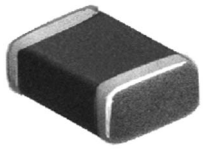
MULTILAYER CERAMIC CHIP CAPACITORS

THC Series / TMC Series
(High Reliability)

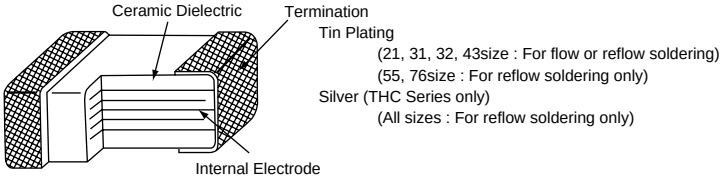
RoHS Compliant



◆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.

◆APPLICATIONS
1. Smoothing circuit of small size DC-DC converter.
2. On-board power supply.
3. Noise suppressor for various kinds of equipments.
4. By-pass or decoupling circuits.

◆CONSTRUCTION



◆RATINGS

1. Category Temperature Range	-55 to +125℃
2. Rated Voltage Range	25, 50, 100, 200Vdc
3. Rated Capacitance Range	0.047 to 47μF
4. Rated Capacitance Tolerance	M (±20%) , Z ($\pm^{80}_{20}$%)
5. Temperature Characteristics	E (JIS) ≒ Y5U (EIA)
6. Rated Ripple Current	See No.5 on the following table

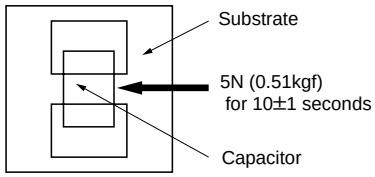
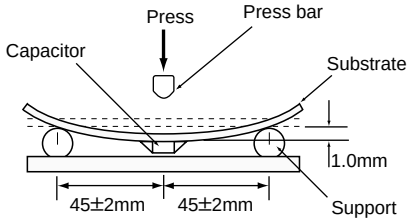
◆SPECIFICATIONS

No.	Items	Specification	Test Condition
1	Withstand Voltage	No abnormality.	250% of rated voltage shall be applied for 5 seconds.
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℃.
3	Rated Capacitance	Within specified tolerance.	Temperature : 20±2℃ Frequency : 1±0.1kHz Voltage : 1±0.2Vrms
4	Dissipation Factor	5.0% maximum.	Temperature : 20±2℃ Frequency : 1±0.1kHz Voltage : 1±0.2Vrms
5	Rated Ripple Current	Size code: 21, 31, 32, 43, 55, 76 Arms: 0.2, 0.3, 0.5, 1.0, 2.0, 3.0	10kHz～1MHz (sine curve) Ripple voltage Vp shall be less than the rated voltage.

CAT. No. E1002P

THC Series / TMC Series

◆SPECIFICATIONS

<table>
<tr><th>No.</th><th>Items</th><th>Specification</th><th>Test Condition</th></tr>
<tr><td>6</td><td>Adhesion</td><td>No visible damage.</td><td> 
</td></tr>
<tr><td>7</td><td>Bend strength of the face plating</td><td>Appearance : No visible damage.
ΔC/C : ±15%</td><td>The substrate shall be bend by 1mm at a rate of 1mm/s for 5 seconds.
 
