

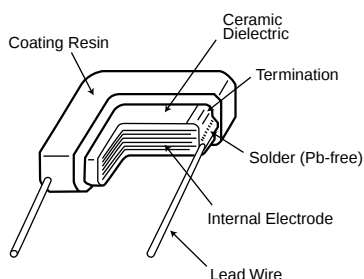
◆FEATURES

1. Small size and large capacitance, high ripple current.
2. Temperature characteristic is Y5U in EIA code.
3. Superior humidity characteristic and long life.
4. Excellent noise absorption.
5. Resin(UL94 V-0) used for coating.

◆APPLICATIONS

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

◆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 680μF
4. Rated Capacitance Tolerance	M(±20%), Z(±80%)
5. Temperature Characteristics	E(JIS) ≒ Y5U(EIA)
6. Rated Ripple Current	See No.5 on the following table

◆SPECIFICATIONS

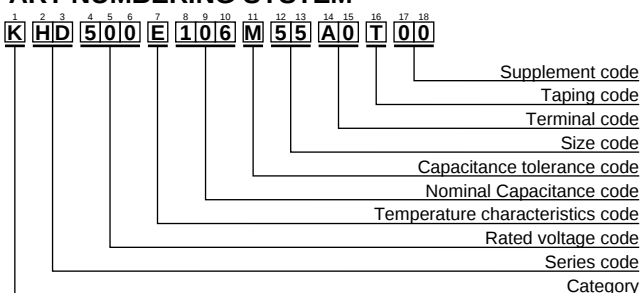
No.	Items		Specification	Test Condition
1	Withstand Voltage	Between Terminals	No abnormality.	250% of rated voltage shall be applied for 5 seconds.
		Terminals to Coating Resin		
2	Insulation Resistance		1000/C _R (MΩ) or 10000(MΩ) whichever is less.	Rated voltage shall be applied for 60±5 seconds at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

◆ SPECIFICATIONS

No.	Items		Specification								Test Condition		
5	Rated Ripple Current		Size code	32	43	55	76	80	90	99	10kHz to 1MHz (sine curve) Ripple voltage Vp shall be less than the rated voltage.		
			Arms	0.3	0.8	1.0	1.5	2.0	3.0	4.0			
6	Robustness of Terminations	Tension	No visible damage.								The force applied shall be :		
											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	
Bending	0.6 to 0.8 max.	5	0.51										
	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 $\pm$ 5 $^{\circ}$ C	235 $\pm$ 5 $^{\circ}$ C
											Dipping Time	2 $\pm$ 0.5sec.	
9	Resistance to Soldering Heat		Appearance : No abnormality. Δ 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. Δ C/C : $\pm$ 15% D.F. : To meet the initial specification I.R. : To meet the initial specification								Step	Temperature ($^{\circ}$ C)	(min.)
											1	Min. Category temperature $\pm$ 3	30 $\pm$ 3
											2	Room temperature	3 max.
											3	Max. Category temperature $\pm$ 3	30 $\pm$ 3
											4	Room temperature	3 max.
For 5 cycles for above temperature cycle.													
11	Humidity Load Life		Appearance : No abnormality. Δ C/C : $\pm$ 20% D.F. : 7% maximum I.R. : 50/C _R (M Ω) or 1000(M Ω) whichever is less.								Temperature : 40 $\pm$ 2 $^{\circ}$ C Humidity : 90 to 95%RH Voltage : Rated voltage Time : 500 $\pm$ ²⁴ ₀ hours		
12	Endurance		Appearance : No abnormality. Δ C/C : $\pm$ 20% D.F. : 7% maximum I.R. : 100/C _R (M Ω) or 1000(M Ω) whichever is less.								Temperature : 85 $\pm$ 2 $^{\circ}$ C Voltage : 200% of rated voltage. Time : 1000 $\pm$ ⁴⁸ ₀ hours		
											Temperature : 125 $\pm$ 3 $^{\circ}$ C Voltage : Rated voltage Time : 1000 $\pm$ ⁴⁸ ₀ hours		

*C_R : Rated Capacitance(μF)

