	5,500	
NSPY561M2D7UATRF	560	2.0	1.6	8,500	112.0	4.5	5,500	2.2 ± 0.1
NSPY561M2D7VATRF	560			10,200	112.0	3.0	5,500	

RIPPLE CURRENT TEMPERATURE CORRECTION FACTOR

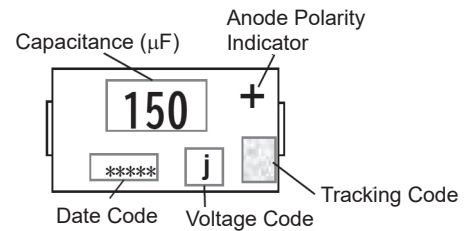
Temperature (°C)		
≤+45°C	+45°C < T ≤+85°C	+85°C < T ≤+135°C
1.0	0.7	0.25

CASE DIMENSIONS (mm)

Case Size	L ±0.2	W ±0.2	H ±0.1	W1 ±0.1	S ±0.3
D6	7.3	4.3	1.9	2.4	1.3
D7	7.3	4.3	2.2	2.4	1.3

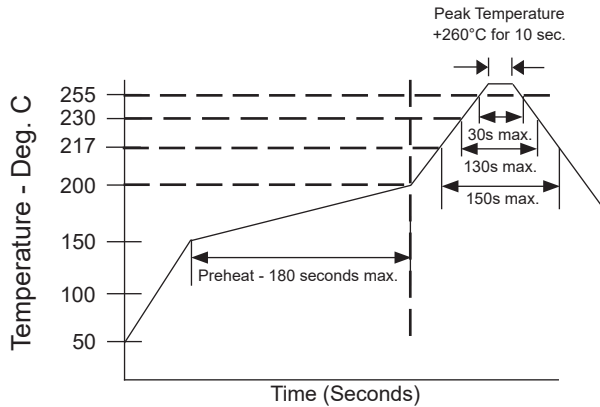


PART MARKING



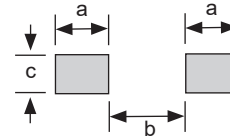
Voltage Rating	Code
2.0	d
2.5	e
4.0	g
6.3	j

Reflow Compliant with IPC/J-STD-020D standard Three reflow pass allowed (see note below)



RECOMMENDED LAND PATTERN DIMENSIONS (mm)

Case Size	a	b	c
D6, D7	2.4	4.0	2.8



Note: SAC(+217°C) reflow soldering compatible. Soldering heat limits apply to the top surface of component. Three times pass through reflow furnace are allowed (cooling down period between passes). All reflow passes should be done within 5 days of the first reflow pass.

IMPORTANT STORAGE CONDITIONS:

Proper moisture control is needed for this product.

Temperature: +5°C ~ +30°C

Humidity: Below 70% RH

Storage length limitations: Use parts sealed in moisture proof bags within 2 years of production date.

After opening of moisture proof bag maintain parts in the storage conditions referenced above and solder the parts within 7 days of opening the moisture proof bags.

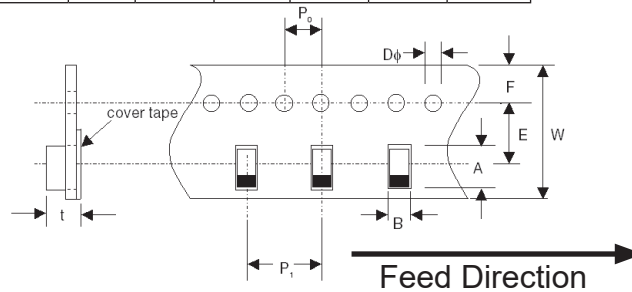
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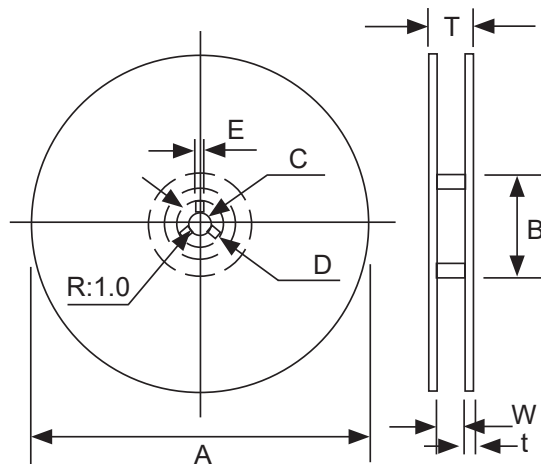
CARRIER TAPE DIMENSIONS (mm)

Case Code	A±0.2	B±0.2	Dφ	E±0.1	F±0.1	P _c ±0.1	P _i ±0.1	t±0.2		W±0.3
								D6	D7	
D6, D7	7.6	4.5	1.5 ^{+0.1}	5.50	1.75	4.0	8.0	2.4	2.9	12.0



REEL DIMENSIONS (mm)

A±2.0	B±1.0	C±0.2	D±0.8	E±0.5	T±1.0	t±0.1	W±1.0
330	80	13.0	21.0	2.0	20.0	3.0	14



Case Code	Reel Quantity
D6	3,500
D7	3,000