

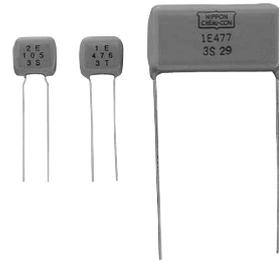


DIPPED RADIAL LEAD MULTILAYER CERAMIC CAPACITORS

上海KHD500E476M90C0B00"供应商

THD Series

Radial Lead Type (Down sized)



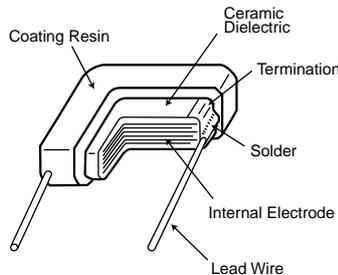
◆FEATURES

1. Small in size and wide capacitance range.
Max. 680 μ F is available.
2. Temperature characteristic is Y5U 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. 250V_{dc} items are available.
7. Resin(UL94 V-0) used for coating.

◆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°C
2. Rated Voltage Range	16, 25, 50, 100, 250 V _{dc}
3. Rated Capacitance Range	0.1 to 680 μ F
4. Rated Capacitance Tolerance	M(\pm 20%), Z(\pm 20%)
5. Temperature Characteristics	E(JIS) \approx Y5U(EIA)
6. Rated Ripple Current	See No.5 on the following table

◆SPECIFICATIONS

No.	Items	Specification	Test Condition
1	Withstand Voltage Between Terminals Terminals to Coating Resin	No abnormality.	250% of rated voltage shall be applied for 5 seconds.
2	Insulation Resistance	1000/C _R (M Ω) or 10000(M Ω) whichever is less.	Rated voltage shall be applied for 60 \pm 5 seconds at temperature 20 \pm 2°C.
3	Rated Capacitance	Within specified tolerance.	Temperature : 20 \pm 2°C Frequency : 1 \pm 0.1kHz(\geq 100 μ F, 120Hz) Voltage : 1 \pm 0.2V _{rms}
4	Dissipation Factor	5.0% maximum.	Temperature : 20 \pm 2°C Frequency : 1 \pm 0.1kHz(\geq 100 μ F, 120Hz) Voltage : 1 \pm 0.2V _{rms}