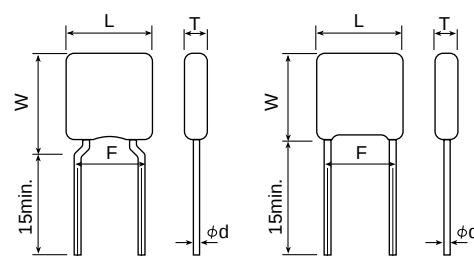
◆PART NUMBERING SYSTEM



◆ DIMENSIONS

Crimped lead
32~76 size

Straight lead
For all size



◆THD SERIES STANDARD RATINGS

Rated voltage (Vdc)	Rated Capacitance (μF)	Dimensions (mm)					Maximum ripple current (Arms)	Part Number	Previous Part Number (Just for your reference)	
		Lmax.	Wmax.	Tmax.	F±0.8	φd±0.05				
16	6.8	5.0	6.5	3.5	5.0	0.5	0.3	KHD160E685M32A0T00	THD21E1C685MT	
	10							KHD160E106M32A0T00	THD21E1C106MT	
	15							KHD160E156M43A0T00	THD30E1C156MT	
	22	6.5	7.5	4.0	5.0	0.5	0.8	KHD160E226M43A0T00	THD30E1C226MT	
	33							KHD160E336M55A0T00	THD31E1C336MT	
	47							KHD160E476M55A0T00	THD31E1C476MT	
	68	8.0	9.0	4.5	5.0	0.5	1.0	KHD160E686M76A0T00	THD41E1C686MT	
	100							KHD160E107M76A0T00	THD41E1C107MT	
	150							KHD160E157M80A0B00	THD51E1C157M	
	220	13.5	15.0	5.0	10.0	0.6	2.0	KHD160E227M80A0B00	THD51E1C227M	
	330			5.5				KHD160E337M90C0B00	THD60E1C337M	
	470			6				KHD160E477M90C0B00	THD60E1C477M	
680	28.5	20.0	7.5	25.0	0.8	4.0	KHD160E687M99C0B00	THD61E1C687M		
25	3.3	5.0	6.5	3.0	5.0	0.5	0.3	KHD250E335M32A0T00	THD21E1E335MT	
	4.7			3.5				KHD250E475M32A0T00	THD21E1E475MT	
	6.8			3.5				KHD250E685M43A0T00	THD30E1E685MT	
	10	6.5	7.0	4.0	5.0	0.5	0.8	KHD250E106M43A0T00	THD30E1E106MT	
	15			4.0				KHD250E156M43A0T00	THD30E1E156MT	
	22			4.0				KHD250E226M55A0T00	THD31E1E226MT	
	33	7.5	9.0	4.5	5.0	0.5	1.0	KHD250E336M55A0T00	THD31E1E336MT	
	47			4.5				KHD250E476M76A0T00	THD41E1E476MT	
	68			5.0				KHD250E686M80A0B00	THD51E1E686M	
	100	13.5	15.0	5.5	10.0	0.6	2.0	KHD250E107M80A0B00	THD51E1E107M	
	150			6.0				KHD250E157M90C0B00	THD60E1E157M	
	220			6.0				KHD250E227M90C0B00	THD60E1E227M	
	330	28.5	20.0	7.5	25.0	0.8	4.0	KHD250E337M99C0B00	THD61E1E337M	
	470							KHD250E477M99C0B00	THD61E1E477M	
	50							1.0	5.0	6.5
		1.5	3.5	KHD500E155M32A0T00	THD21E1H155MT					
		2.2	3.5	KHD500E225M32A0T00	THD21E1H225MT					
		3.3	6.5	7.0	3.5	5.0	0.5	0.8	KHD500E335M43A0T00	THD30E1H335MT
4.7		4.0			KHD500E475M43A0T00				THD30E1H475MT	
6.8		4.0			KHD500E685M55A0T00				THD31E1H685MT	
10		7.5	9.0	4.5	5.0	0.5	1.0	KHD500E106M55A0T00	THD31E1H106MT	
15				4.5				KHD500E156M55A0T00	THD31E1H156MT	
22				10.0				11.5	4.5	5.0
33		13.5	15.0	5.0	10.0	0.6	2.0	KHD500E336M80A0B00	THD51E1H336M	
47		22.5	20.0	6.0	20.0	0.8	3.0	KHD500E476M90C0B00	THD60E1H476M	
