

# TH Series 125°C Guaranteed Products (THB/THC/THD/THE series)

## Feature

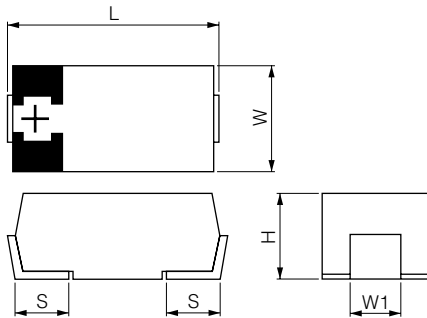
TH series has 125°C capability guaranteed. It is the most suitable for the high reliability industrial equipment.



## Specifications

Items	Condition	Characteristics			
		THB	THC	THD	THE
Series	—	THB	THC	THD	THE
Operating Temperature range	—	-55 to +125 (°C)			
Rated capacitance range	120Hz/20°C	100 to 1000 (μF)	68 to 220 (μF)	330 to 680 (μF)	150 to 330 (μF)
Capacitance tolerance	120Hz/20°C	M: ±20%			
Rated voltage	—	2.5 to 10 (V.DC)	2.5 to 10 (V.DC)	2.5 to 6.3 (V.DC)	2.5 to 6.3 (V.DC)
Dissipation Factor (D.F.)	120Hz/20°C	≤ 8.0 or 10.0 or 15.0 (%)	≤ 10.0 (%)	≤ 10.0 (%)	≤ 10.0 (%)
Leakage current	Rated voltage applied, after 5 minutes	≤ 0.1CV (μA)			
Equivalent series resistance (E.S.R. mΩmax.)	100kHz/20°C	Please see the attached characteristic list			
Temperature characteristics of Impedance ratio	100kHz/20°C	-55°C	Z/Z <sub>20°C</sub>	1.0 to 2.0	
		+125°C	Z/Z <sub>20°C</sub>	0.6 to 1.0	
Endurance	125°C, 1000h, category voltage applied	ΔC/C	Within ±20% of the initial value		
		tan δ	≤ 2 times the initial limit		
		L.C.	≤ 2 times the initial limit		
Damp heat (Steady state)	60°C, 90 to 95%RH, 500h, No voltage applied	ΔC/C	Within +50%, -20% of the initial value (2R5THB1000M) Within +40%, -20% of the initial value (Except for the above model)		
		tan δ	≤ 1.5 times the initial limit		
		L.C.	≤ 3 times the initial limit		
Surge	105°C, 1000 cycles, 1kΩ discharge resistance, surge voltage applied	ΔC/C	Within ±5% of the initial value		
		tan δ	≤ The initial limit		
		L.C.	≤ 3 times the initial limit		

## Dimensions



(unit: mm)

Size code	L*1 (±0.3)	W (±0.2)	H*2 (±0.1)	S (±0.2)	W1 (±0.1)
D2E	7.3	4.3	1.8	1.3	2.4
D2	7.3	4.3	1.9	1.3	2.4
D3L	7.3	4.3	2.8	1.3	2.4
D4	7.3	4.3	3.8	1.3	2.4
D4D	7.3	4.3	3.6	1.3	2.4

\*1 ±0.2:D2 \*2 ±0.2:D3L,D4,D4D

## Size List

μF	Series	RV (SV)	2.5 (3.2)	4.0 (5.0)	6.3 (8.0)	10.0 (13.0)
		Series				
68	THC					D2
100	THB					D3L
150	THC				D2	
	THE				D2E	
220	THB				D3L	D4
	THC	D2	D2			
	THE		D2E			
330	THB	D3L	D3L	D4	D4	
	THD				D4D	
	THE	D2E				
470	THB	D3L		D4		
	THD			D4D		
680	THB	D4	D4			
	THD	D4D				
1000	THB	D4				

## Characteristics List

Series	Size code	SANYO Part number	Rated Voltage (V)	Rated Temperature (°C)	Category Voltage (V)	Category Temperature (°C)	Rated Capacitance (μF)	D.F. (%max.)	L.C. (μA) max./5min.	E.S.R. (mΩmax.) 100kHz/20°C	Maximum allowable ripple current (mA rms) 100kHz*1	MSL		
												Reflow Temp. ≤ 260°C	Reflow Temp. ≤ 250°C	
THB	D3L	10THB100ML	10.0	105	6.3	125	100	8.0	100.0	55	1900	Under evaluation	5	
		6THB220ML	6.3	105	4.0	125	220	10.0	138.6	40	2000			
		4THB330ML	4.0	105	2.5	125	330	10.0	132.0	40	2000			
		2R5THB470ML	2.5	105	1.6	125	470	10.0	117.5	40	2000			
		2R5THB330ML	2.5	105	1.6	125	330	10.0	82.5	55	1900			
	D4	10THB330M	10.0	105	6.3	125	330	10.0	330.0	35	3000			
		10THB220M	10.0	105	6.3	125	220	10.0	220.0	40	3000			
		6THB470M	6.3	105	4.0	125	470	15.0	296.1	35	3000			
		6THB330M	6.3	105	4.0	125	330	10.0	207.9	40	3000			
		4THB680M	4.0	105	2.5	125	680	15.0	272.0	35	3000			
		2R5THB1000M	2.5	105	1.6	125	1000	15.0	250.0	30	3000			
		2R5THB680M	2.5	105	1.6	125	680	10.0	170.0	40	3000			
	THC	D2	10THC68M	10.0	105	6.3	125	68	10.0	68.0	45			1700
			6THC150M	6.3	105	4.0	125	150	10.0	94.5	40			1900
4THC220M			4.0	105	2.5	125	220	10.0	88.0	40	1900			
2R5THC220M			2.5	105	1.6	125	220	10.0	55.0	45	1700			
THE	D2E	6THE150M	6.3	105	4.0	125	150	10.0	94.5	25	2400			
		6THE150MI								18	2800			
		4THE220M	4.0	105	2.5	125	220	10.0	88.0	25	2400			
		4THE220MI								18	2800			
		4THE220MF								15	3100			
		2R5THE330M								25	2400			
		2R5THE330MI	2.5	105	1.6	125	330	10.0	82.5	18	2800			
		2R5THE330MF								15	3100			
THD	D4	6THD330M	6.3	105	4.0	125	330	10.0	207.9	10	4400			
		4THD470M	4.0	105	2.5	125	470	10.0	188.0	10	4400			
		2R5THD680M	2.5	105	1.6	125	680	10.0	170.0	10	4400			

\*1 100k to 500kHz, 45°C