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天津KHD500E476M90C0B00"供应商

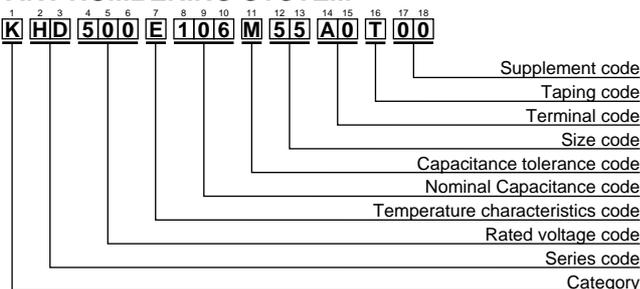
THD Series

◆SPECIFICATIONS

No.	Items	Specification	Test Condition																		
5	Rated Ripple Current	<table border="1"> <tr> <td>Size code</td> <td>32</td> <td>43</td> <td>55</td> <td>76</td> <td>80</td> <td>90</td> <td>99</td> </tr> <tr> <td>Arms</td> <td>0.3</td> <td>0.8</td> <td>1.0</td> <td>1.5</td> <td>2.0</td> <td>3.0</td> <td>4.0</td> </tr> </table>	Size code	32	43	55	76	80	90	99	Arms	0.3	0.8	1.0	1.5	2.0	3.0	4.0	10kHz to 1MHz (sine curve) Ripple voltage V_p shall be less than the rated voltage.		
Size code	32	43	55	76	80	90	99														
Arms	0.3	0.8	1.0	1.5	2.0	3.0	4.0														
6	Robustness of Terminations	No visible damage.	The force applied shall be : <table border="1"> <tr> <td>Lead ϕ (mm)</td> <td>Tensile(N)</td> <td>(sec.)</td> </tr> <tr> <td>0.5 max.</td> <td>5</td> <td>10\pm1</td> </tr> <tr> <td>0.6 to 0.8 max.</td> <td>10</td> <td>10\pm1</td> </tr> </table> <table border="1"> <tr> <td>Lead ϕ (mm)</td> <td>Bending(N)</td> <td>(kg)</td> </tr> <tr> <td>0.5 max.</td> <td>2.5</td> <td>0.25</td> </tr> <tr> <td>0.6 to 0.8 max.</td> <td>5</td> <td>0.51</td> </tr> </table> Time : 2times.	Lead ϕ (mm)	Tensile(N)	(sec.)	0.5 max.	5	10 \pm 1	0.6 to 0.8 max.	10	10 \pm 1	Lead ϕ (mm)	Bending(N)	(kg)	0.5 max.	2.5	0.25	0.6 to 0.8 max.	5	0.51
Lead ϕ (mm)	Tensile(N)	(sec.)																			
0.5 max.	5	10 \pm 1																			
0.6 to 0.8 max.	10	10 \pm 1																			
Lead ϕ (mm)	Bending(N)	(kg)																			
0.5 max.	2.5	0.25																			
0.6 to 0.8 max.	5	0.51																			
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 Temperature : 235 \pm 5 $^{\circ}$ C Dipping Time : 2 \pm 0.5 sec. Solder : H60A or H63A																		
9	Resistance to Soldering Heat	Appearance : No abnormality. $\Delta C/C$: \pm 15% D.F. : Satisfy the initial spec.	Solder Temperature : 350 \pm 10 $^{\circ}$ C Dipping Time : 3 \pm 0.5 sec. Depth : 1.5 to 2mm																		
10	Temperature Cycle	Appearance : No abnormality.	<table border="1"> <tr> <th>Step</th> <th>Temperature ($^{\circ}$C)</th> <th>(min.)</th> </tr> <tr> <td>1</td> <td>Min. Category temperature \pm3</td> <td>30\pm3</td> </tr> <tr> <td>2</td> <td>Room temperature</td> <td>3 max.</td> </tr> <tr> <td>3</td> <td>Max. Category temperature \pm2</td> <td>30\pm3</td> </tr> <tr> <td>4</td> <td>Room temperature</td> <td>3 max.</td> </tr> </table> For 5 cycles for above temperature cycle.	Step	Temperature ($^{\circ}$ C)	(min.)	1	Min. Category temperature \pm 3	30 \pm 3	2	Room temperature	3 max.	3	Max. Category temperature \pm 2	30 \pm 3	4	Room temperature	3 max.			
Step	Temperature ($^{\circ}$ C)	(min.)																			
1	Min. Category temperature \pm 3	30 \pm 3																			
2	Room temperature	3 max.																			
3	Max. Category temperature \pm 2	30 \pm 3																			
4	Room temperature	3 max.																			
11	Humidity Load Life	Appearance : No abnormality. $\Delta C/C$: \pm 20% D.F. : 7% maximum I.R. : 50/ C_R (M Ω) or 1000(M Ω) whichever is less. Withstand voltage : No abnormality.	Temperature : 40 \pm 2 $^{\circ}$ C Humidity : 90 to 95%RH Voltage : Rated voltage Time : 500 \pm ₀ ²⁴ hours																		
12	Endurance	Appearance : No abnormality. $\Delta C/C$: \pm 20% D.F. : 7% maximum I.R. : 100/ C_R (M Ω) or 1000(M Ω) whichever is less. Withstand voltage : No abnormality.	Temperature : 85 \pm 2 $^{\circ}$ C Voltage : 200% of rated voltage. Time : 1000 \pm ₀ ⁴⁸ hours Temperature : 125 \pm 3 $^{\circ}$ C Voltage : Rated voltage Time : 1000 \pm ₀ ⁴⁸ hours																		

