Surface Mount Specialty Polymer Solid Aluminum Electrolytic Capacitors

NSP Series

FEATURES

- NEW “X”, “Y” & "Z" TYPE HIGH RIPPLE CURRENT/VERY LOW ESR
- LOW PROFILE (1.1MM HEIGHT), RESIN PACKAGE
- REPLACES MULTIPLE TANTALUM CHIPS IN HIGH CURRENT POWER SUPPLIES AND VOLTAGE REGULATORS
- FITS EIA (7343) “D” AND “E” TANTALUM CHIP LAND PATTERNS
- Pb-FREE AND COMPATIBLE WITH REFLOW SOLDERING

RoHS Compliant
includes all homogeneous materials

*See Part Number System for Details

LOW ESR COMPONENT
SOLID POLYMER ELECTROLYTE
For Performance Data
see www.LowESR.com

CHARACTERISTICS

Rated Working Range	2.0 ~ 16VDC		
Rated Capacitance Range	2.2 ~ 560µF		
Operating Temperature Range	-40 ~ +105°C		
Capacitance Tolerance	± 20% (M)		
Max. Leakage Current (µA) After 2 Minutes (+20°C)	All Case Sizes		See Standard Products and Specifications Tables
Max. Tan δ, 120Hz, +20°C			
High Temperature Load Life 1,000 Hours @ 105°C at Rated Working Voltage	Capacitance Change		Within ±10% of initial measured value
	Tan δ		Less than specified max. value
	Leakage Current		Less than specified max. value
Damp Heat Test 500 Hours @ +60°C at 90 ~ 95% RH and Rated Working Voltage	Capacitance Change	8V ~ 16V	Within -20%/+40% of initial measured value
		6.3V	Within -20%/+50% of initial measured value
		4V	Within -20%/+60% of initial measured value
		2V, 2.5V	Within -20%/+70% of initial measured value
	Tan δ		Less than 200% of specified max. value
	Leakage Current		Less than specified max. value