</td></tr>
<tr><td>8</td><td>Solderability</td><td>Min. 75% of surface of the termination shall be covered with new solder</td><td><table><tr><th>Solder</th><th>Pb Free</th><th>Eutectic</th></tr><tr><td>Solder Temperature</td><td>245±5℃</td><td>235±5℃</td></tr><tr><td>Dipping Time</td><td colspan="2">2±0.5sec.</td></tr></table></td></tr>
<tr><td>9</td><td>Resistance to Soldering Heat</td><td>Appearance : No visible damage.
ΔC/C : ±15%
D.F. : To meet the initial specification.
I.R. : To meet the initial specification.</td><td>Solder Temperature : 260±5℃
Dipping Time : 2±0.5 seconds</td></tr>
<tr><td>10</td><td>Temperature Cycle</td><td>Appearance : No visible damage.
ΔC/C : ±15%
D.F. : To meet the initial specification.
I.R. : To meet the initial specification.</td><td><table><tr><th>Step</th><th>Temperature (℃)</th><th>(min.)</th></tr><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 ±3</td><td>30±3</td></tr><tr><td>4</td><td>Room temperature</td><td>3 max.</td></tr></table><Cycle>
THC series : 5 cycles
TMC series : 100 cycles</td></tr>
<tr><td>11</td><td>Humidity Load Life</td><td>Appearance : No abnormality.
ΔC/C : ±20%
D.F. : 7% maximum
I.R. : 50/C_R(MΩ) or 1000(MΩ) whichever is less.</td><td>Temperature : 40±2℃
Humidity : 90 to 95%RH
Voltage : Rated voltage
Time : $500\pm^{24}_{0}$hours</td></tr>
<tr><td>12</td><td>Endurance</td><td>Appearance : No abnormality.
ΔC/C : ±20%
D.F. : 7% maximum
I.R. : 100/C_R(MΩ) or 1000(MΩ) whichever is less.</td><td>Temperature : 85±2℃
Voltage : 200% of rated voltage.
Time : $1000\pm^{48}_{0}$hours

Temperature : 125±3℃
Voltage : Rated voltage
Time : $1000\pm^{48}_{0}$hours</td></tr>
</table>

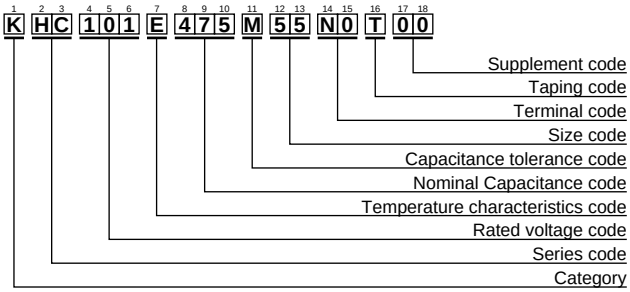
*C_R : Rated Capacitance(μF)