*Cr : Rated Capacitance(μ F)

◆PART NUMBERING SYSTEM





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THD Series

◆THD SERIES STANDARD RATINGS

Part Number	Rated voltage (Vdc)	Rated Cap. (μF)	Dimensions (mm)					Previous Part Number (Just for your reference)	Part Number	Rated voltage (Vdc)	Rated Cap. (μF)	Dimensions (mm)					Previous Part Number (Just for your reference)	
			Lmax	Wmax	Tmax	F±0.8	φd±0.05					Lmax	Wmax	Tmax	F±0.8	φd±0.05		
KHD160E685M32A0T00	16	6.8	5.0	6.5	3.5	5.0	0.5	THD21E1C685MT	50	33	13.5	15.0	5.0	10.0	0.6	THD51E1H336M		
KHD160E106M32A0T00		10						THD21E1C106MT								47	THD60E1H476M	
KHD160E156M43A0T00		15						THD30E1C156MT								68	THD60E1H686M	
KHD160E226M43A0T00		22	5.0	7.5	4.0	5.0	0.5	THD30E1C226MT			100	28.5	20.0	7.5	25.0	0.8	THD60E1H107M	
KHD160E336M55A0T00		33	THD31E1C336MT	150	THD61E1H157M													
KHD160E476M55A0T00		47	THD31E1C476MT	220	THD61E1H227M													
KHD160E686M76A0T00		68	10.0	11.5	4.5	5.0	0.5	THD41E1C686MT		0.3	100	0.47	5.0	6.5	3.0	5.0	0.5	THD21E2A334MT
KHD160E107M76A0T00		100	THD41E1C107MT	0.68	THD21E2A474MT													
KHD160E157M80A0B00		150	THD51E1C157M	1.0	THD21E2A684MT													
KHD160E227M80A0B00		220	5.0	13.5	15.0	5.0	10.0	0.6		THD51E1C227M		1.5	6.5	7.0	3.5	5.0	0.5	THD30E2A105MT
KHD160E337M90C0B00		330	6	20.0	0.8	THD60E1C337M	2.2	4.0		THD30E2A155MT								
KHD160E477M90C0B00		470	THD60E1C477M	3.3	THD30E2A225MT													
KHD160E687M99C0B00		680	28.5	20.0	7.5	25.0	0.8	THD61E1C687M		4.7		7.5	9.0	4.0	4.5	5.0	0.5	THD31E2A335MT
KHD250E335M32A0T00		3.3	25	5.0	6.5	3.0	5.0	0.5		THD21E1E335MT		6.8	10.0	11.5	4.5	5.0	0.5	THD41E2A685MT
KHD250E475M32A0T00		4.7								THD21E1E475MT		10	THD51E2A106M					
KHD250E685M43A0T00		6.8								THD30E1E685MT		15	THD51E2A156M					
KHD250E106M43A0T00	10	6.5		7.0	3.5	5.0	0.5	THD30E1E106MT	22	22.5		20.0	6.0	20.0	0.8	THD60E2A226M		
KHD250E156M43A0T00	15	4.0		THD30E1E156MT	33	THD60E2A336M												
KHD250E226M55A0T00	22	7.5		9.0	4.0	5.0	0.5	THD31E1E226MT	47	47		THD61E2A476M						
KHD250E336M55A0T00	33	4.5		5.0	0.5	THD31E1E336MT	68	28.5	20.0	7.5		25.0	0.8	THD61E2A686M				
KHD250E476M76A0T00	47	10.0		11.5	4.5	5.0	0.5	THD41E1E476MT	100	100		THD61E2A107M						
KHD250E686M80A0B00	68	13.5		15.0	5.0	10.0	0.6	THD51E1E686M	0.1	250		0.15	6.5	7.0	3.5	5.0	0.5	THD30E2E104MT
