

## TPD Series

### Low ESR High Capacitance Products

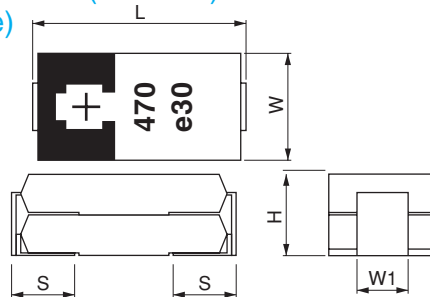
TPD series has low ESR and high capacitance. It is the most suitable for the high frequency and high current switching power supply applications.



#### Specifications

Operating Temperature range (°C)			-55 to +105
Rated capacitance range (120Hz/20°C) (μF)			150 to 1000
Capacitance tolerance (120Hz/20°C)			M:±20%
Rated voltage (V.DC)			2.5 to 10
Dissipation Factor (D.F.) (120Hz/20°C) (%)			≤10.0
Leakage current (Rated voltage applied, after 5 minutes) (μA)			≤0.1CV
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 <sub>20°C</sub>	1.0 to 2.0
	+105°C	Z/Z <sub>20°C</sub>	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) (D4 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 (sv)	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 (mArms) 100kHz*1
D4	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*2	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*2	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*2					6	5600
2R5TPD1000M5*2	5					6100	

\*1:100k to 500kHz, 45°C \*2:Under development