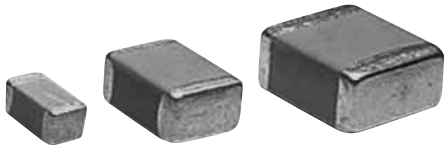
MULTILAYER CERAMIC CHIP CAPACITORS

Upgrade!

NTS Series

Surface Mount Device



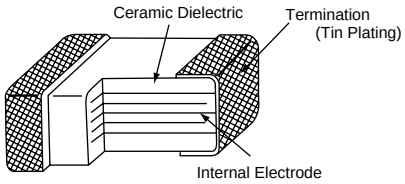
◆FEATURES

1. Large capacitance by small size.
2. Excellent noise absorption.
3. High permissible ripple current capability.
4. Lead free dielectric and terminations.
5. Tin plate terminations.

◆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

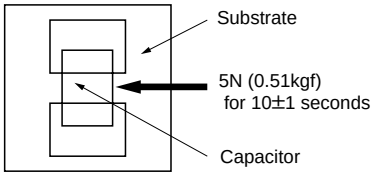
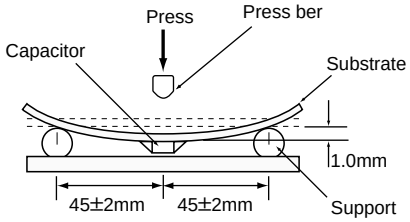
1. Category Temperature Range	-55 to +125℃
2. Rated Voltage Range	25, 50, 100, 250Vdc
3. Rated Capacitance Range	0.033 to 33μF
4. Rated Capacitance Tolerance	K (±10%) , M (±20%)
5. Temperature Characteristics	X5R, X7R
6. Rated Ripple Current	See No.5 on the following table

◆SPECIFICATIONS

<table>
<tr><th>No.</th><th>Items</th><th>Specification</th><th>Test Condition</th></tr>
<tr><td>1</td><td>Withstand Voltage</td><td>No abnormality.</td><td>250% of rated voltage shall be applied for 5 seconds.</td></tr>
<tr><td>2</td><td>Insulation Resistance</td><td>100/CR(MΩ) or 4000(MΩ)
whichever is less.</td><td>Rated voltage shall be applied for 60±5 seconds at temperature 25±2℃.</td></tr>
<tr><td>3</td><td>Rated Capacitance</td><td>Within specified tolerance.</td><td rowspan="2"><table><tr><td></td><td>CR≦10μF</td><td>CR>10μF</td></tr><tr><td>Temperature</td><td colspan="2">25±2℃</td></tr><tr><td>Frequency</td><td>1±0.1kHz</td><td>120±12Hz</td></tr><tr><td>Voltage</td><td>1±0.2Vrms</td><td>0.5±0.2Vrms</td></tr></table></td></tr>
<tr><td>4</td><td>Dissipation Factor</td><td>5.0% maximum.</td></tr>
<tr><td>5</td><td>Rated Ripple Current</td><td><table><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></td><td>10kHz～1MHz (sine curve)
Ripple voltage Vp shall be less than the rated voltage.</td></tr>
</table>

CAT. No. E1002H

◆SPECIFICATIONS

No.	Items	Specification	Test Condition
6	Adhesion	No visible damage.	
7	Bend strength of the face plating	Appearance : No visible damage. ΔC/C : ±15%	The substrate shall be bend by 1mm at a rate of 1mm/s for 5 seconds. 
8	Solderability	Min. 75% of surface of the termination shall be covered with new solder	Solder Temperature : 235±5℃ Dipping Time : 2±0.5 sec. Solder : Eutectic solder containning Ag2.5 to 3wt%
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. Withstand voltage : No abnormality.	Solder Temperature : 260±5℃ Dipping Time : 2±0.5 seconds Solder : Eutectic solder containning Ag2.5 to 3wt%
10	Temperature Cycle	Appearance : No visible damage. ΔC/C : ±15% D.F. : To meet the initial specification. I.R. : To meet the initial specification. Withstand voltage : No abnormality.	Step / Temperature (℃) / (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. For 5 cycles for above temperature cycle.
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. Withstand voltage : No abnormality.	Temperature : 40±2℃ Humidity : 90 to 95%RH Voltage : Rated voltage Time : 500^{+24}_{0}hours
12	Endurance	Appearance : No abnormality. ΔC/C : ±15% D.F. : 10% maximum I.R. : 50/C_R(MΩ) or 1000(MΩ) whichever is less. Withstand voltage : No abnormality.	Temperature : 85±2℃ Voltage : 200% of rated voltage. Time : 1000^{+48}_{0}hours Temperature : 125±3℃ Voltage : Rated voltage Time : 1000^{+48}_{0}hours

