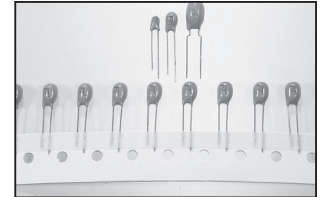


FEATURES

- FLUIDIZED BED PROCESS
- NEW REDUCED SIZES
- FLAME RETARDANT COATING
- LOW LEAKAGE CURRENT AND IMPEDANCE
- EXCEPTIONAL TEMPERATURE STABILITY

**RoHS
Compliant**
includes all homogeneous materials

*See Part Number System for Details



SPECIFICATIONS

Capacitance Range	0.1μF ~ 330μF						
Capacitance Tolerance	±20% (M), ±10% (K)						
Temperature Range:	-55°C ~ +85°C (+125°C with Derating)						
Rated Voltage Range (Vdc) +85°C	6.3	10	16	20	25	35	50
Derated Voltage (Vdc) +125°C	4	6.3	10	13	16	23	33
Surge Voltage (Vdc) +85°C	8	13	20	26	33	46	65
Derated Surge Voltage (Vdc) +125°C	5	9	12	16	21	28	40
Dissipation Factor: (120Hz, +25°C Tan δ	Capacitance Range			Tan δ			
	0.1 ~ 1.5μF			Less than 4%			
	2.2 ~ 6.8μF			Less than 6%			
	10 ~ 68μF			Less than 8%			
	100 ~ 330μF			Less than 10%			
Reliability:	1%/1000 hours at +85°C with 0.1Ω/V series impedance, 60% confidence level						

PART NUMBER SYSTEM

NDTM 106 K 16 F2 TR E

- NDTM: Series
- 106: Capacitance Code in pF, first 2 digits are significant, third digit is no. of zeros
- K: Tolerance Code M=20%, K=10%
- 16: Working Voltage
- F2: Special Lead Forming (F2 = 5.0mm LS)
- TR: Tape and Reel (optional)
- E: RoHS compliant

PRECAUTIONS

Please review the notes on correct use, safety and precautions found on our website at www.niccomp.com/tantpc
If in doubt or uncertainty, please review your specific application - process details with NIC's technical support personnel: tpmg@niccomp.com



