

Surface mount type

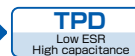
TPD Series

RoHS compliance

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.

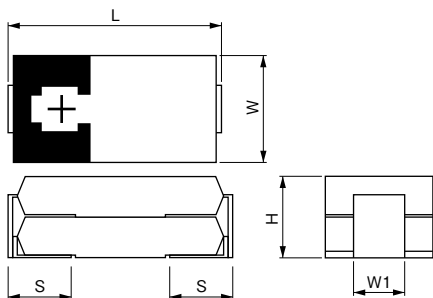


Specifications

Items	Condition		Specifications		
Rated voltage (V)	-		2.5	4.0	6.3
Surge voltage (V)	-		2.9	4.6	7.2
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 _{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	ΔC/C	Within±20% of the initial value		
		DF	≤ 1.5 times of the initial limit		
		LC	Within 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	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

μF \ RV	2.5	4.0	6.3
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 (mArms) 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 65 for the compensation coefficient of maximum allowable ripple current.

※1 100k to 500kHz, 45°C

TPD

POSCAP

POSCAP Line-up

Guidelines and precautions for use

Series system diagram

Image of case size

Products list

Explanation of part numbers

Packing specifications

Marking

Recommended land pattern dimension

Recommended soldering condition

Fundamental structure

Characteristics

Reliability

Selection guide

Technical data

TPSF

TPU

TPL-TPLF

TPF

TPG

TPE

TPB

TPC

TPD

TA

TH

TQC

Tantalum Solid Capacitors with Conductive Polymer