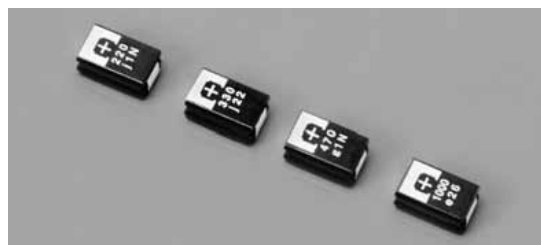


TPD Series

Low ESR High Capacitance Products

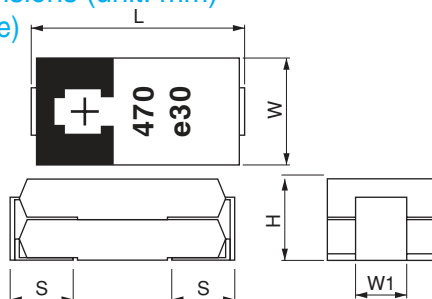
TPD series has low ESR and high capacitance. It is the most suitable for the high frequency and high current switching power supply applications.



Specifications

Items	Condition	Characteristics		
Operating Temperature range	—	-55 to +105 (°C)		
Rated capacitance range	120Hz/20°C	150 to 1000 (μF)		
Capacitance tolerance	120Hz/20°C	M: ±20%		
Rated voltage	—	2.5 to 10 (V.DC)		
Dissipation Factor (D.F.)	120Hz/20°C	≤ 10.0 (%)		
Leakage current	Rated voltage applied, after 5 minutes	≤ 0.1CV (μA)		
Equivalent series resistance ESR (mΩmax.)	100kHz/20°C	Please see the attached characteristics list		
Temperature characteristics of Impedance ratio	100kHz/+20°C	-55°C	Z/Z _{20°C}	1.0 to 2.0
		+105°C	Z/Z _{20°C}	0.6 to 1.0
Endurance	105°C, 2000h, rated voltage applied	ΔC/C	Within ±20% of the initial value	
		D.F.	≤ 1.5 times the initial limit	
		L.C.	≤ The initial limit	
Damp heat (Steady state)	60°C, 90 to 95%RH, 500h, No voltage applied	ΔC/C	Within +40%, -20% of the initial value	
		D.F.	≤ 1.5 times the initial limit	
		L.C.	≤ 3 times the initial limit	
Surge	105°C, 1000 cycles, 1kΩ discharge resistance, surge voltage applied	ΔC/C	Within ±5% of the initial value	
		D.F.	≤ The initial limit	
		L.C.	≤ 3 times the initial limit	

Dimensions (unit: mm) (D4D size)



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

μF \ RV (V)	2.5 (3.2)	4.0 (5.0)	6.3 (8.0)	10.0 (13.0)
150				D4D
220			D4D	
330		D4D	D4D	
470	D4D	D4D	D4D	
680	D4D	D4D		
1000	D4D			

Characteristics list

Size code	SANYO Part number	Rated Voltage (V)	Rated Capacitance (μF)	D.F. (%max.)	L.C. (μA) max./5min.	E.S.R. (mΩmax) 100kHz/20°C	Maximum allowable ripple current (mA _{rms}) 100kHz*1
D4D	10TPD150M	10.0	150	10.0	150.0	15	3600
	6TPD220M	6.3	220	10.0	138.6	12	4000
	6TPD330M	6.3	330	10.0	207.9	10	4400
	6TPD470M	6.3	470	10.0	296.1	10	4400
	4TPD330M	4.0	330	10.0	132.0	12	4000
	4TPD470M	4.0	470	10.0	188.0	10	4400
	4TPD680M	4.0	680	10.0	272.0	10	4400
	2R5TPD470M	2.5	470	10.0	117.5	10	4400
	2R5TPD470M8					8	4900
	2R5TPD470M6					6	5600
	2R5TPD470M5					5	6100
	2R5TPD680M	2.5	680	10.0	170.0	10	4400
	2R5TPD680M8					8	4900
	2R5TPD680M6					6	5600
	2R5TPD680M5					5	6100
	2R5TPD1000M	2.5	1000	10.0	250.0	10	4400
	2R5TPD1000M8					8	4900
	2R5TPD1000M6					6	5600
	2R5TPD1000M5					5	6100

*1: 100k to 500kHz, 45°C