STANDARD PART NUMBERS*

Part Number	Voltage (VDC)**	Cap. (μF)	Max. ESR (Ω)	Max. Leakage Current (μA)	Max. Dissipation Factor	Diameter (mm)	Height (mm)	Lead-Space (mm)	Lead Configuration
NDTM335K6.3F	6.3V	3.3	13.0	0.5	6%	4.5	7.0	2.5	1
NDTM475K6.3F		4.7	10.0	0.5	6%	4.5	7.0	2.5	1
NDTM685K6.3F		6.8	8.0	0.5	6%	4.5	7.0	2.5	1
NDTM106K6.3F		10	6.0	0.5	8%	4.5	7.5	2.5	1
NDTM156K6.3F		15	5.0	0.8	8%	5.0	8.5	2.5	1
NDTM226K6.3F		22	3.7	1.1	8%	5.0	9.0	2.5	1
NDTM336K6.3F		33	3.0	1.7	8%	5.5	9.0	2.5	1
NDTM476K6.3F		47	2.0	2.4	8%	6.0	10.0	2.5	1
NDTM686K6.3F		68	1.8	3.4	8%	6.5	10.0	2.5	1
NDTM107K6.3F		100	1.6	5.0	10%	7.0	10.5	2.5	1
NDTM157K6.3F		150	0.9	7.6	10%	8.5	14.0	5.0	1
NDTM227K6.3F		220	0.9	11.0	10%	9.0	14.5	5.0	1
NDTM337K6.3F		330	0.7	16.6	10%	10.0	17.0	5.0	1
NDTM225K10F	10V	2.2	13.0	0.5	6%	4.5	7.0	2.5	1
NDTM335K10F		3.3	10.0	0.5	6%	4.5	7.0	2.5	1
NDTM475K10F		4.7	8.0	0.5	6%	4.5	7.0	2.5	1
NDTM685K10F		6.8	6.0	0.5	6%	4.5	7.5	2.5	1
NDTM106K10F		10	5.0	0.8	8%	5.0	8.5	2.5	1
NDTM156K10F		15	3.7	1.2	8%	5.0	9.0	2.5	1
NDTM226K10F		22	2.7	1.7	8%	5.5	9.0	2.5	1
NDTM336K10F		33	2.1	2.6	8%	6.0	10.0	2.5	1
NDTM476K10F		47	1.7	3.7	8%	6.5	10.0	2.5	1
NDTM686K10F		68	1.3	5.4	8%	7.0	10.5	2.5	1
NDTM107K10F		100	1.0	8.0	10%	8.5	14.0	5.0	2
NDTM157K10F		150	0.8	12.0	10%	9.0	16.0	5.0	2
NDTM227K10F		220	0.6	17.6	10%	10.0	17.0	5.0	2
NDTM337K10F		330	0.5	20.0	10%	10.0	18.5	5.0	2
NDTM155K16F	16V	1.5	10.0	0.5	4%	4.5	7.0	2.5	1
NDTM225K16F		2.2	8.0	0.5	6%	4.5	7.0	2.5	1
NDTM335K16F		3.3	6.0	0.5	6%	4.5	7.0	2.5	1
NDTM475K16F		4.7	5.0	0.6	6%	4.5	7.5	2.5	1
NDTM685K16F		6.8	4.0	0.6	6%	5.0	8.5	2.5	1
NDTM106K16F		10	3.2	1.2	8%	5.0	9.0	2.5	1
NDTM156K16F		15	2.5	1.9	8%	5.5	9.0	2.5	1
NDTM226K16F		22	2.0	2.8	8%	6.0	10.0	2.5	1
NDTM336K16F		33	1.6	4.2	8%	6.0	10.0	2.5	1
NDTM476K16F		47	1.3	6.0	8%	8.0	13.0	2.5	1
NDTM686K16F		68	1.0	8.7	8%	9.0	14.0	5.0	2
NDTM107K16F		100	0.8	12.8	10%	9.0	16.0	5.0	2
NDTM157K16F		150	0.6	19.2	10%	9.0	16.0	5.0	2
NDTM227K16F		220	0.5	20	10%	10.0	18.5	5.0	2
NDTM105K20F	20V	1.0	10.0	0.5	4%	4.5	7.0	2.5	1
NDTM155K20F		1.5	9.0	0.5	4%	4.5	7.0	2.5	1
NDTM225K20F		2.2	7.0	0.5	6%	4.5	7.0	2.5	1
NDTM335K20F		3.3	5.5	0.5	6%	4.5	7.5	2.5	1
NDTM475K20F		4.7	4.5	0.7	6%	5.0	8.5	2.5	1
NDTM685K20F		6.8	3.6	0.7	6%	5.0	9.0	2.5	1
NDTM106K20F		10	2.9	1.6	8%	5.5	9.0	2.5	1
NDTM156K20F		15	2.4	2.4	8%	6.0	10.0	2.5	1
NDTM226K20F		22	1.8	3.5	8%	7.0	10.5	2.5	1
NDTM336K20F		33	1.4	5.2	8%	8.0	13.0	2.5	1
NDTM476K20F		47	1.2	7.5	8%	8.5	14.0	5.0	2
NDTM686K20F		68	0.9	10.8	8%	9.0	16.0	5.0	2
NDTM107K20F		100	0.6	16.0	10%	9.0	16.0	5.0	2
NDTM105K25F	25V	1.0	10.0	0.5	4%	4.5	7.0	2.5	1
NDTM155K25F		1.5	8.0	0.5	4%	4.5	7.0	2.5	1
NDTM225K25F		2.2	6.0	0.5	6%	4.5	7.0	2.5	1
NDTM335K25F		3.3	5.0	0.6	6%	4.5	7.5	2.5	1
NDTM475K25F		4.7	4.0	0.9	6%	5.0	8.5	2.5	1

*Also available in 20% tolerance (tolerance code "M"). Contact NIC for availability.