STANDARD PRODUCTS AND SPECIFICATIONS

NIC Part Number (Reflow 240°C)	NIC Part Number (Reflow 260°C)	WV (Vdc)	Cap. (µF)	Max. LC (µA) 240°C	Max. LC (µA) 260°C	Tan δ	Max. Ripple Current +105°C & 100KHz (mA)	Max. ESR +20°C & 100KHz (Ω)	Height H
NSP680M2D5TRF	N/A	2.0	68	8.1	N/A	0.06	2,000	0.028	1.1±0.1
NSP101M2D2TRF	NSP101M2D2ATRF		100	12.0	20.0	0.06	2,500	0.018	1.8±0.1
NSP101M2D2XTRF	NSP101M2D2XATRF		100	12.0	20.0	0.06	2,700	0.015	1.8±0.1
NSP101M2D2ZTRF	NSP101M2D2ZATRF		100	12.0	20.0	0.06	3,000	0.009	1.8±0.1
NSP121M2D2TRF	NSP121M2D2ATRF		120	14.4	24.0	0.06	2,500	0.018	1.8±0.1
NSP121M2D2XTRF	NSP121M2D2XATRF		120	14.4	24.0	0.06	2,700	0.015	1.8±0.1
NSP121M2D2ZTRF	NSP121M2D2ZATRF		120	14.4	24.0	0.06	3,000	0.009	1.8±0.1
NSP151M2D2TRF	NSP151M2D2ATRF		150	18.0	30.0	0.06	2,500	0.018	1.8±0.1
NSP151M2D2ZTRF	NSP151M2D2ZATRF		150	18.0	30.0	0.06	3,000	0.009	1.8±0.1
NSP181M2D2TRF	NSP181M2D2ATRF		180	21.6	36.0	0.06	2,500	0.018	1.8±0.1
N/A	NSP181M2D2ZATRF		180	-	36.0	0.06	3,000	0.009	1.8±0.1
NSP181M2D6ZTRF	NSP181M2D6ZATRF		180	21.6	36.0	0.06	3,000	0.009	1.9±0.2
NSP181M2D3TRF	NSP181M2D3ATRF		180	21.6	36.0	0.10	3,000	0.015	2.8±0.2
NSP181M2D3XTRF	NSP181M2D3XATRF		180	21.6	36.0	0.10	3,300	0.012	2.8±0.2
N/A	NSP221M2D2ATRF		220	-	44.0	0.10	2,500	0.018	1.8±0.1
N/A	NSP221M2D2ZATRF		220	-	44.0	0.10	3,000	0.009	1.8±0.1
NSP221M2D3TRF	NSP221M2D3ATRF		220	26.4	44.0	0.10	3,000	0.015	2.8±0.2
NSP221M2D6ZTRF	NSP221M2D6ZATRF		220	26.4	44.0	0.10	3,000	0.009	1.9±0.2
NSP221M2D3XTRF	NSP221M2D3XATRF		220	26.4	44.0	0.10	3,300	0.012	2.8±0.2
N/A	NSP221M2D6ATRF		220	-	44.0	0.06	2,700	0.015	1.9±0.2
N/A	NSP271M2D6ZATRF		270	-	37.5	0.06	3,000	0.009	1.9±0.2
NSP271M2D3TRF	NSP271M2D3ATRF		270	32.4	54.0	0.10	3,000	0.015	2.8±0.2
NSP271M2D3XTRF	NSP271M2D3XATRF		270	32.4	54.0	0.10	3,300	0.012	2.8±0.2
N/A	NSP271M2D3YATRF		270	-	54.0	0.10	3,400	0.009	2.8±0.2
NSP271M2D3ZTRF	NSP271M2D3ZATRF		270	32.4	54.0	0.10	3,500	0.007	2.8±0.2
NSP271M2D4TRF	NSP271M2D4ATRF		270	32.4	54.0	0.10	3,300	0.012	4.2±0.1
NSP271M2D4XTRF	NSP271M2D4XATRF		270	32.4	54.0	0.10	3,500	0.010	4.2±0.1
N/A	NSP331M2D6ATRF		330	-	66.0	0.06	2,700	0.015	1.9±0.2
N/A	NSP331M2D6ZATRF		330	-	45.0	0.10	3,000	0.009	1.9±0.2
NSP331M2D3TRF	NSP331M2D3ATRF		330	39.6	66.0	0.10	3,000	0.015	2.8±0.2
NSP331M2D3XTRF	NSP331M2D3XATRF		330	39.6	66.0	0.10	3,300	0.012	2.8±0.2
N/A	NSP331M2D3YATRF		330	-	66.0	0.10	3,400	0.009	2.8±0.2

