

Conductive polymer type / Surface mount type

RoHS compliance

TH Series


Guaranteed at 125°C

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

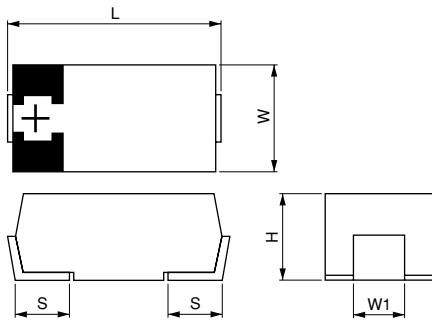
 TPB
 (Standard)

TH
 High reliability

Specifications

Items	Condition	Specifications															
		THB				THC				THD				THE			
Series	—																
Rated voltage (V)	—	2.5	4.0	6.3	10	2.5	4.0	6.3	10	2.5	4.0	6.3	10	2.5	4.0	6.3	10
Surge voltage (V)	—	3.2	5.0	8.0	13	3.2	5.0	8.0	13	3.2	5.0	8.0	13	3.2	5.0	8.0	13
Category temperature range (°C)	—	-55 to +125															
Capacitance tolerance (%)	120Hz/20°C	M : ±20															
Rated capacitance range (μF)	120Hz/20°C	100 to 1,000				68 to 220				330 to 680				150 to 330			
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 _{20°C}														
		+125°C	Z/Z _{20°C}														
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 +50%, -20% of the initial value(2R5THB1000M)														
		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	≤ 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
100	THB				D3L
150	THC			D2	
	THE			D2E	
220	THB			D3L	D4
	THC	D2	D2		
330	THE		D2E		
	THB	D3L	D3L	D4	D4
470	THD			D4D	
	THE	D2E			
680	THB	D3L		D4	
	THD	D4	D4		
1,000	THB	D4			

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	10THB100ML	10	105	100	6.3	125	8.0	100.0	55	1900	—	5	
		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	
		2R5THB470ML	2.5	105	470	1.6	125	10.0	117.5	40	2000	—	5	
		2R5THB330ML	2.5	105	330	1.6	125	10.0	82.5	55	1900	—	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	
		2R5THB1000M	2.5	105	1000	1.6	125	15.0	250.0	30	3000	—	5	
		2R5THB680M	2.5	105	680	1.6	125	10.0	170.0	40	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	
		4THD470M	4.0	105	470	2.5	125	10.0	188.0	10	4400	—	5	
		2R5THD680M	2.5	105	680	1.6	125	10.0	170.0	10	4400	—	5	

Please refer to page 71 for the compensation coefficient of maximum allowable ripple current.

※1 100k to 500kHz,45°C