**See voltage de-rating guide at: <http://www.niccomp.com/help/techinfo/NTCVoltDerat71399.pdf>



STANDARD PART NUMBERS*

Part Number	Voltage (VDC)**	Cap. (μF)	Max. ESR (Ω)	Max. Leakage Current (μA)	Max. Dissipation Factor	Diameter (mm)	Height (mm)	Lead-Space (mm)	
NDTM685K25F	25V	6.8	3.1	0.9	6%	5.0	9.0	2.5	1
NDTM106K25F		10	2.5	2.0	8%	5.5	9.0	2.5	1
NDTM156K25F		15	2.0	3.0	8%	6.0	10.0	2.5	1
NDTM226K25F		22	1.5	4.4	8%	7.0	10.5	2.5	1
NDTM336K25F		33	1.2	6.6	8%	8.0	13.0	2.5	1
NDTM476K25F		47	1.0	9.4	8%	9.0	14.5	5.0	2
NDTM686K25F		68	0.6	13.5	8%	9.0	16.0	5.0	2
NDTM104K35F	35V	0.1	26.0	0.5	4%	4.5	7.0	2.5	1
NDTM154K35F		0.15	21.0	0.5	4%	4.5	7.0	2.5	1
NDTM224K35F		0.22	17.0	0.5	4%	4.5	7.0	2.5	1
NDTM334K35F		0.33	15.0	0.5	4%	4.5	7.0	2.5	1
NDTM474K35F		0.47	13.0	0.5	4%	4.5	7.0	2.5	1
NDTM684K35F		0.68	10.0	0.5	4%	4.5	7.0	2.5	1
NDTM105K35F		1.0	8.0	0.5	4%	4.5	7.0	2.5	1
NDTM155K35F		1.5	6.0	0.5	4%	4.5	7.0	2.5	1
NDTM225K35F		2.2	5.0	0.6	6%	4.5	7.5	2.5	1
NDTM335K35F		3.3	4.0	0.9	6%	5.0	8.5	2.5	1
NDTM475K35F		4.7	3.0	1.3	6%	5.5	9.0	2.5	1
NDTM685K35F		6.8	2.5	1.3	6%	6.0	10.0	2.5	1
NDTM106K35F		10	2.0	2.8	8%	6.0	10.0	2.5	1
NDTM156K35F		15	1.6	4.2	8%	7.0	10.5	2.5	1
NDTM226K35F		22	1.3	6.1	8%	8.5	14.0	5.0	2
NDTM336K35F		33	1.0	9.2	8%	9.0	14.5	5.0	2
NDTM476K35F		47	0.8	10.0	8%	9.0	16.0	5.0	2
NDTM104K50F	50V	0.1	26.0	0.5	4%	4.5	7.0	2.5	1
NDTM154K50F		0.15	21.0	0.5	4%	4.5	7.0	2.5	1
NDTM224K50F		0.22	17.0	0.5	4%	4.5	7.0	2.5	1
NDTM334K50F		0.33	15.0	0.5	4%	4.5	7.0	2.5	1
NDTM474K50F		0.47	13.0	0.5	4%	4.5	7.0	2.5	1
NDTM684K50F		0.68	10.0	0.5	4%	4.5	7.5	2.5	1
NDTM105K50F		1.0	8.0	0.5	4%	5.0	8.5	2.5	1
NDTM155K50F		1.5	6.0	0.5	4%	5.0	9.0	2.5	1
NDTM225K50F		2.2	3.5	0.8	6%	5.5	9.0	2.5	1
NDTM335K50F		3.3	3.0	1.3	6%	6.0	10.0	2.5	1
NDTM475K50F		4.7	2.5	1.8	6%	6.5	10.0	2.5	1
NDTM685K50F		6.8	2.0	1.8	6%	7.0	10.5	2.5	1
NDTM106K50F		10	1.6	4.0	8%	8.0	13.0	2.5	1
NDTM156K50F		15	1.2	6.0	8%	8.5	14.0	5.0	2
NDTM226K50F		22	1.0	8.8	8%	9.0	14.0	5.0	2

*Also available in 20% tolerance (tolerance code "M"). Contact NIC for availability.

**See voltage de-rating guide at: <http://www.niccomp.com/help/techinfo/NTCVoltDerat71399.pdf>

DIMENSIONS (mm)

Diameter	Figure and Part #	Lead Spacing	Lead Length	Lead Diameter (d)
4.5 ~ 8.0	1 Standard	2.5 ± 0.5	16 ± 4.0	0.5 ± 0.05
4.5 ~ 8.0	2 Optional (F2) Style	5.0 ± 1.0	16 ± 4.0	0.5 ± 0.05
8.5 ~ 10.0	2 Standard	5.0 ± 1.0	16 ± 4.0	0.5 ± 0.05

STANDARD PRODUCTS AND CASE SIZE TABLE D ϕ X H (mm)