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

Surface Mount Specialty Polymer Solid Aluminum Electrolytic Capacitors

NSP Series

NIC Part Number (Reflow 240°C)	NIC Part Number (Reflow 260°C)	WV (Vdc)	Cap. (µF)	Max. LC (µA) 240°C	Max. LC (µA) 260°C	Tan δ	Max. Ripple Current +105°C & 100KHz (mA)	Max. ESR +20°C & 100KHz (Ω)	Height H
NSP331M2D3ZTRF	NSP331M2D3ZATRF	2.0	330	39.6	66.0	0.10	3,500	0.007	2.8±0.2
NSP331M2D4TRF	NSP331M2D4ATRF		330	39.6	66.0	0.10	3,300	0.012	4.2±0.1
NSP331M2D4XTRF	NSP331M2D4XATRF		330	39.6	66.0	0.10	3,500	0.010	4.2±0.1
NSP391M2D3TRF	NSP391M2D3ATRF		390	46.8	78.0	0.10	3,000	0.015	2.8±0.2
N/A	NSP391M2D3YATRF		390	-	78.0	0.10	3,400	0.009	2.8±0.2
NSP391M2D3ZTRF	NSP391M2D3ZATRF		390	46.8	78.0	0.10	3,500	0.007	2.8±0.2
NSP391M2D4TRF	NSP391M2D4ATRF		390	46.8	78.0	0.10	3,300	0.012	4.2±0.1
NSP391M2D4XTRF	NSP391M2D4XATRF		390	46.8	78.0	0.10	3,500	0.010	4.2±0.1
N/A	NSP391M2D4YATRF		390	-	78.0	0.10	3,700	0.007	4.2±0.1
NSP391M2D4ZTRF	NSP391M2D4ZATRF		390	46.8	78.0	0.10	4,000	0.005	4.2±0.1
NSP471M2D4TRF	NSP471M2D4ATRF		470	56.4	94.0	0.10	3,300	0.012	4.2±0.1
N/A	NSP471M2D3YATRF		470	-	94.0	0.10	3,400	0.009	2.8±0.1
NSP471M2D4XTRF	NSP471M2D4XATRF		470	56.4	94.0	0.10	3,500	0.010	4.2±0.1
N/A	NSP471M2D4YATRF		470	-	94.0	0.10	3,700	0.007	4.2±0.1
NSP471M2D4ZTRF	NSP471M2D4ZATRF		470	56.4	94.0	0.10	4,000	0.005	4.2±0.1
NSP561M2D4TRF	NSP561M2D4ATRF		560	67.2	112.0	0.10	3,300	0.012	4.2±0.1
N/A	NSP561M2D4YATRF		560	-	112.0	0.10	3,700	0.007	4.2±0.1
NSP561M2D4ZTRF	NSP561M2D4ZATRF		560	67.2	112.0	0.10	4,000	0.005	4.2±0.1
NSP560M2.5D5TRF	N/A	2.5	56	8.4	-	0.06	2,000	0.028	1.1±0.1
NSP820M2.5D2TRF	NSP820M2.5D2ATRF		82	12.3	20.5	0.06	2,500	0.018	1.8±0.1
NSP820M2.5D2XTRF	NSP820M2.5D2XATRF		82	12.3	20.5	0.06	2,700	0.015	1.8±0.1
NSP101M2.5D2TRF	NSP101M2.5D2ATRF		100	15.0	25.0	0.06	2,500	0.018	1.8±0.1
NSP101M2.5D2XTRF	NSP101M2.5D2XATRF		100	15.0	25.0	0.06	2,700	0.015	1.8±0.1
NSP101M2.5D2ZTRF	NSP101M2.5D2ZATRF		100	15.0	25.0	0.06	3,000	0.009	1.8±0.1
NSP121M2.5D2TRF	NSP121M2.5D2ATRF		120	18.0	30.0	0.06	2,500	0.018	1.8±0.1
NSP121M2.5D2ZTRF	NSP121M2.5D2ZATRF		120	18.0	30.0	0.06	3,000	0.009	1.8±0.1
NSP151M2.5D2TRF	NSP151M2.5D2ATRF		150	22.5	37.5	0.06	2,500	0.018	1.8±0.1
