

Upgrade!

New!

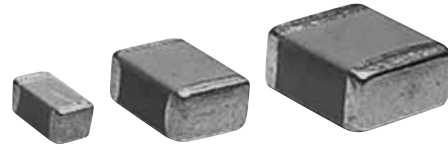
NTS Series / NTF Series

RoHS
Compliant

Heat cycle : 1000 cycles

◆FEATURES

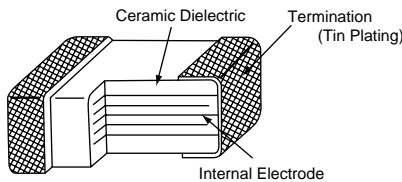
1. Large capacitance by small size.
2. Excellent noise absorption.
3. High permissible ripple current capability.
4. Pb-free design(also ceramic dielectric)
5. NTF : Bending capability 5mm.



◆APPLICATIONS

1. Smoothing circuit of DC-DC converters.
2. On-board power supplies.
3. Voltage regulators for computers.
3. Noise suppressor for various kinds of equipments.
4. High reliability equipments.

◆CONSTRUCTION



◆RATINGS

1. Category Temperature Range	-55 to +125°C
2. Rated Voltage Range	25, 50, 100, 250V _{dc}
3. Rated Capacitance Range	0.033 to 33μF
4. Rated Capacitance Tolerance	K (±10%) , M (±20%)
5. Temperature Characteristics	X7R
6. Rated Ripple Current	See No.5 on the following table

◆SPECIFICATIONS

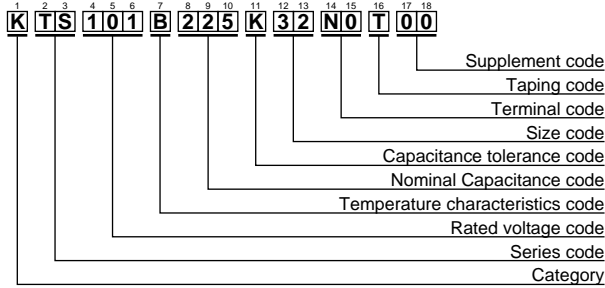
No.	Items	Specification	Test Condition												
1	Withstand Voltage	No abnormality.	250% of rated voltage shall be applied for 5 seconds. (Only 250V _{dc} product : 475V)												
2	Insulation Resistance	100/C _R (MΩ) or 4000(MΩ) whichever is less.	Rated voltage shall be applied for 60±5 seconds at temperature 25±2°C.												
3	Rated Capacitance	Within specified tolerance.	<table border="1"> <tr> <td></td> <td>C_R≤10μF</td> <td>C_R>10μF</td> </tr> <tr> <td>Temperature</td> <td colspan="2">25±2°C</td> </tr> <tr> <td>Frequency</td> <td>1±0.1kHz</td> <td>120±12Hz</td> </tr> <tr> <td>Voltage</td> <td>1±0.2V_{rms}</td> <td>0.5±0.2V_{rms}</td> </tr> </table>		C _R ≤10μF	C _R >10μF	Temperature	25±2°C		Frequency	1±0.1kHz	120±12Hz	Voltage	1±0.2V _{rms}	0.5±0.2V _{rms}
	C _R ≤10μF	C _R >10μF													
Temperature	25±2°C														
Frequency	1±0.1kHz	120±12Hz													
Voltage	1±0.2V _{rms}	0.5±0.2V _{rms}													
4	Dissipation Factor	5.0% maximum.													
5	Rated Ripple Current	<table border="1"> <tr> <td>Size code</td> <td>31</td> <td>32</td> <td>43</td> <td>55</td> </tr> <tr> <td>Arms</td> <td>0.3</td> <td>0.5</td> <td>1.0</td> <td>2.0</td> </tr> </table>	Size code	31	32	43	55	Arms	0.3	0.5	1.0	2.0	10kHz~1MHz (sine curve) Ripple voltage V _p shall be less than the rated voltage.		
Size code	31	32	43	55											
Arms	0.3	0.5	1.0	2.0											

