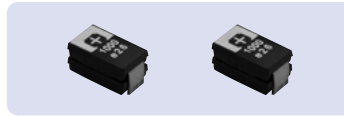


Conductive polymer type / Surface mount type

RoHS compliance

# TPD Series



Low ESR  
High capacitance

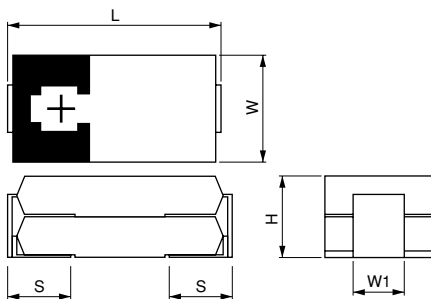
TPD series has low ESR and high capacitance. It is the most suitable for the high frequency and high current switching power supply applications.



## Specifications

Items	Condition		Specifications		
Rated voltage (V)	-		2.5	4.0	6.3
Surge voltage (V)	-		3.2	5.0	8.0
Category temperature range (°C)	-		-55 to +105		
Capacitance tolerance (%)	120Hz/20°C		M : ±20		
Rated capacitance range (μF)	120Hz/20°C		470 to 1000		
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	
		+105°C	Z/Z <sub>20°C</sub>	0.6 to 2.0	
Endurance	105°C, 2,000h, 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	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	W ±0.2	H ±0.2	S ±0.2	W1 ±0.1
D4D	7.3	4.3	3.6	1.3	2.4

## Size list

RV : Rated voltage

RV	2.5	4.0	6.3
μF			
470	D4D		D4D
680	D4D	D4D	
1,000	D4D		

## TPD 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
D4D	6TPD470M	6.3	105	470	6.3	105	10.0	296.1	10	4400	3	2a
	4TPD680M	4.0	105	680	4.0	105	10.0	272.0	10	4400	3	2a
	2R5TPD1000M	2.5	105	1000	2.5	105	10.0	250.0	10	4400	3	2a
	2R5TPD1000M8	2.5	105	1000	2.5	105	10.0	250.0	8	4900	3	2a
	2R5TPD1000M6	2.5	105	1000	2.5	105	10.0	250.0	6	5600	3	2a
	2R5TPD1000M5	2.5	105	1000	2.5	105	10.0	250.0	5	6100	3	2a
	2R5TPD680M6	2.5	105	680	2.5	105	10.0	170.0	6	5600	3	2a
	2R5TPD680M5	2.5	105	680	2.5	105	10.0	170.0	5	6100	3	2a
	2R5TPD470M6	2.5	105	470	2.5	105	10.0	117.5	6	5600	3	2a
	2R5TPD470M5	2.5	105	470	2.5	105	10.0	117.5	5	6100	3	2a

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

※1 100k to 500kHz, 45°C