KHD250E107M80A0B00	100	5.5		THD51E1E107M	0.22	THD30E2E154MT												
KHD250E157M90C0B00	150	THD60E1E157M		0.33	THD30E2E224MT													
KHD250E227M90C0B00	220	22.5		20.0	6.0	20.0	0.8	THD60E1E227M	0.47		4.0	THD30E2E334MT						
KHD250E337M99C0B00	330	THD61E1E337M		0.68	THD31E2E474MT													
KHD250E477M99C0B00	470	THD61E1E477M		1.0	THD31E2E684MT													
KHD500E105M32A0T00	1.0	50		5.0	6.5	3.0	5.0	0.5	THD21E1H105MT		1.5	10.0	11.5	4.5	5.0	0.5	THD41E2E105MT	
KHD500E155M32A0T00	1.5								THD21E1H155MT		2.2	THD41E2E155MT						
KHD500E225M32A0T00	2.2		3.5						THD21E1H225MT		3.3	13.5	15.0	5.0	10.0	0.6	THD51E2E225M	
KHD500E335M43A0T00	3.3		6.5	7.0	3.5	5.0	0.5	THD30E1H335MT	4.7		22.5	20.0	6.0	20.0	0.8	THD60E2E335M		
KHD500E475M43A0T00	4.7		4.0	5.0	0.5	THD30E1H475MT	6.8	THD60E2E475M										
KHD500E685M55A0T00	6.8		7.5	9.0	4.0	5.0	0.5	THD31E1H685MT	10		10	THD61E2E685M						
KHD500E106M55A0T00	10		4.5	THD31E1H106MT	15	THD61E2E685M												
KHD500E156M55A0T00	15		THD31E1H156MT	22	10.0	11.5	4.5	5.0	0.5		THD61E2E106M							
KHD500E226M76A0T00	22		10.0	11.5	4.5	5.0	0.5	THD41E1H226MT	15		28.5	20.0	7.5	25.0	0.8	THD61E2E156M		
KHD500E336M80A0B00	33		13.5	15.0	5.0	10.0	0.6	THD51E1H336M	47		47	THD61E2E156M						
KHD500E476M90C0B00	47		15.0	17.0	5.0	10.0	0.6	THD60E1H476M	68	68	THD61E2E156M							
KHD500E686M90C0B00	68		22.5	20.0	6.0	20.0	0.8	THD60E1H686M	100	100	THD61E2E156M							
KHD500E107M90C0B00	100		28.5	20.0	7.5	25.0	0.8	THD61E1H107M	0.3	250	0.47	5.0	6.5	3.0	5.0	0.5	THD21E2A334MT	
KHD500E157M90C0B00	150		THD41E1C157M	0.68	THD21E2A474MT													
KHD500E227M90C0B00	220		THD51E1C227M	1.0	THD21E2A684MT													
KHD500E337M99C0B00	330		6	20.0	0.8	THD60E1C337M	1.5	6.5	7.0		3.5	5.0	0.5	THD30E2A105MT				
KHD500E477M99C0B00	470	THD60E1C477M	2.2	THD30E2A155MT														
KHD500E687M99C0B00	680	28.5	20.0	7.5	25.0	0.8	THD61E1C687M	3.3	7.5		9.0	4.0	4.5	5.0	0.5	THD31E2A335MT		
KHD250E335M32A0T00	3.3	25	5.0	6.5	3.0	5.0	0.5	THD21E1E335MT	4.7		7.5	9.0	4.0	4.5	5.0	0.5	THD41E2E105MT	
KHD250E475M32A0T00	4.7							THD21E1E475MT	10		THD51E2A106M							
KHD250E685M43A0T00	6.8							THD30E1E685MT	15		THD51E2A156M							
KHD250E106M43A0T00	10		6.5	7.0	3.5	5.0	0.5	THD30E1E106MT	22		22.5	20.0	6.0	20.0	0.8	THD60E2A226M		
KHD250E156M43A0T00	15		4.0	THD30E1E156MT	33	THD60E2A336M												
