

## TPE Series

### Low ESR Products (D2E, D3L, D4 Size)

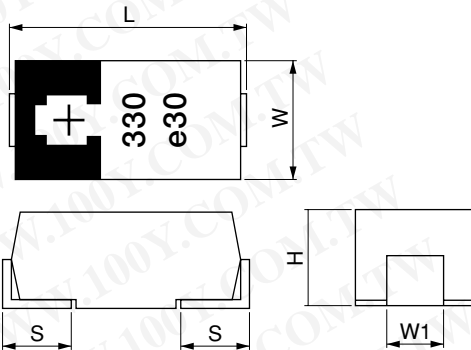
TPE series has low ESR and can aid in the miniaturization of many products.



### Specifications

Items	Condition	Characteristics		
Operating Temperature range	—	-55 to +105 (°C)		
Rated capacitance range	120Hz/20°C	68 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 (%) ※D4size: ≤ 15.0 (%)		
Leakage current	Rated voltage applied, after 5 minutes	≤ 0.1CV (μA)		
Equivalent series resistance ESR (mΩ max.)	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 ※Rated temp, 85°C products: 85°C, 1000h, 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+50%, -20% of the initial value (2R5TPE470M (I.F.C.9) 2R5TPE330M (I.F.C.9), 2R5TPE220M (I.F.C.9) 2R5TPE100M (I.F.) Within+40%, -20% of the initial value (Except for the above model)
		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 ※6TPE330MAP: 85°C	ΔC/C		Within±5% of the initial value
		D.F.		≤ The initial limit
		L.C.		≤ 3 times the initial limit

### Dimensions (unit: mm) (D2E, D3L, D4 size)



Size code	L (±0.3)	W (±0.2)	H*1 (±0.2)	S (±0.2)	W1 (±0.1)
D2E	7.3	4.3	1.8	1.3	2.4
D3L	7.3	4.3	2.8	1.3	2.4
D4	7.3	4.3	3.8	1.3	2.4

※1 ±0.1: D2E

### Size List

RV (SV)	2.5 (3.2)	4.0 (5.0)	6.3 (8.0)	10.0 (13.0)
68				D2E
100			D2E	
150		D2E	D2E	
220	D2E	D2E	D2E	D3L
330	D2E	D2E	D2E/D3L	D4
470	D2E	D3L	D4	
680	D3L	D4	D4	
1000	D4			

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

## TPE Series (D2E,D3L,D4 Size)

### Characteristics List

(Rated Temperature 105°C products)

Size code	SANYO Part number	Rated Voltage (V)	Rated Capacitance (μF)	D.F. (%max.)	L.C. (μA) Max./5min.	E.S.R. (mΩ max.) 100kHz/20°C	Maximum allowable ripple current (mA rms) 100kHz*1	MSL	
								Reflow Temp. ≤260°C	Reflow Temp. ≤250°C
D2E	10TPE68M	10.0	68	10.0	68.0	25	2400	3	2a
	6TPE100M	6.3	100	10.0	63.0	25	2400		
	6TPE100MI					18	2800		
	6TPE150M	6.3	150	10.0	94.5	25	2400		
	6TPE150MI					18	2800		
	6TPE220M	6.3	220	10.0	138.6	25	2400		
	6TPE220MI					18	2800		
	4TPE150M	4.0	150	10.0	60.0	25	2400		
	4TPE150MI					18	2800		
	4TPE220M	4.0	220	10.0	88.0	25	2400		
	4TPE220MI					18	2800		
	4TPE220MF					15	3100		
	4TPE330M					25	2400		
	4TPE330MI	4.0	330	10.0	132.0	18	2800		
	2R5TPE220M					25	2400		
	2R5TPE220MI	2.5	220	10.0	55.0	18	2800		
	2R5TPE220MF					15	3100		
	2R5TPE220MC					12	3500		
	2R5TPE220M9					9	3900		
	2R5TPE330M					25	2400		
	2R5TPE330MI					18	2800		
	2R5TPE330MF	2.5	330	10.0	82.5	15	3100		
	2R5TPE330MC					12	3500		
	2R5TPE330M9					9	3900		
2R5TPE470M	25					2400			
2R5TPE470MI	2.5	470	10.0	117.5	18	2800			
2R5TPE470MF					15	3100			
2R5TPE470MC					12	3500			
2R5TPE470M9					9	3900			
D3L	10TPE220ML	10.0	220	10.0	220.0	25	2400	3	2a
	6TPE330ML	6.3	330	10.0	207.9	25	2400		
	6TPE330MIL					18	2800		
	4TPE470ML	4.0	470	10.0	188.0	25	2400		
	4TPE470MIL					18	2800		
	4TPE470MFL					15	3100		
	4TPE470MCL					12	3500		
	2R5TPE680ML	2.5	680	10.0	170.0	25	2400		
	2R5TPE680MIL					18	2800		
	2R5TPE680MFL					15	3100		
	2R5TPE680MCL					12	3500		
	D4	10TPE330M	10.0	330	10.0	330.0	25		
6TPE470M		6.3	470	15.0	296.1	25	3000		
6TPE470MI						18	3500		
6TPE680M*2		6.3	680	15.0	428.4	25	3000		
6TPE680MI*2						18	3500		
4TPE680M		4.0	680	15.0	272.0	25	3000		
4TPE680MI						18	3500		
4TPE680MF						15	3900		
2R5TPE1000M						25	3000		
2R5TPE1000MI		2.5	1000	15.0	250.0	18	3500		
2R5TPE1000MF	15					3900			

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

(Rated Temperature 85°C products)

Size code	SANYO Part number	Rated Voltage (V)	Rated temperature (°C)	Category voltage (V)	Category temperature (°C)	Rated Capacitance (μF)	D.F. (%max.)	L.C. (μA) max./5min.	E.S.R. (mΩ max.) 100kHz/20°C	Maximum allowable ripple current (mA rms) 100kHz	MSL	
											Reflow Temp. ≤260°C	Reflow Temp. ≤250°C
D2E	6TPE330MAP	6.3	85	5.0	105	330	10.0	207.9	25	2400	3	2a