Maximum Leakage Current (μ A) @ 25°C after 3 minutes								
Cap. (μ F)	Code	Rated Voltage (Vdc)						
		6.3V	10V	16V	20V	25V	35V	50V
0.1	104	-	-	-	-	-	4.5x7.0	4.5x7.0
0.15	154	-	-	-	-	-	4.5x7.0	4.5x7.0
0.22	224	-	-	-	-	-	4.5x7.0	4.5x7.0
0.33	334	-	-	-	-	-	4.5x7.0	4.5x7.0
0.47	474	-	-	-	-	-	4.5x7.0	4.5x7.0
0.68	684	-	-	-	-	-	4.5x7.0	4.5x7.5
1.0	105	-	-	-	4.5x7.0	4.5x7.0	4.5x7.0	5.0x8.5
1.5	155	-	-	4.5x7.0	4.5x7.0	4.5x7.0	4.5x7.0	5.0x9.0
2.2	225	-	4.5x7.0	4.5x7.0	4.5x7.0	4.5x7.0	4.5x7.5	5.5x9.0
3.3	335	4.5x7.0	4.5x7.0	4.5x7.0	4.5x7.5	4.5x7.5	5.0x8.5	6.0x10.0
4.7	475	4.5x7.0	4.5x7.0	4.5x7.5	5.0x8.5	5.0x8.5	5.5x9.0	6.5x10.0
6.8	685	4.5x7.0	4.5x7.5	5.0x8.5	5.0x9.0	5.0x9.0	6.0x10.0	7.0x10.5
10	106	4.5x7.5	5.0x8.5	5.0x9.0	5.5x9.0	5.5x9.0	6.0x10.0	8.0x13
15	156	5.0x8.5	5.0x9.0	5.5x9.0	6.0x10.0	6.0x10.0	7.0x10.5	8.5x14.0
22	226	5.0x9.0	5.5x9.0	6.0x10.0	7.0x10.5	7.0x10.5	8.5x14.0	9.0x14.0
33	336	5.5x9.0	6.0x10.0	6.0x10.0	8.0x13.0	8.0x13.0	9.0x14.5	-
47	476	6.0x10.0	6.5x10.0	8.0x13.0	8.5x14.0	9.0x14.5	9.0x16.0	-
68	686	6.5x10.0	7.0x10.5	9.0x14.0	9.0x16.0	9.0x16.0	-	-
100	107	7.0x10.5	8.5x14.0	9.0x16.0	9.0x16.0	-	-	-
150	157	8.5x14.0	9.0x16.0	9.0x16.0	-	-	-	-
220	227	9.0x14.5	10.0x17.0	10.0x18.5	-	-	-	-
330	337	10.0x17.0	10.0x18.5	-	-	-	-	-

OUTLINE DRAWINGS AND DIMENSIONS

MARKING: (Note: μ represents decimal point for values below 1 μ F)