N/A	NSP151M2.5D2ZATRF		150	-	37.5	0.06	3,000	0.009	1.8±0.1
NSP151M2.5D6ZTRF	NSP151M2.5D6ZATRF		150	22.5	37.5	0.06	3,000	0.009	1.9±0.2
NSP151M2.5D3TRF	NSP151M2.5D3ATRF		150	22.5	37.5	0.10	3,000	0.015	2.8±0.2
NSP151M2.5D3XTRF	NSP151M2.5D3XATRF		150	22.5	37.5	0.10	3,300	0.012	2.8±0.2
NSP181M2.5D3TRF	NSP181M2.5D3ATRF		180	27.0	45.0	0.10	3,000	0.015	2.8±0.2
NSP181M2.5D3XTRF	NSP181M2.5D3XATRF		180	27.0	45.0	0.10	3,300	0.012	2.8±0.2
NSP181M2.5D6ZTRF	NSP181M2.5D6ZATRF		180	27.0	45.0	0.10	3,000	0.009	1.9±0.2
N/A	NSP221M2.5D6ATRF		220	-	55.0	0.06	2,700	0.015	1.9±0.2
NSP221M2.5D3TRF	NSP221M2.5D3ATRF		220	33.0	55.0	0.10	3,000	0.015	2.8±0.2
NSP221M2.5D3XTRF	NSP221M2.5D3XATRF		220	33.0	55.0	0.10	3,300	0.012	2.8±0.2
N/A	NSP221M2.5D3YATRF		220	-	78.0	0.10	3,400	0.009	2.8±0.2
NSP221M2.5D3ZTRF	NSP221M2.5D3ZATRF		220	33.0	55.0	0.10	3,500	0.007	2.8±0.2
NSP221M2.5D4TRF	NSP221M2.5D4ATRF		220	33.0	55.0	0.10	3,300	0.012	4.2±0.1
NSP221M2.5D4XTRF	NSP221M2.5D4XATRF		220	33.0	55.0	0.10	3,500	0.010	4.2±0.1
NSP271M2.5D3TRF	NSP271M2.5D3ATRF		270	40.5	67.5	0.10	3,000	0.015	2.8±0.2
N/A	NSP271M2.5D3YATRF		270	-	78.0	0.10	3,400	0.009	2.8±0.2
NSP271M2.5D3ZTRF	NSP271M2.5D3ZATRF		270	40.5	67.5	0.10	3,500	0.007	2.8±0.2
NSP271M2.5D4TRF	NSP271M2.5D4ATRF		270	40.5	67.5	0.10	3,300	0.012	4.2±0.1
NSP271M2.5D4XTRF	NSP271M2.5D4XATRF		270	40.5	67.5	0.10	3,500	0.010	4.2±0.1
NSP331M2.5D4TRF	NSP331M2.5D4ATRF		330	49.5	82.5	0.10	3,300	0.012	4.2±0.1
NSP331M2.5D4XTRF	NSP331M2.5D4XATRF		330	49.5	82.5	0.10	3,500	0.010	4.2±0.1
N/A	NSP331M2.5D4YATRF		330	-	82.5	0.10	3,700	0.007	4.2±0.1
NSP331M2.5D4ZTRF	NSP331M2.5D4ZATRF		330	49.5	67.5	0.10	4,000	0.005	4.2±0.1
NSP391M2.5D4TRF	NSP391M2.5D4ATRF		390	58.5	97.5	0.10	3,300	0.012	4.2±0.1
N/A	NSP391M2.5D4YATRF		390	-	97.5	0.10	3,700	0.007	4.2±0.1
NSP391M2.5D4ZTRF	NSP391M2.5D4ZATRF		390	58.5	97.5	0.10	4,000	0.005	4.2±0.1
NSP471M2.5D4TRF	NSP471M2.5D4ATRF		470	70.5	117.5	0.10	3,300	0.012	4.2±0.1
N/A	NSP471M2.5D4YATRF		470	-	117.5	0.10	3,700	0.007	4.2±0.1
NSP390M4D5TRF	N/A	4.0	39	9.3	-	0.06	2,000	0.028	1.1±0.1
NSP470M4D5TRF	N/A		47	11.3	-	0.06	2,000	0.028	1.1±0.1
NSP560M4D2TRF	NSP560M4D2ATRF		56	13.4	22.4	0.06	2,500	0.018	1.8±0.1
NSP560M4D2XTRF	NSP560M4D2XATRF		56	13.4	22.4	0.06	2,700	0.015	1.8±0.1