68								KHD500E686M90C0B00	THD60E1H686M	
100								KHD500E107M90C0B00	THD60E1H107M	
150		28.5	20.0	7.5	25.0	0.8	4.0	KHD500E157M99C0B00	THD61E1H157M	
220								KHD500E227M99C0B00	THD61E1H227M	
100								0.33	5.0	6.5
		0.47	3.5	KHD101E474M32A0T00	THD21E2A474MT					
		0.68	3.5	KHD101E684M32A0T00	THD21E2A684MT					
	1.0	6.5	7.0	3.5	5.0	0.5	0.8	KHD101E105M43A0T00	THD30E2A105MT	
	1.5			4.0				KHD101E155M43A0T00	THD30E2A155MT	
	2.2			4.0				KHD101E225M43A0T00	THD30E2A225MT	
	3.3	7.5	9.0	4.0	5.0	0.5	1.0	KHD101E335M55A0T00	THD31E2A335MT	
	4.7			4.5				KHD101E475M55A0T00	THD31E2A475MT	
	6.8			4.5				KHD101E685M76A0T00	THD41E2A685MT	
	10	10.0	11.5	4.5	5.0	0.5	1.5	KHD101E106M80A0B00	THD51E2A106M	
	15	13.5	15.0	5.0	10.0	0.6	2.0	KHD101E156M80A0B00	THD51E2A156M	
	22	22.5	20.0	6.0	20.0	0.8	3.0	KHD101E226M90C0B00	THD60E2A226M	
	33							KHD101E336M90C0B00	THD60E2A336M	
	47							KHD101E476M99C0B00	THD61E2A476M	
	68	28.5	20.0	7.5	25.0	0.8	4.0	KHD101E686M99C0B00	THD61E2A686M	
	100							KHD101E107M99C0B00	THD61E2A107M	
	250							0.1	6.5	7.0
		0.15	4.0	KHD251E154M43A0T00	THD30E2E154MT					
0.22		4.0	KHD251E224M43A0T00	THD30E2E224MT						
0.33		4.0	KHD251E334M43A0T00	THD30E2E334MT						
0.47		7.5	9.0	4.0	5.0	0.5	1.0	KHD251E474M55A0T00	THD31E2E474MT	
0.68				4.5				KHD251E684M55A0T00	THD31E2E684MT	
1.0				4.5				KHD251E105M76A0T00	THD41E2E105MT	
1.5				5.0				KHD251E155M76A0T00	THD41E2E155MT	
2.2		10.0	11.5	5.0	10.0	0.6	2.0	KHD251E225M80A0B00	THD51E2E225M	
3.3		22.5	20.0	6.0	20.0	0.8	3.0	KHD251E335M90C0B00	THD60E2E335M	
4.7								KHD251E475M90C0B00	THD60E2E475M	
6.8								KHD251E685M99C0B00	THD61E2E685M	
10								KHD251E106M99C0B00	THD61E2E106M	
15		28.5	20.0	7.5	25.0	0.8	4.0	KHD251E156M99C0B00	THD61E2E156M	

Mouser Electronics

Authorized Distributor

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United Chemi-Con (UCC):

<u>KHD101E107M99C0B00</u>	<u>KHD500E106M55A0B00</u>	<u>KHD250E107M80A0B00</u>	<u>KHD101E106M80A0B00</u>
<u>KHD251E104M43A0B00</u>	<u>KHD250E475M32A0B00</u>	<u>KHD500E157M99C0B00</u>	<u>KHD160E156M43A0B00</u>
<u>KHD500E227M99C0B00</u>	<u>KHD251E105M76A0B00</u>	<u>KHD101E474M32A0B00</u>	<u>KHD250E156M43A0B00</u>
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<u>KHD160E107M76A0B00</u>	<u>KHD250E477M99C0B00</u>		