

Surface Mount Polymer-Tantalum Capacitor

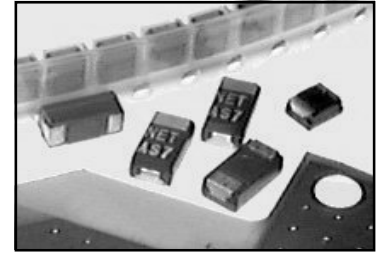
NTP Series

FEATURES

- Ultra Low ESR and High Ripple Current Ratings
- Values from 3.3 μ F to 470 μ F
- Suitable for Reflow Soldering
- Available in EIA A, B, C, V and D Case Sizes

CHARACTERISTICS

Capacitance Range	3.3 μ F to 470 μ F	
Capacitance Tolerance	\pm 20% (M)	
Rated Working Voltage	4.0Vdc to 10Vdc	
Operating Temperature Range	-55°C ~ +105°C (derating above 85°C)	
Dissipation Factor (120Hz/20°C)	See specifications table	
Leakage Current Rating (after 5 minutes)	0.1CV or 3 μ A whichever is greater	
Capacitance Change Verse Temperature	-55°C	+105°C
	Δ C - 20%	Δ C + 50%
Soldering Heat Resistance (+240°C for 5 ~ 10 sec.)	Δ Capacitance: \pm 20% Leakage Current: 130% of initial value Dissipation Factor: less than value in specifications table.	
Moisture Resistance (500 hours; 90-95% RH @ 40°C)	Δ Capacitance: + 30% ~ -20% Leakage Current: less than value in specifications table. Dissipation Factor: less than value in specifications table.	
Load Life Test (rated voltage @ 85°C) 1000 hours	Δ Capacitance: \pm 30% Leakage Current: less than value in specifications table. Dissipation Factor: 150% of value in specifications table.	
Base Failure Rate	1%/1000 hours at +85°C	



SURFACE MOUNT

CASE SIZES AND MAXIMUM DISSIPATION FACTOR

Rated Voltage @ +85 °C	4	6.3	10	
Surge Voltage @ +85 °C	5.2	8	13	
Derated Voltage @ 105°C	3.3	5	8	
Capacitance μ F	Code	Case Sizes	Case Sizes	Case Sizes
3.3	335			A (6%)
4.7	475			A (6%)
6.8	685		A (6%)	A (6%) B (8%)
10	106	A (6%)	A (6%)	B (8%)
15	156		B (8%)	C (9%)
22	226	B (8%)	B (8%)	C (9%)
33	336		B (8%)	C (9%)
47	476		B (8%) C (9%)	C (9%) D (10%)
68	686	C (9%)	C (9%)	D (10%)
100	107			D (10%)
150	157		V/D (10%)	
220	227	V/D (10%)	D (10%)	D (10%)
330	337	D (10%)	D (10%)	
470	477			

MAX. RIPPLE CURRENT(mArms) 100Khz/105°C**

Capacitance(μ F)	Working Voltage (Vdc)		
	4	6.3	10
3.3			A=265
4.7			A=265
6.8		A=265	A=265 B=398
10	A=265	A=265	B=398
15		B=398	C=530
22	B=398	B=398	C=530
33		B=398	C=530
47		B=398 C=530	C=530 D=662
68	C=530	C=530	D=662
100			V/D=662
150		V/D=662	
220	V/D=662	D=693	D=662
330	D=662	D=730	
470	D=662		

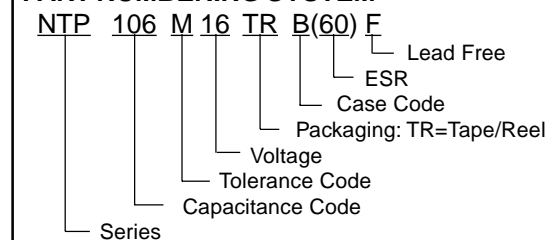
MAX. ESR (m Ω) @ 100Khz, 25°C

Capacitance(μ F)	Working Voltage (Vdc)		
	4	6.3	10
3.3			A=800
4.7			A=800
6.8		A=800	A=800 B=500
10	A=500	A=500	B=300
15		B=300	C=200
22	B=300	B=300	C=150
33		B=300	C=100
47		B=200 C=100	C=100 D=100
68	C=100	C=100	D=100
100			V=45 D=80(55)*
150		V=45 D=80(55)*	
220	V=45 D=80(40)*	D=80(40)*	D=55(40)*
330	D=55(40)*	D=55(40)*	
470	D=55(40)*		

**RIPPLE CURRENT TEMPERATURE CORRECTION FACTOR

Temperature	25°C	85°C	105°C
Correction Factor	2.50	2.25	1.0

PART NUMBERING SYSTEM



Surface Mount Polymer-Tantalum Capacitor

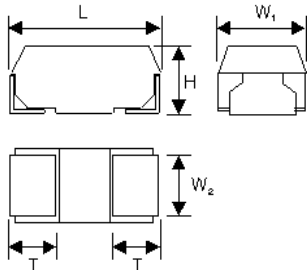
NTP Series

CASE DIMENSIONS (mm)