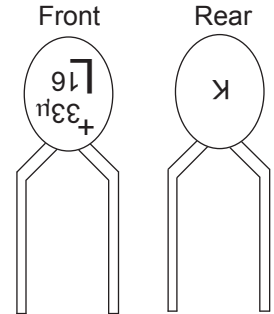


FIG. 1

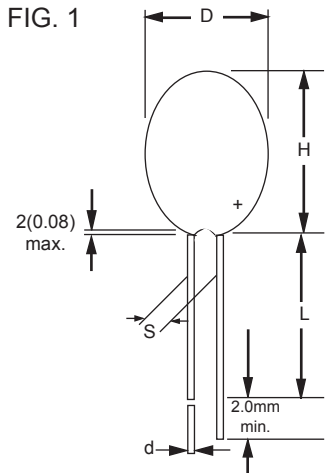
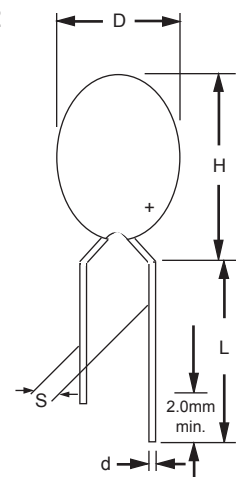
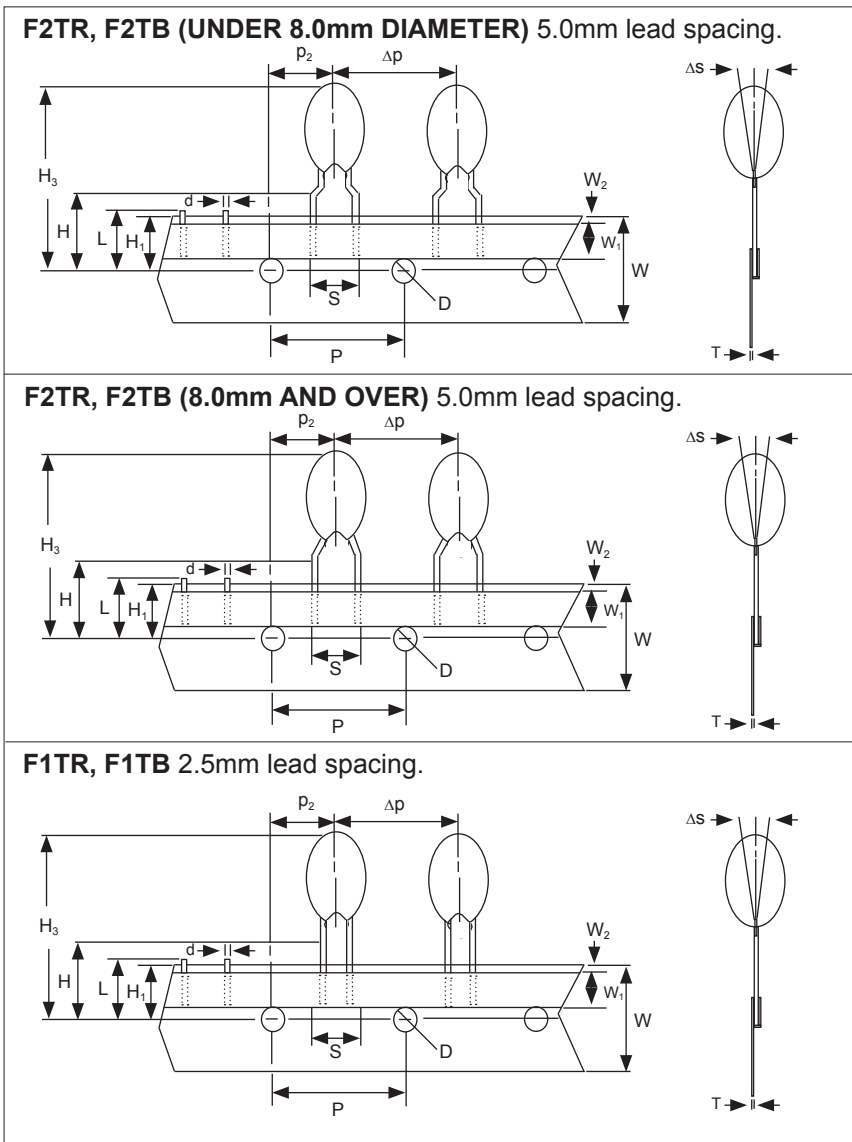
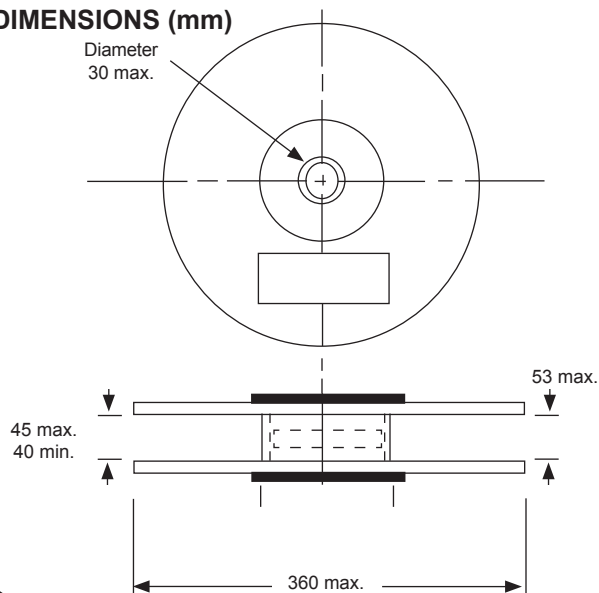


FIG. 2





REEL DIMENSIONS (mm)



TAPING DIMENSIONS (mm)

Code	Dimensions
P	12.7 ± 0.3
P ₁	5.5 ± 1.0
P ₂	6.35 ± 0.4
ΔP	±1.0
d	0.5 ± 0.05
S	F2TR, F2TB = 5.0 F1TR, F1TB = 2.5
Δh	±2.0
D	4.0 ± 0.2
W	18 ^{+1.0} _{-0.5}
W ₁	6.0 min.
W ₂	1.0 max.
H	16.0 ± 0.5 19.0 ± 1.0
H ₁	9.0 ± 0.5
H ₂	18.0
H ₃	32.25
L	11.0 max.
T	0.7 ± 0.2

Parts with diameters up to 9.0mm are available packaged on tape. Larger diameter parts are bulk only.

PACKAGING QUANTITIES

Case Size	Reel	Ammo
4.5 x 7.0	1000 ~ 1500	3000
4.5 x 7.5	1000 ~ 1250	3000
5.0 x 8.5	1000 ~ 1250	3000
5.0 x 9.0	1000 ~ 1250	3000
5.5 x 9.0	1000	2500
6.0 x 10.0	1000	2500
6.5 x 10.0	750	2500
7.0 x 10.5	750	2500
8.0 x 13.0	750	-
8.5 x 14.0	750	-
9.0 x 14.0	500	-
9.0 x 14.5	500	-