THC Series

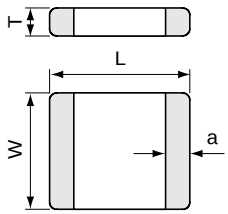
◆STANDARD RATINGS

Rated voltage (Vdc)	Rated Capacitance (μF)	Dimensions(mm) L	W	Tmax.	a	Maximum ripple current (Arms)	Part Number	Previous Part Number (Just for your reference)
25	0.33	2.0±0.2	1.25±0.2	1.25	0.3±0.2	0.2	KHC250E334M21N0T00	THCS20E1E334MTF
	0.47						KHC250E474M21N0T00	THCS20E1E474MTF
	0.68						KHC250E684M21N0T00	THCS20E1E684MTF
	1.0	3.2±0.2	1.6±0.2	1.6	0.5±0.3	0.3	KHC250E105M31N0T00	THCS30E1E105MTF
	1.5						KHC250E155M31N0T00	THCS30E1E155MTF
	2.2						KHC250E225M31N0T00	THCS30E1E225MTF
	3.3	3.2±0.2	2.5±0.2	2.0	0.6±0.3	0.5	KHC250E335M32N0T00	THCS40E1E335MTF
	4.7						KHC250E475M32N0T00	THCS40E1E475MTF
	6.8	4.5±0.3	3.2±0.2	2.2	0.6±0.3	1.0	KHC250E685M43N0T00	THCS50E1E685MTF
	10						KHC250E106M43N0T00	THCS50E1E106MTF
	15			3.0			KHC250E156M43N0T00	THCS50E1E156MTF
	22	5.7±0.4	5.0±0.4	2.2	0.8±0.5	2.0	KHC250E226M55N0T00	THCS60E1E226MTF
	33			3.0			KHC250E336M55N0T00	THCS60E1E336MTF
	47	7.5±0.5	6.3±0.5	3.0	0.8±0.5	3.0	KHC250E476M76N0T00	THCS70E1E476MTF
50	0.1	2.0±0.2	1.25±0.2	1.25	0.3±0.2	0.2	KHC500E104M21N0T00	THCS20E1H104MTF
	0.15						KHC500E154M21N0T00	THCS20E1H154MTF
	0.22						KHC500E224M21N0T00	THCS20E1H224MTF
	0.33	3.2±0.2	1.6±0.2	1.6	0.5±0.3	0.3	KHC500E334M31N0T00	THCS30E1H334MTF
	0.47						KHC500E474M31N0T00	THCS30E1H474MTF
	0.68						KHC500E684M31N0T00	THCS30E1H684MTF
	1.0	3.2±0.2	2.5±0.2	2.0	0.6±0.3	0.5	KHC500E105M32N0T00	THCS40E1H105MTF
	1.5						KHC500E155M32N0T00	THCS40E1H155MTF
	2.2			2.5			KHC500E225M32N0T00	THCS40E1H225MTF
	3.3	4.5±0.3	3.2±0.2	2.2	0.6±0.3	1.0	KHC500E335M43N0T00	THCS50E1H335MTF
	4.7			3.0			KHC500E475M43N0T00	THCS50E1H475MTF
	6.8	5.7±0.4	5.0±0.4	2.2	0.8±0.5	2.0	KHC500E685M55N0T00	THCS60E1H685MTF
	10						KHC500E106M55N0T00	THCS60E1H106MTF
	15			3.0			KHC500E156M55N0T00	THCS60E1H156MTF
	22	7.5±0.5	6.3±0.5	2.5	0.8±0.5	3.0	KHC500E226M76N0T00	THCS70E1H226MTF
100	0.047	2.0±0.2	1.25±0.2	1.25	0.3±0.2	0.2	KHC101E473M21N0T00	THCS20E2A473MTF
	0.068						KHC101E683M21N0T00	THCS20E2A683MTF
	0.1	3.2±0.2	1.6±0.2	1.6	0.5±0.3	0.3	KHC101E104M31N0T00	THCS30E2A104MTF
	0.15						KHC101E154M31N0T00	THCS30E2A154MTF
	0.22						KHC101E224M31N0T00	THCS30E2A224MTF
	0.33	3.2±0.2	2.5±0.2	2.0	0.6±0.3	0.5	KHC101E334M32N0T00	THCS40E2A334MTF
	0.47						KHC101E474M32N0T00	THCS40E2A474MTF
	0.68			2.5			KHC101E684M32N0T00	THCS40E2A684MTF
	1.0	4.5±0.3	3.2±0.2	2.2	0.6±0.3	1.0	KHC101E105M43N0T00	THCS50E2A105MTF
	1.5						KHC101E155M43N0T00	THCS50E2A155MTF
	2.2			3.0			KHC101E225M43N0T00	THCS50E2A225MTF
	3.3	5.7±0.4	5.0±0.4	2.2	0.8±0.5	2.0	KHC101E335M55N0T00	THCS60E2A335MTF
	4.7			3.0			KHC101E475M55N0T00	THCS60E2A475MTF
	6.8	7.5±0.5	6.3±0.5	3.0	0.8±0.5	3.0	KHC101E685M76N0T00	THCS70E2A685MTF
200	0.047	3.2±0.2	1.6±0.2	1.6	0.5±0.3	0.3	KHC201E473M31N0T00	THCS30E2D473MTF
	0.068						KHC201E683M31N0T00	THCS30E2D683MTF
	0.1	3.2±0.2	2.5±0.2	2.0	0.6±0.3	0.5	KHC201E104M32N0T00	THCS40E2D104MTF
	0.15						KHC201E154M32N0T00	THCS40E2D154MTF
	0.22			2.5			KHC201E224M32N0T00	THCS40E2D224MTF
	0.33	4.5±0.3	3.2±0.2	2.2	0.6±0.3	1.0	KHC201E334M43N0T00	THCS50E2D334MTF
	0.47			3.0			KHC201E474M43N0T00	THCS50E2D474MTF
	0.68	5.7±0.4	5.0±0.4	2.2	0.8±0.5	2.0	KHC201E684M55N0T00	THCS60E2D684MTF
	1.0			3.0			KHC201E105M55N0T00	THCS60E2D105MTF
	1.5	7.5±0.5	6.3±0.5	2.5	0.8±0.5	3.0	KHC201E155M76N0T00	THCS70E2D155MTF
	2.2			3.0			KHC201E225M76N0T00	THCS70E2D225MTF