Surface Mount Specialty Polymer Solid Aluminum Electrolytic Capacitors

NSP Series

NIC Part Number (Reflow 240°C)	NIC Part Number (Reflow 260°C)	WV (Vdc)	Cap. (µF)	Max. LC (µA) 240°C	Max. LC (µA) 260°C	Tan δ	Max. Ripple Current +105°C & 100KHz (mA)	Max. ESR +20°C & 100KHz (Ω)	Height H
NSP680M4D2TRF	NSP680M4D2ATRF	4.0	68	16.3	27.2	0.06	2,500	0.018	1.8±0.1
NSP680M4D2XTRF	NSP680M4D2XATRF		68	16.3	27.2	0.06	2,700	0.015	1.8±0.1
NSP820M4D2TRF	NSP820M4D2ATRF		82	19.7	32.8	0.06	2,500	0.018	1.8±0.1
NSP820M4D2XTRF	NSP820M4D2XATRF		82	19.7	32.8	0.06	2,700	0.015	1.8±0.1
NSP820M4D2ZTRF	NSP820M4D2ZATRF		82	19.7	32.8	0.06	3,000	0.009	1.8±0.1
NSP820M4D6ZTRF	NSP820M4D6ZATRF		82	19.7	32.8	0.06	3,000	0.009	1.9±0.2
NSP101M4D2TRF	NSP101M4D2ATRF		100	24.0	40.0	0.06	1,800	0.025	1.8±0.1
NSP101M4D6ZTRF	NSP101M4D6ZATRF		100	24.0	40.0	0.06	3,000	0.009	1.9±0.2
NSP121M4D3TRF	NSP121M4D3ATRF		120	28.8	48.0	0.10	3,000	0.015	2.8±0.2
NSP121M4D3XTRF	NSP121M4D3XATRF		120	28.8	48.0	0.10	3,300	0.012	2.8±0.2
N/A	NSP151M4D6ATRF		150	-	60.0	0.06	2,700	0.015	1.9±0.2
NSP151M4D3TRF	NSP151M4D3ATRF		150	36.0	60.0	0.10	3,000	0.015	2.8±0.2
NSP151M4D3XTRF	NSP151M4D3XATRF		150	36.0	60.0	0.10	3,300	0.012	2.8±0.2
N/A	NSP151M4D3YATRF		150	-	60.0	0.10	3,400	0.009	2.8±0.2
NSP151M4D3ZTRF	NSP151M4D3ZATRF		150	36.0	60.0	0.10	3,500	0.007	2.8±0.2
NSP181M4D3TRF	NSP181M4D3ATRF		180	43.2	72.0	0.10	2,500	0.018	2.8±0.2
NSP181M4D4TRF	NSP181M4D4ATRF		180	43.2	72.0	0.10	3,300	0.012	4.2±0.1
N/A	NSP181M4D3YATRF		180	-	72.0	0.10	3,400	0.009	2.8±0.2
NSP181M4D4XTRF	NSP181M4D4XATRF		180	43.2	72.0	0.10	3,500	0.010	4.2±0.1
NSP221M4D4TRF	NSP221M4D4ATRF		220	52.8	88.0	0.10	3,300	0.012	4.2±0.1
NSP221M4D4XTRF	NSP221M4D4XATRF		220	52.8	88.0	0.10	3,500	0.010	4.2±0.1
N/A	NSP221M4D4YATRF		220	-	88.0	0.10	3,700	0.007	4.2±0.1
NSP221M4D4ZTRF	NSP221M4D4ZATRF		220	52.8	88.0	0.10	4,000	0.005	4.2±0.1
NSP271M4D4TRF	NSP271M4D4ATRF		270	52.8	108.0	0.10	3,300	0.012	4.2±0.1
N/A	NSP271M4D4YATRF		270	-	108.0	0.10	3,700	0.007	4.2±0.1
N/A	NSP331M4D4ATRF		330	-	132.0	0.10	3,300	0.012	4.2±0.1
NSP100M6.3D2TRF	NSP100M6.3D2ATRF	6.3	10	3.0	6.3	0.06	1,400	0.055	1.8±0.1
NSP220M6.3D2TRF	NSP220M6.3D2ATRF		22	5.5	13.9	0.06	1,600	0.040	1.8±0.1
NSP330M6.3D5TRF	N/A		33	8.3	20.8	0.06	2,000	0.028	1.1±0.1
NSP330M6.3D2TRF	NSP330M6.3D2ATRF		33	8.3	20.8	0.06	2,000	0.028	1.8±0.1
NSP470M6.3D2TRF	NSP470M6.3D2ATRF		47	11.8	29.6	0.06	2,500	0.018	1.8±0.1
NSP470M6.3D2XTRF	NSP470M6.3D2XATRF		47	11.8	29.6	0.06	2,700	0.015	1.8±0.1
NSP560M6.3D2ZTRF	N/A		56	14.1	-	0.06	3,000	0.009	1.8±0.1
NSP680M6.3D2TRF	NSP680M6.3D2ATRF		68	17.1	42.8	0.06	2,500	0.018	1.8±0.1
NSP680M6.3D2XTRF	NSP680M6.3D2XATRF		68	17.1	42.8	0.06	2,700	0.015	1.8±0.1
NSP680M6.3D6ZTRF	N/A		68	17.1	-	0.06	3,000	0.009	1.9±0.2
N/A	NSP101M6.3D6ATRF		68	-	63.0	0.06	2,700	0.015	1.9±0.2
NSP101M6.3D3TRF	NSP101M6.3D3ATRF		100	25.2	63.0	0.10	3,000	0.015	2.8±0.2
NSP101M6.3D3XTRF	NSP101M6.3D3XATRF		100	25.2	63.0	0.10	3,300	0.012	2.8±0.2
NSP121M6.3D3TRF	NSP121M6.3D3ATRF		120	30.2	75.6	0.10	3,000	0.015	2.8±0.2
NSP121M6.3D3XTRF	NSP121M6.3D3XATRF		120	30.2	75.6	0.10	3,300	0.012	2.8±0.2
NSP121M6.3D3ZTRF	N/A		120	30.2	-	0.10	3,500	0.007	2.8±0.2
NSP151M6.3D3TRF	NSP151M6.3D3ATRF		150	37.8	94.5	0.10	2,500	0.018	2.8±0.2
NSP151M6.3D4TRF	NSP151M6.3D4ATRF		150	37.8	94.5	0.10	3,300	0.012	4.2±0.1
NSP151M6.3D4XTRF	NSP151M6.3D4XATRF		150	37.8	94.5	0.10	3,500	0.010	4.2±0.1
NSP181M6.3D4TRF	NSP181M6.3D4ATRF		180	45.4	113.4	0.10	3,300	0.012	4.2±0.1
NSP181M6.3D4XTRF	NSP181M6.3D4XATRF		180	45.4	113.4	0.10	3,500	0.010	4.2±0.1
NSP181M6.3D4ZTRF	N/A		180	45.4	-	0.10	4,000	0.005	4.2±0.1
NSP221M6.3D4TRF	NSP221M6.3D4ATRF		220	55.4	138.6	0.10	3,000	0.015	4.2±0.1
NSP8R2M8D2TRF	NSP8R2M8D2ATRF	8.0	8.2	3.0	6.3	0.06	1,400	0.055	1.8±0.1
NSP150M8D2TRF	NSP150M8D2ATRF		15	4.8	12.0	0.06	1,600	0.040	1.8±0.1
NSP220M8D5TRF	N/A		22	7.0	-	0.06	2,000	0.028	1.1±0.1
NSP220M8D2TRF	NSP220M8D2ATRF		22	7.0	17.6	0.06	2,000	0.028	1.8±0.1
NSP330M8D2TRF	NSP330M8D2ATRF		33	10.5	26.4	0.06	2,500	0.018	1.8±0.1
NSP470M8D2TRF	NSP470M8D2ATRF		47	15.0	37.6	0.06	1,800	0.025	1.8±0.1
NSP680M8D3TRF	NSP680M8D3ATRF		68	21.7	54.4	0.10	3,000	0.015	2.8±0.2
NSP101M8D3TRF	NSP101M8D3ATRF		100	32.0	80.0	0.10	2,500	0.018	2.8±0.2
NSP101M8D4TRF	NSP101M8D4ATRF		100	32.0	80.0	0.10	3,300	0.012	4.2±0.1
NSP151M8D4TRF	NSP151M8D4ATRF		150	48.0	120.0	0.10	3,000	0.015	4.2±0.1

