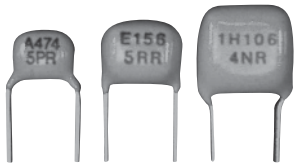
DIPPED RADIAL LEAD MULTILAYER CERAMIC CAPACITORS

NTD Series

RoHS Compliant



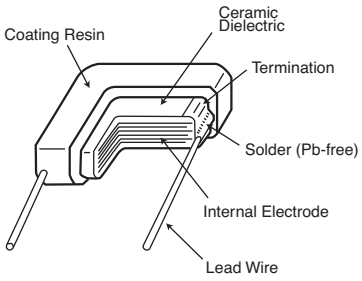
◆FEATURES

1. Small in size and wide capacitance range.
   Max. 33μF is available.
2. Temperature characteristic is X7R in EIA code.
3. Superior humidity characteristic and long life.
4. Excellent high frequency characteristic due to low ESR.
5. High rated ripple current.
6. 250Vdc items are available.
7. Resin(UL94 V-0) used for coating.
8. Pb-free design(also ceramic dielectric)

◆APPLICATIONS

1. Smoothing circuit of switching mode AC-DC or DC-DC converter.
2. Noise suppressor for various kinds of equipments.
3. By-pass or decoupling circuits.
4. Automotive equipments.

◆CONSTRUCTION



◆RATINGS

1. Category Temperature Range	-55 to +125℃
2. Rated Voltage Range	25, 50, 100, 250 Vdc
3. Rated Capacitance Range	0.1 to 33μF
4. Rated Capacitance Tolerance	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	Between Terminals	No abnormality.	250% of rated voltage shall be applied for 5 seconds. (Only 250Vdc products : 475V)
		Terminals to Coating Resin		
2	Insulation Resistance		100/CR(MΩ) or 4000(MΩ) whichever is less.	Rated voltage shall be applied for 60±5 seconds at temperature 25±2℃.
3	Rated Capacitance		Within specified tolerance.	
4	Dissipation Factor		5.0% maximum.	

	CR≦10μF	CR>10μF
Temperature	25±2℃	
Frequency	1±0.1kHz	120±12Hz
Voltage	1±0.2Vrms	0.5±0.2Vrms

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◆SPECIFICATIONS

No.	Items		Specification	Test Condition
5	Rated Ripple Current		Size code: 32 / 43 / 55 Arms: 0.3 / 0.8 / 1.0	10kHz to 1MHz (sine curve) Ripple voltage Vp shall be less than the rated voltage.
6	Robustness of Terminations	Tension	No visible damage.	The force applied shall be : Lead φ (mm) / Tensile(N) / (sec.) 0.5 max. / 5 / 10±1
		Bending		Lead φ (mm) / Bending(N) / (kg) 0.5 max. / 2.5 / 0.25 Time : 2times.
7	Vibration		Appearance : No abnormality. Capacitance : To meet the initial specification. D.F. : To meet the initial specifications.	Amplitude : 1.5mm Frequency range : 10-55-10Hz (1 min) Direction and time : 2 hours each to X, Y, Z axis. Total 6 hours.
8	Solderability		Min. 75% of surface of the termination shall be covered with new solder.	Solder / Pb Free / Eutectic Solder Temperature / 245±5℃ / 235±5℃ Dipping Time / 2±0.5sec.
9	Resistance to Soldering Heat		Appearance : No abnormality. ΔC/C : ±15% D.F. : Satisfy the initial spec.	Solder Temperature : 350±10℃ Dipping Time : 3±0.5 sec. Depth : 1.5 to 2mm
10	Temperature Cycle		Appearance : No abnormality. ΔC/C : ±15% D.F. : To meet the initial specification I.R. : To meet the initial specification	Step / Temperature (℃) / (min.) 1 / Min. Category temperature ±3 / 30±3 2 / Room temperature / 3 max. 3 / Max. Category temperature ±3 / 30±3 4 / Room temperature / 3 max. For 5 cycles for above temperature cycle.
11	Humidity Load Life		Appearance : No abnormality. ΔC/C : ±20% D.F. : 10% maximum I.R. : 25/C_R(MΩ) or 1000(MΩ) whichever is less.	Temperature : 40±2℃ Humidity : 90 to 95%RH Voltage : Rated voltage Time : 500^{+24}_{0}hours
12	Endurance		Appearance : No abnormality. ΔC/C : ±20% D.F. : 10% maximum I.R. : 50/C_R(MΩ) or 1000(MΩ) whichever is less.	Temperature : 125±3℃ Voltage : Rated voltage Time : 1000^{+48}_{0}hours