*C_R : Rated Capacitance(μF)

NIPPON CHEMI-CON

MULTILAYER CERAMIC CHIP CAPACITORS

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NTS Series

◆PART NUMBERING SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
K	T	S	1	0	1	B	1	0	5	K	4	3	N	0	T	0	0

- Supplement code
- Taping code
- Terminal code
- Size code
- Capacitance tolerance code
- Nominal Capacitance code
- Temperature characteristics code
- Rated voltage code
- Series code
- Category

◆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	
KTS250C105M31N0T00	25	1.0	3.2±0.2	1.6±0.2	1.8	0.5±0.3	NTS30X5R1E105MT
KTS250C155M31N0T00		1.5					NTS30X5R1E155MT
KTS250C225M31N0T00		2.2					NTS30X5R1E225MT
KTS250C335M32N0T00		3.3	3.2±0.4	2.5±0.3	2.6	0.6±0.3	NTS40X5R1E335MT
KTS250C475M32N0T00		4.7					NTS40X5R1E475MT
KTS250C685M32N0T00		6.8					NTS40X5R1E685MT
KTS250C106M43N0T00		10	4.5±0.4	3.2±0.4	2.8	0.6±0.3	NTS50X5R1E106MT
KTS250C156M43N0T00		15					NTS50X5R1E156MT
KTS250C226M55N0T00		22	5.7±0.4	5.0±0.4	2.8	0.8±0.5	NTS60X5R1E226MT
KTS250C336M55N0T00		33					NTS60X5R1E336MT
KTS500C334M31N0T00	50	0.33	3.2±0.2	1.6±0.2	1.8	0.5±0.3	NTS30X5R1H334MT
KTS500C474M31N0T00		0.47					NTS30X5R1H474MT
KTS500C684M31N0T00		0.68					NTS30X5R1H684MT
KTS500C105M32N0T00		1.0	3.2±0.4	2.5±0.3	2.6	0.6±0.3	NTS40X5R1H105MT
KTS500C155M32N0T00		1.5					NTS40X5R1H155MT
KTS500C225M32N0T00		2.2					NTS40X5R1H225MT
KTS500C335M43N0T00		3.3	4.5±0.4	3.2±0.4	2.6	0.6±0.3	NTS50X5R1H335MT
KTS500C475M43N0T00		4.7			2.8		NTS50X5R1H475MT
KTS500C685M55N0T00		6.8	5.7±0.4	5.0±0.4	2.6	0.8±0.5	NTS60X5R1H685MT
KTS500C106M55N0T00		10			2.8		NTS60X5R1H106MT
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
KTS101B474K32N0T00		0.47	3.2±0.4	2.5±0.3	2.6	0.6±0.3	NTS40X7R2A474KT
KTS101B684K32N0T00		0.68					NTS40X7R2A684KT
KTS101B105K32N0T00		1.0					NTS40X7R2A105KT
KTS101B155K43N0T00		1.5	4.5±0.4	3.2±0.4	2.8	0.6±0.3	NTS50X7R2A155KT
KTS101B225K43N0T00		2.2					NTS50X7R2A225KT
KTS101B335K55N0T00		3.3	5.7±0.4	5.0±0.4	2.8	0.8±0.5	NTS60X7R2A335KT
KTS101B475K55N0T00		4.7					NTS60X7R2A475KT
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
KTS251B104K32N0T00		0.1	3.2±0.4	2.5±0.3	2.6	0.6±0.3	NTS40X7R2E104KT
KTS251B154K32N0T00		0.15					NTS40X7R2E154KT
KTS251B224K32N0T00		0.22					NTS40X7R2E224KT
KTS251B334K43N0T00		0.33	4.5±0.4	3.2±0.4	2.6	0.6±0.3	NTS50X7R2E334KT
KTS251B474K43N0T00		0.47			2.8		NTS50X7R2E474KT
KTS251B684K55N0T00		0.68	5.7±0.4	5.0±0.4	2.6	0.8±0.5	NTS60X7R2E684KT
KTS251B105K55N0T00		1.0			2.8		NTS60X7R2E105KT

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