

Conductive polymer type / Surface mount type

RoHS compliance

TPC Series



Low profile

TPC series has low profile and low ESR.
 TPC series aids in the miniaturization of any products.
 B1 size is miniaturized, low profile version of TPC series.

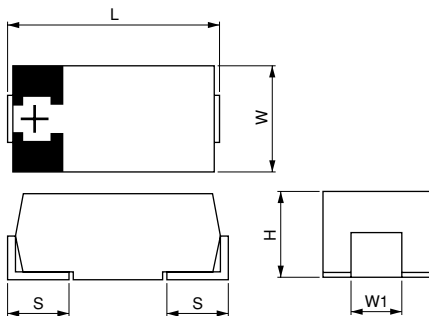
 TPB
 (Standard)

 TPC
 Low profile

Specifications

Items	Condition	Specifications					
Rated voltage (V)	—	2.5	4.0	6.3	8.0	10	12.5
Surge voltage (V)	—	3.2	5.0	8.0	10	13	16.0
Category temperature range (°C)	—	-55 to +105					
Capacitance tolerance (%)	120Hz/20°C	M: ±20					
Rated capacitance range (μF)	120Hz/20°C	33 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}	0.6 to 2.0			
		+105°C	Z/Z _{20°C}	0.6 to 2.0			
Endurance	105°C, 2,000h, rated voltage applied C1 size: 1,000h *Rated temp. 85°C products: 85°C, 1,000h, rated voltage applied	ΔC/C	Within ±20% of the initial value				
		DF	≤ 1.5 times of the initial limit				
		LC	≤ 1.5 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 *Rated temp. 85°C products: 85°C	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 ±0.2	W ±0.2	H ±0.1	S ±0.2	W1 ±0.1
B1	3.5	2.8	1.1	0.8	2.2
C1	6.0	3.2	1.4	1.3	1.8
D2	7.3	4.3	1.9	1.3	2.4

Size list

RV : Rated voltage

μF \ RV	2.5	4.0	6.3	8.0	10	12.5
10						B1
15						B1
22				B1		
33			B1	C1	B1	
47		B1	B1			
56	B1	C1				
68			C1		D2	
82	C1					
100		C1	D2,C1		D2	
150			D2	D2		
330			D2			

TPC series characteristics list

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
B1	12TPC15M	12.5	85	15	10	105	10.0	18.8	80	800	3	3
	12TPC10M	12.5	85	10	10	105	10.0	12.5	80	800	3	3
	10TPC33MB	10	85	33	8.0	105	10.0	33.0	70	1000	3	3
	8TPC22M	8.0	85	22	6.3	105	10.0	17.6	70	1000	3	3
	6TPC47MB	6.3	85	47	5.0	105	10.0	29.6	70	1000	3	3
	6TPC33M	6.3	85	33	5.0	105	10.0	20.8	70	1000	3	3
	4TPC47M	4.0	85	47	3.2	105	10.0	18.8	70	1000	3	3
	2R5TPC56M	2.5	85	56	2.0	105	10.0	14.0	70	1000	3	3
C1	8TPC33M	8.0	105	33	8.0	105	10.0	26.4	70	1200	3	3
	6TPC100MC	6.3	85	100	5.0	105	10.0	63.0	55	1300	3	3
	6TPC68M	6.3	105	68	6.3	105	10.0	42.8	55	1300	3	3
	4TPC100M	4.0	105	100	4.0	105	10.0	40.0	55	1300	3	3
	4TPC56M	4.0	105	56	4.0	105	10.0	22.4	70	1200	3	3
	2R5TPC82M	2.5	105	82	2.5	105	10.0	20.5	70	1200	3	3
D2	10TPC100M	10	105	100	10	105	10.0	100.0	45	1700	3	2a
	10TPC68M	10	105	68	10	105	10.0	68.0	45	1700	3	2a
	8TPC150M	8.0	105	150	8.0	105	10.0	120.0	40	1900	3	2a
	6TPC330MA	6.3	85	330	5.0	105	10.0	207.9	40	1900	3	2a
	6TPC150M	6.3	105	150	6.3	105	10.0	94.5	40	1900	3	2a
	6TPC100M	6.3	105	100	6.3	105	10.0	63.0	45	1700	3	2a

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

※1 100k to 500kHz, 45°C