

Surface mount type

# TH Series

RoHS compliance

Guaranteed at 125°C

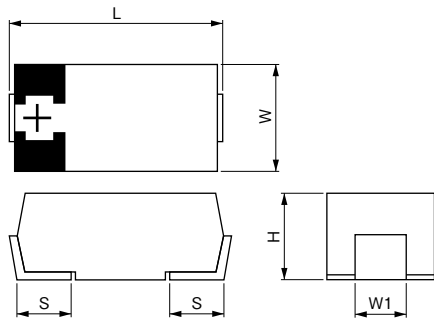
TH series has 125°C capability guaranteed. It is the most suitable for the high reliability industrial equipment.



## Specifications

Items	Condition	Specifications												
		THB			THC			THD		THE				
Series	-	2.5	4.0	6.3	10	2.5	4.0	6.3	10	2.5	6.3	2.5	4.0	6.3
Rated voltage (V)	-	2.9	4.6	7.2	12	2.9	4.6	7.2	12	2.9	7.2	2.9	4.6	7.2
Surge voltage (V)	-	-55 to +125												
Category temperature range (°C)	-	M : ±20												
Capacitance tolerance (%)	120Hz/20°C	220 to 680			68 to 220			330 to 680		150 to 330				
Rated capacitance range (μF)	120Hz/20°C	Please see the attached characteristics list												
Dissipation Factor (DF)	120Hz/20°C	Please see the attached characteristics list												
Leakage current	Rated voltage applied, after 5 minutes	Please see the attached characteristics list												
Equivalent series resistance (ESR)	100kHz/20°C	Please see the attached characteristics list												
Characteristics of impedance ratio at high temp. and low temp.	100kHz/+20°C	-55°C	Z/Z <sub>20°C</sub>		0.6 to 2.0									
		+125°C	Z/Z <sub>20°C</sub>		0.6 to 2.0									
Endurance	125°C, 1,000h, category voltage applied	ΔC/C	Within±20% of the initial value											
		DF	≤ 2 times of the initial limit											
		LC	≤ 2 times of the initial limit											
Damp heat (Steady State)	60°C, 90 to 95%RH, 500h, No-applied voltage	ΔC/C	Within+40%, -20% of the initial value											
		DF	≤ 1.5 times of the initial limit											
		LC	≤ 3 times of the initial limit											
Surge	105°C, 1,000 cycles, 1kΩ discharge resistance, surge voltage applied	ΔC/C	Within±5% of the initial value											
		DF	Within the initial limit											
		LC	≤ 3 times of the initial limit											

## Dimensions



(unit: mm)

Size code	L ±0.3※1	W ±0.2	H ±0.1※2	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

RV : Rated voltage

μF	Series	RV			
		2.5	4.0	6.3	10
68	THC				D2
	THE			D2E	
150	THB			D3L	D4
	THC	D2	D2		
220	THE		D2E		
	THB		D3L	D4	D4
330	THD			D4D	
	THE	D2E			
470	THB			D4	
	THC		D4		
680	THB				
	THD	D4D			

TH

POSCAP

POSCAP Line-up

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Image of case size

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TPSF

TPU

TPL·TPLF

TPF

TPG

TPE

TPB

TPC

TPD

TA

TH

TQC

Tantalum Solid Capacitors with Conductive Polymer

■ TH series characteristics list

Series	Size code	Part number	Rated voltage (V)	Rated temperature (°C)	Rated capacitance (μF)	Category voltage (V)	Category temperature (°C)	DF (% max)	LC (μA) max/5min.	ESR (mΩmax) 100kHz/20°C	Maximum allowable ripple current (mA rms) 100kHz※1	MSL	
												Reflow temp. ≤ 260°C	Reflow temp. ≤ 250°C
THB	D3L	6THB220ML	6.3	105	220	4.0	125	10.0	138.6	40	2000	—	5
		4THB330ML	4.0	105	330	2.5	125	10.0	132.0	40	2000	—	5
	D4	10THB330M	10	105	330	6.3	125	10.0	330.0	35	3000	—	5
		10THB220M	10	105	220	6.3	125	10.0	220.0	40	3000	—	5
		6THB470M	6.3	105	470	4.0	125	15.0	296.1	35	3000	—	5
		6THB330M	6.3	105	330	4.0	125	10.0	207.9	40	3000	—	5
		4THB680M	4.0	105	680	2.5	125	15.0	272.0	35	3000	—	5
THC	D2	10THC68M	10	105	68	6.3	125	10.0	68.0	45	1700	—	5
		6THC150M	6.3	105	150	4.0	125	10.0	94.5	40	1900	—	5
		4THC220M	4.0	105	220	2.5	125	10.0	88.0	40	1900	—	5
		2R5THC220M	2.5	105	220	1.6	125	10.0	55.0	45	1700	—	5
THE	D2E	6THE150M	6.3	105	150	4.0	125	10.0	94.5	25	2400	—	5
		6THE150MI	6.3	105	150	4.0	125	10.0	94.5	18	2800	—	5
		4THE220M	4.0	105	220	2.5	125	10.0	88.0	25	2400	—	5
		4THE220MI	4.0	105	220	2.5	125	10.0	88.0	18	2800	—	5
		4THE220MF	4.0	105	220	2.5	125	10.0	88.0	15	3100	—	5
		2R5THE330M	2.5	105	330	1.6	125	10.0	82.5	25	2400	—	5
		2R5THE330MI	2.5	105	330	1.6	125	10.0	82.5	18	2800	—	5
2R5THE330MF	2.5	105	330	1.6	125	10.0	82.5	15	3100	—	5		
THD	D4D	6THD330M	6.3	105	330	4.0	125	10.0	207.9	10	4400	—	5
		2R5THD680M	2.5	105	680	1.6	125	10.0	170.0	10	4400	—	5

Please refer to page 65 for the compensation coefficient of maximum allowable ripple current.

※1 100k to 500kHz,45°C

TH

**POSCAP**

POSCAP Line-up

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**Technical data**

- Marking
- Recommended land pattern dimension
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- Characteristics
- Reliability

**Tantalum Solid Capacitors with Conductive Polymer**

- TPSF
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