◆SPECIFICATIONS

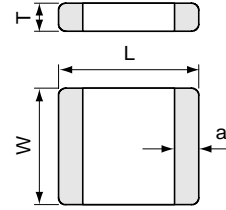
No.	Items	Specification	Test Condition															
6	Adhesion	No visible damage.	<p>Substrate Capacitor 5N (0.51kgf) for 10±1 seconds</p>															
7	Bend strength of the face plating	Appearance : No visible damage. ΔC/C : ±15%	<p>The substrate shall be bend at a rate of 1mm/s for 5 seconds.</p> <p>Press Press bar Capacitor Substrate Support Bending capability* 45±2mm 45±2mm</p> <p>*Bending capability NTS : 1mm NTF : 5mm</p>															
8	Solderability	Min. 75% of surface of the termination shall be covered with new solder	<p>Solder Temperature : 235±5°C Dipping Time : 2±0.5 sec. Solder : Eutectic solder containing Ag2.5 to 3wt%</p>															
9	Resistance to Soldering Heat	Appearance : No visible damage. ΔC/C : ±15% D.F. : To meet the initial specification. I.R. : To meet the initial specification.	<p>Solder Temperature : 260±5°C Dipping Time : 2±0.5 seconds Solder : Eutectic solder containing Ag2.5 to 3wt%</p>															
10	Temperature Cycle	Appearance : No visible damage. ΔC/C : ±15% D.F. : To meet the initial specification. I.R. : To meet the initial specification.	<table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>(min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Min. Category temperature ±3</td> <td>30±3</td> </tr> <tr> <td>2</td> <td>Room temperature</td> <td>3 max.</td> </tr> <tr> <td>3</td> <td>Max. Category temperature ±2</td> <td>30±3</td> </tr> <tr> <td>4</td> <td>Room temperature</td> <td>3 max.</td> </tr> </tbody> </table> <p>For above temperature cycle. NTS : For 5 cycles NTF : For 1000 cycles</p>	Step	Temperature (°C)	(min.)	1	Min. Category temperature ±3	30±3	2	Room temperature	3 max.	3	Max. Category temperature ±2	30±3	4	Room temperature	3 max.
Step	Temperature (°C)	(min.)																
1	Min. Category temperature ±3	30±3																
2	Room temperature	3 max.																
3	Max. Category temperature ±2	30±3																
4	Room temperature	3 max.																
11	Humidity Load Life	Appearance : No abnormality. ΔC/C : ±15% D.F. : 10% maximum I.R. : 25/C _R (MΩ) or 1000(MΩ) whichever is less.	<p>Temperature : 40±2°C Humidity : 90 to 95%RH Voltage : Rated voltage Time : 500±²⁴₀hours</p>															
12	Endurance	Appearance : No abnormality. ΔC/C : ±15% D.F. : 10% maximum I.R. : 50/C _R (MΩ) or 1000(MΩ) whichever is less.	<p>Temperature : 85±2°C Voltage : 200% of rated voltage. Time : 1000±⁴⁸₀hours</p>															
			<p>Temperature : 125±3°C Voltage : Rated voltage Time : 1000±⁴⁸₀hours</p>															

*C_R : Rated Capacitance(μF)