*C_R : Rated Capacitance(μF)

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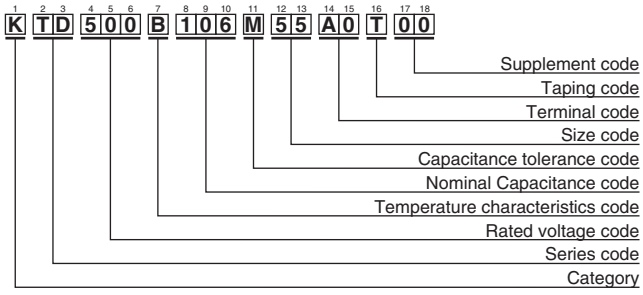
◆STANDARD RATINGS

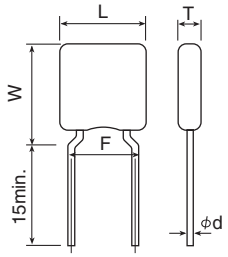
Rated voltage (Vdc)	Rated Capacitance (μF)	Dimensions(mm)					Maximum ripple current (Arms)	Part Number
		Lmax.	Wmax.	Tmax.	F±0.8	φd±0.05		
25	3.3	5.0	6.0	3.5	5.0	0.5	0.3	KTD250B335M32A0T00
	4.7							KTD250B475M32A0T00
	6.8	6.5	6.5	4.0	5.0	0.5	0.8	KTD250B685M43A0T00
	10							KTD250B106M43A0T00
	15							KTD250B156M43A0T00
	15	7.5	9.0	4.5	5.0	0.5	1.0	KTD250B156M55A0T00
	22							KTD250B226M55A0T00
	33							KTD250B336M55A0T00
50	1.0	5.0	6.0	3.5	5.0	0.5	0.3	KTD500B105M32A0T00
	1.5							KTD500B155M32A0T00
	2.2							KTD500B225M32A0T00
	3.3							KTD500B335M32A0T00
	4.7	6.5	6.5	4.0	5.0	0.5	0.8	KTD500B475M43A0T00
	6.8							KTD500B685M43A0T00
	10	7.5	9.0	4.5	5.0	0.5	1.0	KTD500B106M55A0T00
	15							KTD500B156M55A0T00
100	0.33	5.0	6.0	3.5	5.0	0.5	0.3	KTD101B334M32A0T00
	0.47							KTD101B474M32A0T00
	0.68							KTD101B684M32A0T00
	1							KTD101B105M32A0T00
	1.5							KTD101B155M32A0T00
	2.2							KTD101B225M32A0T00
	1.5	6.5	6.5	4.0	5.0	0.5	0.8	KTD101B155M43A0T00
	2.2							KTD101B225M43A0T00
	3.3							KTD101B335M43A0T00
	4.7							KTD101B475M43A0T00
	3.3	7.5	9.0	4.5	5.0	0.5	1.0	KTD101B335M55A0T00
	4.7							KTD101B475M55A0T00
	6.8			4.7				KTD101B685M55A0T00
250	0.1	5.0	6.0	3.5	5.0	0.5	0.3	KTD251B104M32A0T00
	0.15							KTD251B154M32A0T00
	0.22							KTD251B224M32A0T00
	0.33							KTD251B334M32A0T00
	0.47	6.5	6.5	4.0	5.0	0.5	0.8	KTD251B474M43A0T00
	0.68							KTD251B684M43A0T00
	1	7.5	9.0	4.5	5.0	0.5	1.0	KTD251B105M55A0T00
	1.5							KTD251B155M55A0T00

◆PART NUMBERING SYSTEM

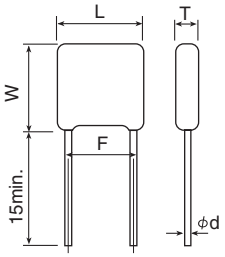


◆DIMENSIONS

Crimped lead



Straight lead



Please refer to"Part Numbering System" of the beginning of a catalog for the details.