

TANTALUM ELECTROLYTIC CAPACITORS

THC Series

(High reliability at High temperature (up to 150°C Tantalum Chip Capacitors))

Features

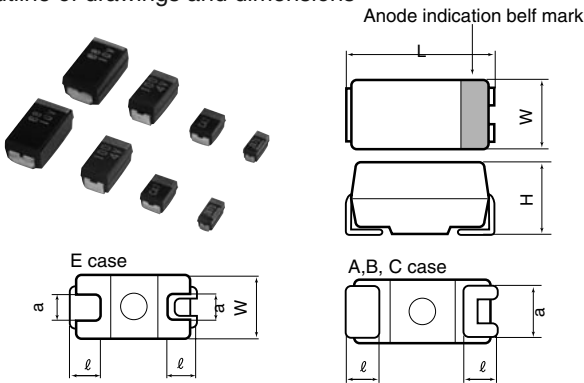
The New THC series capacitor was developed based on the existing high reliability TMCH series (which is used in many Automobile applications) with an improved internal element and higher temperature resistance. The operational temperature is up to 150°C with derating voltage.

Product symbol : (Example) THC Series E case 35V 10μF ±20%

THC E 1V 106 M T B E

Type
Terminal code
Packing polarity code
Packing method code (T:carrier tape)
Capacitance tolerance code
Capacitance code
Rated voltage code
Case size code

Outline of drawings and dimensions



Dimensions (Unit : mm)

Case code	Case size				
	L _{±0.2}	W _{±0.2}	H _{±0.2}	ℓ _{±0.3}	a _{±0.2}
A	3.2	1.6	1.6	0.7	1.2
B	3.5	2.8	1.9	0.8	2.2
C	5.8	3.2	2.5	1.3	2.2
E	7.3	4.3 _{±0.3}	2.8	1.3	2.4

Standard value and case size

Capacitance		Rated voltage (V.DC)				
μF	Code	10	16	20	25	35
		1A	1C	1D	1E	1V
0.33	334					A
0.47	474				A	
0.68	684			A		
1	105		A			B
1.5	155	A			B	
2.2	225			B		
3.3	335		B			C
4.7	475	B			C	C
6.8	685			C	C	
10	106		C	C	C/E	E
15	156	C	C	C/E	E	
22	226	C	C/E	E		
33	336	C/E	E			
47	476	E				

Product specifications	THC	Test conditions JIS C5101-3-1998																								
Operating temperature range	-55°C ~ +150°C																									
Rated voltage	DC10 ~ 35V	105°C																								
Surge voltage	DC13 ~ 45V	85°C																								
Derated voltage	DC6.3 ~ 22V	150°C																								
Capacitance	0.33 ~ 47μF																									
Capacitance tolerance	±10% or 20%	Paragraph 7.8, 120 Hz																								
Leakage current	Refer to Standard product table	Paragraph 7.7, in 5 minutes after the rated voltage is applied.																								
tanδ	Refer to Standard product table	Paragraph 7.9, 120Hz																								
Surge withstanding voltage	ΔC/C ±10% or less tanδ Specified initial value or less LC Specified initial value or less	Paragraph 7.14																								
Temperature characteristics	<table border="1"> <thead> <tr> <th>Specified initial value</th> <th>-55</th> <th>105</th> <th>150</th> </tr> </thead> <tbody> <tr> <td>ΔC/C</td> <td>-</td> <td>-10 - 0%</td> <td>0 - +10%</td> <td>0 - +20%</td> </tr> <tr> <td>tanδ</td> <td>0.04</td> <td>0.04</td> <td>0.06</td> <td>0.08</td> </tr> <tr> <td>Value shown table or less</td> <td>0.06</td> <td>0.06</td> <td>0.08</td> <td>0.10</td> </tr> <tr> <td></td> <td>0.08</td> <td>0.08</td> <td>0.10</td> <td>0.12</td> </tr> </tbody> </table> LC 0.005CV — 0.10CV or 5μA or less 0.125CV or 6.25μA or less	Specified initial value	-55	105	150	ΔC/C	-	-10 - 0%	0 - +10%	0 - +20%	tanδ	0.04	0.04	0.06	0.08	Value shown table or less	0.06	0.06	0.08	0.10		0.08	0.08	0.10	0.12	Paragraph 7.12
Specified initial value	-55	105	150																							
ΔC/C	-	-10 - 0%	0 - +10%	0 - +20%																						
tanδ	0.04	0.04	0.06	0.08																						
Value shown table or less	0.06	0.06	0.08	0.10																						
	0.08	0.08	0.10	0.12																						
Solder heat resistance	ΔC/C ±5% or less tanδ Specified initial value or less LC Specified initial value or less	Solder Dip 260±5°C A,B case C,E, case 10±1 sec. 5±0.5 sec. Reflow-260°C 10±1 sec.																								
Moisture resistance no load	ΔC/C ±5% or less tanδ 150% Specified initial value or less LC 200% Specified initial value or less	Paragraph 9.5, 85°C 85%RH, 1000hrs																								
High-temperature load	ΔC/C ±10% or less tanδ Specified initial value or less LC 125% Specified initial value or less	85°C The Rated voltage is applied for 2000hrs (Derated voltage in 150°C)																								
Thermal shock	ΔC/C ±10% or less tanδ Specified initial value or less LC 200% Specified initial value or less	Leave at -55°C, normal temperature, 125°C, and normal temperature for 30 min., 3 min., 30 min., and 3 min. Repeat this operation 1000 times running.																								
Moisture resistance load	ΔC/C ±10% or less tanδ 150% Specified initial value or less LC 200% Specified initial value or less	60°C, humidity 90 to 95%RH The rated voltage is applied for 500 hours.																								
Failure rate	0.5% / 1000hrs	85°C. The rated voltage is applied (through a protective resistor of 1 Ω/V).																								