◆PART NUMBERING SYSTEM



◆DIMENSIONS

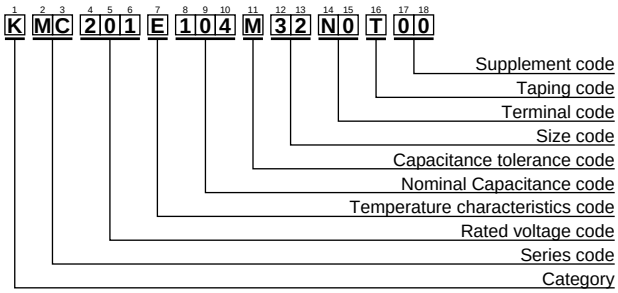


TMC Series

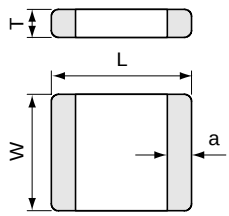
◆STANDARD RATINGS

Rated voltage (Vdc)	Rated Capacitance (μF)	Dimensions(mm) L	W	Tmax.	a	Maximum ripple current (Arms)	Part Number	Previous Part Number (Just for your reference)
25	0.68	3.2±0.2	1.6±0.2	1.6	0.4±0.2	0.3	KMC250E684M31N0T00	TMCS30E1E684MTF
	1						KMC250E105M31N0T00	TMCS30E1E105MTF
	1.5						KMC250E155M31N0T00	TMCS30E1E155MTF
	2.2	3.2±0.2	2.5±0.2	2.2	0.5±0.2	0.5	KMC250E225M32N0T00	TMCS40E1E225MTF
	3.3						KMC250E335M32N0T00	TMCS40E1E335MTF
	4.7	4.5±0.3	3.2±0.2	2.5	0.5±0.3	1.0	KMC250E475M43N0T00	TMCS50E1E475MTF
	6.8						KMC250E685M43N0T00	TMCS50E1E685MTF
	10			3.0			KMC250E106M43N0T00	TMCS50E1E106MTF
50	0.33	3.2±0.2	1.6±0.2	1.6	0.4±0.2	0.3	KMC500E334M31N0T00	TMCS30E1H334MTF
	0.47						KMC500E474M31N0T00	TMCS30E1H474MTF
	0.68	3.2±0.2	2.5±0.2	2.2	0.5±0.2	0.5	KMC500E684M32N0T00	TMCS40E1H684MTF
	1.0						KMC500E105M32N0T00	TMCS40E1H105MTF
	1.5			2.5			KMC500E155M32N0T00	TMCS40E1H155MTF
	2.2	4.5±0.3	3.2±0.2	2.5	0.5±0.3	1.0	KMC500E225M43N0T00	TMCS50E1H225MTF
	3.3						KMC500E335M43N0T00	TMCS50E1H335MTF
	4.7			3.0			KMC500E475M43N0T00	TMCS50E1H475MTF
100	0.1	3.2±0.2	1.6±0.2	1.6	0.4±0.2	0.3	KMC101E104M31N0T00	TMCS30E2A104MTF
	0.15						KMC101E154M31N0T00	TMCS30E2A154MTF
	0.22	3.2±0.2	2.5±0.2	2.2	0.5±0.2	0.5	KMC101E224M32N0T00	TMCS40E2A224MTF
	0.33						KMC101E334M32N0T00	TMCS40E2A334MTF
	0.47						KMC101E474M32N0T00	TMCS40E2A474MTF
	0.68	4.5±0.3	3.2±0.2	2.5	0.5±0.3	1.0	KMC101E684M43N0T00	TMCS50E2A684MTF
	1.0						KMC101E105M43N0T00	TMCS50E2A105MTF
	1.5			3.0			KMC101E155M43N0T00	TMCS50E2A155MTF
200	0.033	3.2±0.2	1.6±0.2	1.6	0.4±0.2	0.3	KMC201E333M31N0T00	TMCS30E2D333MTF
	0.047						KMC201E473M31N0T00	TMCS30E2D473MTF
	0.068	3.2±0.2	2.5±0.2	2.2	0.5±0.2	0.5	KMC201E683M32N0T00	TMCS40E2D683MTF
	0.1						KMC201E104M32N0T00	TMCS40E2D104MTF
	0.15			2.5			KMC201E154M32N0T00	TMCS40E2D154MTF
	0.22	4.5±0.3	3.2±0.2	2.5	0.5±0.3	1.0	KMC201E224M43N0T00	TMCS50E2D224MTF
	0.33						KMC201E334M43N0T00	TMCS50E2D334MTF
	0.47			3.0			KMC201E474M43N0T00	TMCS50E2D474MTF