Surface Mount Specialty Polymer Solid Aluminum Electrolytic Capacitors

NSP Series

NIC Part Number (Reflow 240°C)	NIC Part Number (Reflow 260°C)	WV (Vdc)	Cap. (µF)	Max. LC (µA) 240°C	Max. LC (µA) 260°C	Tan δ	Max. Ripple Current +105°C & 100KHz (mA)	Max. ESR +20°C & 100KHz (Ω)	Height H
NSP4R7M12.5D2TRF	N/A	12.5	4.7	3.0	-	0.06	1,000	0.080	1.8±0.1
NSP100M12.5D2TRF	N/A		10	5.0	-	0.06	1,000	0.060	1.8±0.1
NSP150M12.5D5TRF	N/A		15	7.5	-	0.06	1,400	0.040	1.1±0.1
NSP150M12.5D2TRF	N/A		15	7.5	-	0.06	1,300	0.050	1.8±0.1
NSP220M12.5D2TRF	N/A		22	11.0	-	0.06	1,600	0.030	1.8±0.1
NSP2R2M16D2TRF	N/A	16	2.2	3.0	-	0.06	1,000	0.110	1.8±0.1
NSP4R7M16D2TRF	N/A		4.7	3.0	-	0.06	1,000	0.080	1.8±0.1
NSP6R8M16D2TRF	N/A		6.8	4.4	-	0.06	1,000	0.070	1.8±0.1
NSP8R2M16D2TRF	N/A		8.2	5.2	-	0.06	1,300	0.045	1.8±0.1

