

TPC Series

Low Profile Products

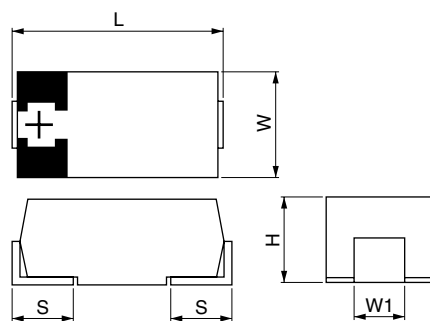


TPC series has low profile and low ESR. TPC series aids in the miniaturization of any products.

Specifications

Items	Condition			Specifications				
Rated voltage (V)	—			2.5	4.0	6.3	8.0	10
Surge voltage (V)	—			3.2	5.0	8.0	10	13
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	△C/C		Within±20% of the initial value				
		DF		≤ 1.5 times the initial limit				
		LC		≤ The initial limit				
Damp heat (Steady State)	60°C,90 to 95%RH,500h, No-applied voltage	△C/C		Within+40%,−20% of the initial value				
		DF		≤ 1.5 times the initial limit				
		LC		≤ 3 times the initial limit				
Surge	105°C, 1,000 cycles, 1kΩ discharge resistance, surge voltage applied ※ 6TPC330MA:85°C	△C/C		Within±5% of the initial value				
		DF		≤ The initial limit				
		LC		≤ 3 times the initial limit				

Dimensions



(unit: mm)

Size code	L ±0.2	W ±0.2	H ±0.1	S ±0.2	W1 ±0.1
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

RV μF	2.5	4.0	6.3	8.0	10
33				C1	
56		C1			
68			C1		D2
82	C1				
100		C1	D2, C1		D2
150		D2	D2	D2	
220	D2	D2			
330	D2		D2		

■ TPC Series Characteristics List

Size code	SANYO 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
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		
	6TPC68M	6.3	105	68	6.3	105	10.0	42.8	55	1300		
	4TPC100M	4.0	105	100	4.0	105	10.0	40.0	55	1300		
	4TPC56M	4.0	105	56	4.0	105	10.0	22.4	70	1200		
	2R5TPC82M	2.5	105	82	2.5	105	10.0	20.5	70	1200		
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		
	8TPC150M	8.0	105	150	8.0	105	10.0	120.0	40	1900		
	6TPC330MA	6.3	85	330	5.0	105	10.0	207.9	40	1900		
	6TPC150M	6.3	105	150	6.3	105	10.0	94.5	40	1900		
	6TPC100M	6.3	105	100	6.3	105	10.0	63.0	45	1700		
	4TPC220M	4.0	105	220	4.0	105	10.0	88.0	40	1900		
	4TPC150M	4.0	105	150	4.0	105	10.0	60.0	45	1700		
	2R5TPC330M	2.5	105	330	2.5	105	10.0	82.5	40	1900		
	2R5TPC220M	2.5	105	220	2.5	105	10.0	55.0	45	1700		

Please refer to page 141 for the compensation coefficient of maximum allowable ripple current.

※1 100k to 500kHz, 45°C

TPC Series

B1 Size



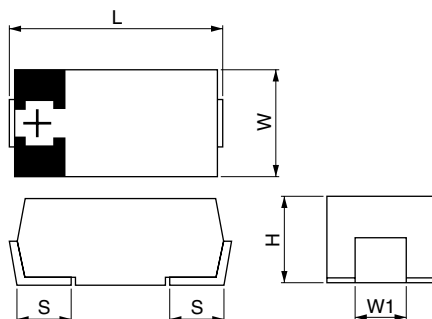
B1 size is miniaturized, low profile version of TPC series.

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
Category temperature range (°C)	—			−55 to +105					
Capacitance tolerance (%)	120Hz/20°C			M : ±20					
Rated capacitance range (μF)	120Hz/20°C			10 to 56					
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	85°C, 1,000h, Rated voltage applied or 105°C, 1,000h, category voltage applied	ΔC/C		Within±20% of the initial value					
		DF		≤ 1.5 times the initial limit					
		LC		≤ 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 the initial limit					
		LC		≤ 3 times the initial limit					
Surge	85°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 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

Size List

RV : Rated voltage

µF	RV 2.5	RV 4.0	RV 6.3	RV 8.0	RV 10	RV 12.5
10						B1
15						B1
22				B1		
33			B1		B1	
47		B1	B1			
56	B1					

TPC Series Characteristics List

Size code	SANYO 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	
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		
	10TPC33MB	10	85	33	8.0	105	10.0	33.0	70	1000		
	8TPC22M	8.0	85	22	6.3	105	10.0	17.6	70	1000		
	6TPC47MB	6.3	85	47	5.0	105	10.0	29.6	70	1000		
	6TPC33M	6.3	85	33	5.0	105	10.0	20.8	70	1000		
	4TPC47M	4.0	85	47	3.2	105	10.0	18.8	70	1000		
	2R5TPC56M	2.5	85	56	2.0	105	10.0	14.0	70	1000		

Please refer to page 141 for the compensation coefficient of maximum allowable ripple current.

※1 100k to 500kHz, 45°C