◆PART NUMBERING SYSTEM



◆DIMENSIONS



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

United Chemi-Con (UCC):

KHC201E225M76R0T00 KHC101E105M43N0T00 KHC250E106M43N0T00 KHC250E226Z55N0T00 KHC101E105Z43N0T00 KHC500E225Z43R0T00 KHC500E226Z76R0T00 KHC101E155M43N0T00 KHC250E106Z43R0T00 KHC250E106Z53N0T00 KHC250E475Z32R0T00 KHC500E106Z55R0T00 KHC101E474Z32N0T00 KHC500E685Z55N0T00 KHC101E335M55N0T00 KHC101E105Z43R0T00 KHC201E155M76R0T00 KHC101E475Z55N0T00 KHC160E686M76N0T00 KHC500E475M55R0T00 KHC250E474Z21N0T00 KHC500E156M55N0T00 KHC250E226Z55R0T00 KHC250E685Z43N0T00 KHC101E225Z55N0T00 KHC500E685M55N0T00 KHC500E685M55R0T00 KHC250E476M76R0T00 KHC500E106M55R0T00+000 KHC500E106M55R0T00 KHC500E155Z32R0T00 KHC250E475Z32N0T00 KHC250E106M43R0T00 KHC101E335Z55R0T00 KHC101E155Z43N0T00 KHC500E106Z55N0T00 KHC500E226M76R0T00 KHC250E335Z32N0T00 KHC250E226M55R0T00 KHC500E335M43N0T00 KHC500E106M55S0T00 KHC500E226Z76N0T00 KHC101E105M43R0T00 KHC500E685Z55R0T00 KHC250E476M76N0T00 KHC500E226M76N0T00 KHC500E225Z43N0T00 KHC250E336Z76R0T00 KHC101E475M55R0T00 KHC500E475Z55R0T00 KHC101E475Z76N0T00 KHC250E225Z31R0T00 KHC250E225M31N0T00 KHC250E106Z43N0T00 KHC101E685M76R0T00 KHC101E225M43R0T00 KHC101E475Z76R0T00 KHC101E475M55N0T00 KHC101E685M76N0T00 KHC101E475Z55R0T00+000 KHC250E226M55N0T00 KHC500E335Z43N0T00 KHC201E105M55N0T00 KHC250E225Z31N0T00 KHC101E335Z55N0T00 KHC201E225M76N0T00 KHC101E225M43N0T00 KHC250E334Z21R0T00 KHC500E106M55N0T00 KHC201E105M55R0T00 KHC250E475M32N0T00 KHC500E156M55R0T00 KHC160E335M31N0T00 KHC101E155Z43R0T00 KHC500E335M43R0T00 KHC500E226M76R0B00

Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.

Как с нами связаться

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