PART NUMBERING SYSTEM

NSP 101 M 12.5 D2 X TR F

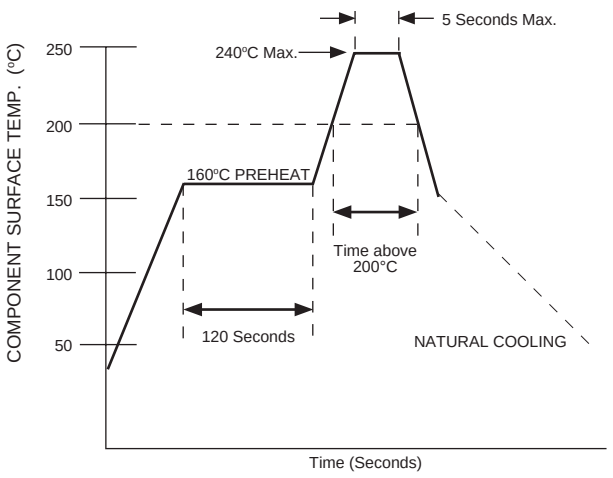
- F — RoHS Compliant
- TR — Tape and Reel
- X — High Performance
- D2 — Case Size
- 12.5 — Working Voltage
- M — Tolerance Code M=20%, K=10%
- 101 — Capacitance Code in µF, first 2 digits are significant, third digits no. of zeros
- NSP — Series

TERMINATION MATERIAL:

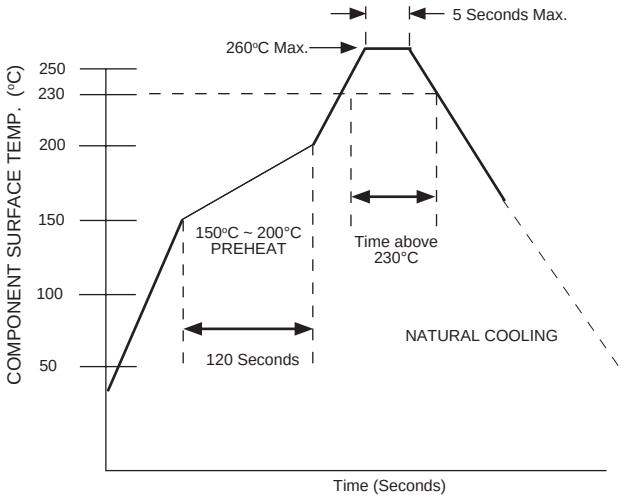
D2 - D5 and D2X - D5X Sizes
- Base: Fe (~ 100µm)
- Under Plating: Cu (~ 5µm)
- Finish Plating: Sn (5 ~ 9µm)

D2Z - D6Z Sizes
- Base: Cu (~ 105µm)
- Finish Plating: Sn (5 ~ 9µm)

RECOMMENDED 240°C REFLOW SOLDERING PROFILE
(D2, D2Z, D3, D3X, D3Z, D4, D4X, D4Z, D5, D6Z)



RECOMMENDED 260°C REFLOW SOLDERING PROFILE
(D2A, D2XA, D2ZA, D3A, D3XA, D3YA, D4A, D4XA, D4YA, D6A, D6ZA)



DURATION ABOVE 200°C (FOR 240°C REFLOW PARTS)

If Peak Soldering Temperature is	Maximum Time Above +200°C is
240°C	30 seconds
230°C	40 seconds
220°C	50 seconds

DURATION ABOVE 230°C (FOR 260°C REFLOW PARTS)

If Peak Soldering Temperature is	Maximum Time Above +230°C is
260°C	40 seconds
255°C	50 seconds
250°C	60 seconds