KHD250E226M55A0T00	22		7.5	9.0	4.0	5.0	0.5	THD31E1E226MT	47		47	THD61E2A476M						
KHD250E336M55A0T00	33		4.5	5.0	0.5	THD31E1E336MT	68	28.5	20.0		7.5	25.0	0.8	THD61E2A686M				
KHD250E476M76A0T00	47		10.0	11.5	4.5	5.0	0.5	THD41E1E476MT	100		100	THD61E2A107M						
KHD250E686M80A0B00	68		13.5	15.0	5.0	10.0	0.6	THD51E1E686M	0.1		250	0.15	6.5	7.0	3.5	5.0	0.5	THD30E2E104MT
KHD250E107M80A0B00	100		5.5	THD51E1E107M	0.22	THD30E2E154MT												
KHD250E157M90C0B00	150		THD60E1E157M	0.33	THD30E2E224MT													
KHD250E227M90C0B00	220		22.5	20.0	6.0	20.0	0.8	THD60E1E227M	0.47	4.0		THD30E2E334MT						
KHD250E337M99C0B00	330		THD61E1E337M	0.68	THD31E2E474MT													
KHD250E477M99C0B00	470		THD61E1E477M	1.0	THD31E2E684MT													
KHD500E105M32A0T00	1.0		50	5.0	6.5	3.0	5.0	0.5	THD21E1H105MT	1.5		10.0	11.5	4.5	5.0	0.5	THD41E2E105MT	
KHD500E155M32A0T00	1.5								THD21E1H155MT	2.2		THD41E2E155MT						
KHD500E225M32A0T00	2.2	3.5							THD21E1H225MT	3.3		13.5	15.0	5.0	10.0	0.6	THD51E2E225M	
KHD500E335M43A0T00	3.3	6.5		7.0	3.5	5.0	0.5	THD30E1H335MT	4.7	22.5		20.0	6.0	20.0	0.8	THD60E2E335M		
KHD500E475M43A0T00	4.7	4.0		5.0	0.5	THD30E1H475MT	6.8	THD60E2E475M										
KHD500E685M55A0T00	6.8	7.5		9.0	4.0	5.0	0.5	THD31E1H685MT	10	10		THD61E2E685M						
KHD500E106M55A0T00	10	4.5		THD31E1H106MT	15	THD61E2E685M												
KHD500E156M55A0T00	15	THD31E1H156MT		22	10.0	11.5	4.5	5.0	0.5	THD61E2E106M								
KHD500E226M76A0T00	22	10.0		11.5	4.5	5.0	0.5	THD41E1H226MT	15	28.5		20.0	7.5	25.0	0.8	THD61E2E156M		
KHD500E336M80A0B00	33	13.5		15.0	5.0	10.0	0.6	THD51E1H336M	47	47		THD61E2E156M						
KHD500E476M90C0B00	47	15.0		17.0	5.0	10.0	0.6	THD60E1H476M	68	68	THD61E2E156M							
KHD500E686M90C0B00	68	22.5		20.0	6.0	20.0	0.8	THD60E1H686M	100	100	THD61E2E156M							
KHD500E107M90C0B00	100	28.5		20.0	7.5	25.0	0.8	THD61E1H107M	0.3	250	0.47	5.0	6.5	3.0	5.0	0.5	THD21E2A334MT	
KHD500E157M90C0B00	150	THD41E1C157M		0.68	THD21E2A474MT													
KHD500E227M90C0B00	220	THD51E1C227M		1.0	THD21E2A684MT													
KHD500E337M99C0B00	330	6		20.0	0.8	THD60E1C337M	1.5	6.5	7.0		3.5	5.0	0.5	THD30E2A105MT				
KHD500E477M99C0B00	470	THD60E1C477M	2.2	THD30E2A155MT														
KHD500E687M99C0B00	680	28.5	20.0	7.5	25.0	0.8	THD61E1C687M	3.3	7.5		9.0	4.0	4.5	5.0	0.5	THD31E2A335MT		

◆DIMENSIONS (mm)