◆PART NUMBERING SYSTEM



◆DIMENSIONS



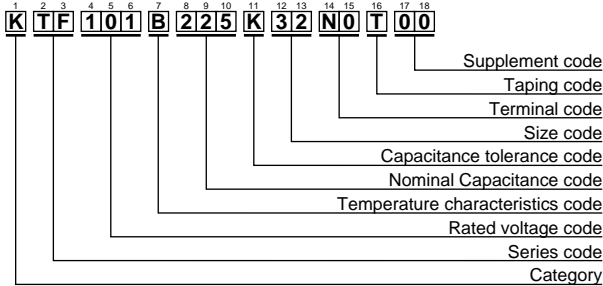
◆NTS SERIES STANDARD RATINGS

Part Number	Rated voltage (Vdc)	Rated Capacitance (μF)	Dimensions(mm)				Previous Part Number (Just for your reference)
			L	W	Tmax.	a	
KTS250B105M31N0T00	25	1.0	3.2±0.2	1.6±0.2	1.8	0.5±0.3	NTS30X7R1E105MT
KTS250B155M31N0T00		1.5					NTS30X7R1E155MT
KTS250B225M31N0T00		2.2					NTS30X7R1E225MT
KTS250B335M32N0T00		3.3	3.2±0.4	2.5±0.3	2.6	0.6±0.3	NTS40X7R1E335MT
KTS250B475M32N0T00		4.7					NTS40X7R1E475MT
KTS250B685M32N0T00		6.8					NTS40X7R1E685MT
KTS250B106M43N0T00		10					NTS50X7R1E106MT
KTS250B156M43N0T00		15	4.5±0.4	3.2±0.4	2.8	0.6±0.3	NTS50X7R1E156MT
KTS250B226M55N0T00		22					NTS60X7R1E226MT
KTS250B336M55N0T00		33					NTS60X7R1E336MT
KTS500B334M31N0T00	50	0.33	3.2±0.2	1.6±0.2	1.8	0.5±0.3	NTS30X7R1H334MT
KTS500B474M31N0T00		0.47					NTS30X7R1H474MT
KTS500B684M31N0T00		0.68					NTS30X7R1H684MT
KTS500B105M31N0T00		1.0					NTS30X7R1H105MT
KTS500B155M32N0T00		1.5	3.2±0.4	2.5±0.3	2.6	0.6±0.3	NTS40X7R1H155MT
KTS500B225M32N0T00		2.2					NTS40X7R1H225MT
KTS500B335M32N0T00		3.3					NTS40X7R1H335MT
KTS500B475M43N0T00		4.7	4.5±0.4	3.2±0.4	2.8	0.6±0.3	NTS50X7R1H475MT
KTS500B685M43N0T00		6.8					NTS50X7R1H685MT
KTS500B106M55N0T00		10					NTS60X7R1H106MT
KTS500B156M55N0T00	15	NTS60X7R1H156MT					
KTS101B104K31N0T00	100	0.1	3.2±0.2	1.6±0.2	1.8	0.5±0.3	NTS30X7R2A104KT
KTS101B154K31N0T00		0.15					NTS30X7R2A154KT
KTS101B224K31N0T00		0.22					NTS30X7R2A224KT
KTS101B334K31N0T00		0.33					NTS30X7R2A334KT
KTS101B474K31N0T00		0.47					NTS30X7R2A474KT
KTS101B684K31N0T00		0.68	NTS30X7R2A684KT				
KTS101B105K32N0T00		1.0	3.2±0.4	2.5±0.3	2.6	0.6±0.3	NTS40X7R2A105KT
KTS101B155K32N0T00		1.5					NTS40X7R2A155KT
KTS101B225K32N0T00		2.2					NTS40X7R2A225KT
KTS101B335K43N0T00		3.3					NTS50X7R2A335KT
KTS101B475K43N0T00	4.7	NTS50X7R2A475KT					
KTS101B685K55N0T00	6.8	5.7±0.4	5.0±0.4	2.8	0.8±0.5	NTS60X7R2A685KT	
KTS251B333K31N0T00	250	0.033	3.2±0.2	1.6±0.2	1.8	0.5±0.3	NTS30X7R2E333KT
KTS251B473K31N0T00		0.047					NTS30X7R2E473KT
KTS251B683K31N0T00		0.068					NTS30X7R2E683KT
KTS251B104K31N0T00		0.1	3.2±0.4	2.5±0.3	2.6	0.6±0.3	NTS30X7R2E104KT
KTS251B154K32N0T00		0.15					NTS40X7R2E154KT
KTS251B224K32N0T00		0.22					NTS40X7R2E224KT
KTS251B334K32N0T00		0.33					NTS40X7R2E334KT
KTS251B474K43N0T00		0.47	4.5±0.4	3.2±0.4	2.8	0.6±0.3	NTS50X7R2E474KT
KTS251B684K43N0T00		0.68					NTS50X7R2E684KT
KTS251B105K55N0T00		1.0					NTS60X7R2E105KT
KTS251B155K55N0T00	1.5	NTS60X7R2E155KT					