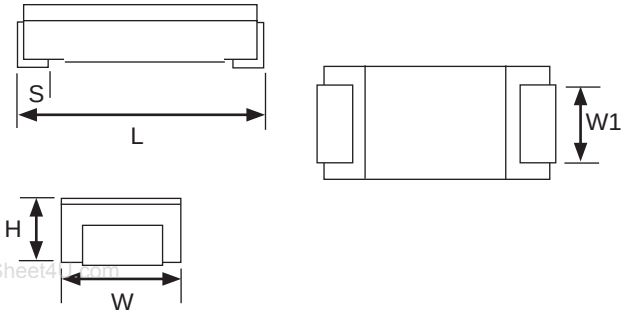
Notes:
1. SAC alloy (+217°C) reflow soldering compatible
2. Soldering heat limits apply to the top surface of component
3. If you have concerns about your reflow soldering profile review them with NIC to insure compatible [tpmg@niccomp.com]
4. Two passes through the reflow process are allowed (cooling down period between process).

Surface Mount Specialty Polymer Solid Aluminum Electrolytic Capacitors

NSP Series

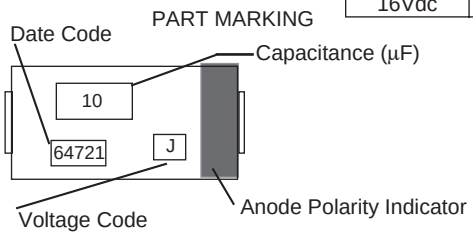
DIMENSIONS (mm)

Case Code	L ±0.4	W ±0.3	H	W1 ±0.2	S ±0.3
D2 ~ D6	7.3	4.3	see values table	2.4	1.3



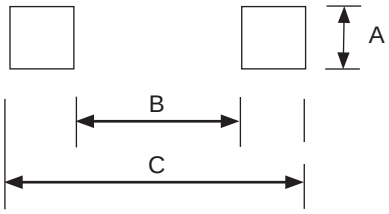
VOLTAGE CODES

Voltage	Code
2.0Vdc	D
2.5Vdc	E
6.3Vdc	J
8Vdc	K
12.5Vdc	B
16Vdc	C



RECOMMENDED LAND PATTERNS (mm)

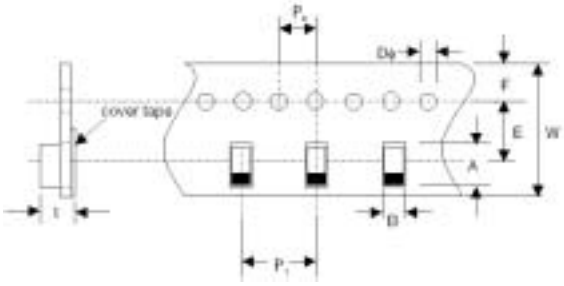
Case Code	A	B	C
D2 ~ D6	2.8	4.0	8.8



Please note the NSP series will fit on standard "D" and "E" size (7343) tantalum chip capacitor land patterns

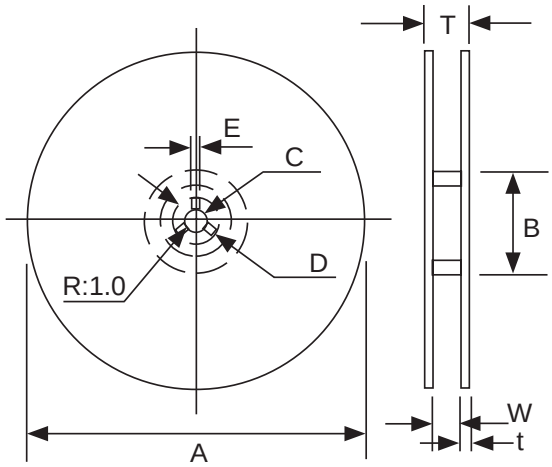
CARRIER TAPE DIMENSIONS (mm)

Case Code	A±0.2	B±0.2	Dϕ	E±0.1	F±0.1	P_0±0.1	P_1±0.1	t±0.2	W±0.3
D5	7.7	4.6	1.5 $^{+0.1}$	1.75	5.5	4.0	8.0	1.5	12.0
D2, D6								2.1	
D3								3.4	
D4								4.5	



REEL DIMENSIONS (mm)

A±2.0	B min.	C±0.5	D±0.8	E±0.5	T±1.0	t	W±1.0
330	50	13.0	21.0	2.0	20.0	3.0	14



Case Code	Reel Quantity
D5, D6, D2	3,500
D3, D4	2,000