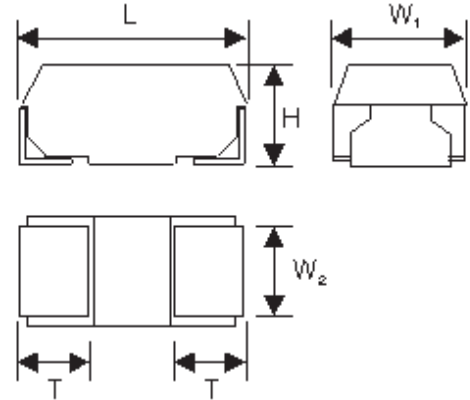
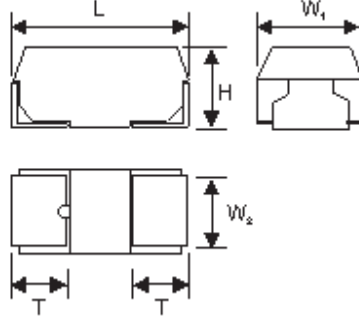
Case Size	EIA Code	L	H	W ₁	W ₂	T
A	3216	3.2 ± 0.2	1.6 ± 0.2	1.6 ± 0.2	1.2 ± 0.1	0.8 ± 0.3
B	3528	3.5 ± 0.2	1.9 ± 0.2	2.8 ± 0.2	2.3 ± 0.1	0.8 ± 0.3
C	6032	6.0 ± 0.2	2.5 ± 0.3	3.2 ± 0.2	1.8 ± 0.1	1.3 ± 0.3
V	7343	7.3 ± 0.2	1.9 ± 0.1	4.3 ± 0.2	2.4 ± 0.1	1.3 ± 0.3
D	7343	7.3 ± 0.2	2.8 ± 0.2	4.3 ± 0.2	2.4 ± 0.1	1.3 ± 0.3

"C", "V" & "D" Case Size

"A" Case Size



"B" Case Size

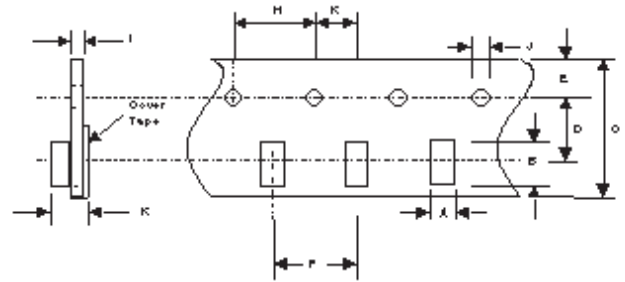
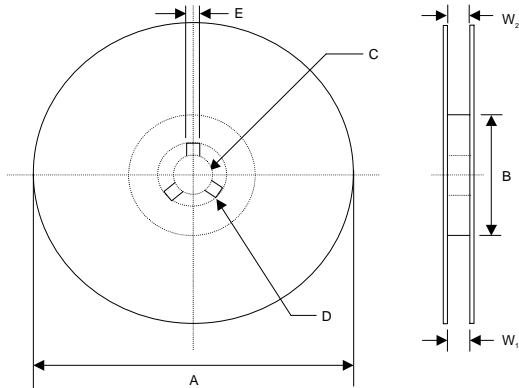


TAPE SPECIFICATIONS (mm)

Case Size	A ±0.2	B ±0.2	C ±0.3	D ±0.1	E ±0.1	F ±0.1	G ±0.05	H ±0.1	J +0.1	K ±0.2	t max.	Reel Qty
A	1.9	3.5	8.0	3.5	1.75	4.0	2.0	4.0	φ 1.5	1.9	0.2	2000
B	3.3	3.8										
C	3.7	6.4	12.0	5.5	8.0	2.0	4.0	φ 1.5	2.1	3.3	0.3	500
V	4.8	7.7										
D	4.8	7.7										

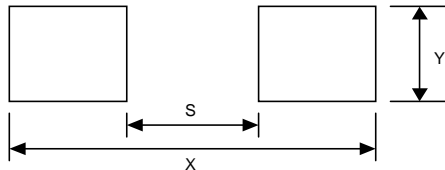
REEL SPECIFICATIONS (mm)

Tape Width	A + 2.0	B min.	C + 0.5	D + 0.5	E + 0.5	W ₁ + 1.0	W ₂ max.
8 mm	φ 178	φ 50	φ 13	φ 21	2.0	10	14.5
12 mm						14.5	18.5



RECOMMENDED LAND PATTERN (mm)

Case Size	S max.	X min.	Y min.
A	1.1	3.8	1.5
B	1.4	4.1	2.7
C	2.9	6.9	2.7
D	4.1	8.2	2.9



RECOMMENDED PEAK TEMPERATURE/TIME