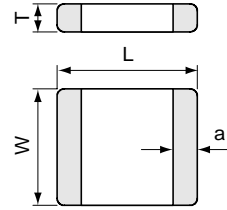
New!

NTF Series

◆PART NUMBERING SYSTEM



◆DIMENSIONS



◆NTF SERIES STANDARD RATINGS

Part Number	Rated voltage (Vdc)	Rated Capacitance (μF)	Dimensions(mm)			
			L	W	Tmax.	a
KTF250B105M31N0T00	25	1.0	3.2±0.2	1.6±0.2	1.8	0.5±0.3
KTF250B155M31N0T00		1.5				
KTF250B225M31N0T00		2.2	3.2±0.4	2.5±0.3	2.6	0.6±0.3
KTF250B335M32N0T00		3.3				
KTF250B475M32N0T00		4.7				
KTF250B685M32N0T00		6.8				
KTF250B106M43N0T00		10	4.5±0.4	3.2±0.4	2.8	0.6±0.3
KTF250B156M43N0T00		15				
KTF250B226M55N0T00		22	5.7±0.4	5.0±0.4	2.8	0.8±0.5
KTF250B336M55N0T00		33			3.0	
KTF500B334M31N0T00	50	0.33	3.2±0.2	1.6±0.2	1.8	0.5±0.3
KTF500B474M31N0T00		0.47				
KTF500B684M31N0T00		0.68				
KTF500B105M31N0T00		1.0				
KTF500B155M32N0T00		1.5	3.2±0.4	2.5±0.3	2.6	0.6±0.3
KTF500B225M32N0T00		2.2				
KTF500B335M32N0T00		3.3				
KTF500B475M43N0T00		4.7				
KTF500B685M43N0T00		6.8	4.5±0.4	3.2±0.4	2.8	0.6±0.3
KTF500B106M55N0T00		10				
KTF500B156M55N0T00	15	5.7±0.4	5.0±0.4	2.8	0.8±0.5	
KTF101B104K31N0T00	100	0.1	3.2±0.2	1.6±0.2	1.8	0.5±0.3
KTF101B154K31N0T00		0.15				
KTF101B224K31N0T00		0.22				
KTF101B334K31N0T00		0.33				
KTF101B474K31N0T00		0.47	3.2±0.4	2.5±0.3	2.6	0.6±0.3
KTF101B684K31N0T00		0.68				
KTF101B105K32N0T00		1.0				
KTF101B155K32N0T00		1.5				
KTF101B225K32N0T00		2.2	4.5±0.4	3.2±0.4	2.8	0.6±0.3
KTF101B335K43N0T00		3.3				
KTF101B475K43N0T00	4.7					
KTF101B685K55N0T00	6.8					
KTF251B333K31N0T00	250	0.033	3.2±0.2	1.6±0.2	1.8	0.5±0.3
KTF251B473K31N0T00		0.047				
KTF251B683K31N0T00		0.068				
KTF251B104K31N0T00		0.1				
KTF251B154K32N0T00		0.15	3.2±0.4	2.5±0.3	2.6	0.6±0.3
KTF251B224K32N0T00		0.22				
KTF251B334K32N0T00		0.33				
KTF251B474K43N0T00		0.47				
KTF251B684K43N0T00		0.68	4.5±0.4	3.2±0.4	2.8	0.6±0.3
KTF251B105K55N0T00		1.0				
KTF251B155K55N0T00	1.5	5.7±0.4	5.0±0.4	2.8	0.8±0.5	