

TPE Series

Low ESR Products

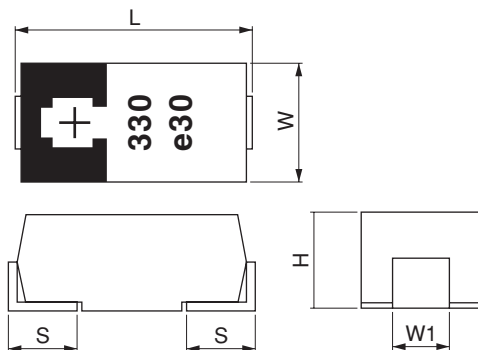
TPE series has low ESR and can aid in the miniaturization of many products.



Specifications

Operating Temperature range (°C)	-55 to +105		
Rated capacitance range (120Hz/20°C) (μF)	68 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 (mΩ max.) (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+50%, -20% of the initial value (2R5TPE470M (1,F,C,9), 2R5TPE330M (1,F,C,9), 2R5TPE220M (1,F,C,9), 2R5TPE1000M (1,F))
	D.F.		Within+40%, -20% of the initial value (Except for the above model)
	L.C.		≤ 1.5 times the initial limit
Surge (105°C, 1000 cycles, 1kΩ discharge resistance, surge voltage applied)	ΔC/C		≤ 3 times the initial limit
	D.F.		Within±5% of the initial value
	L.C.		≤ The initial limit

Dimensions (unit: mm) (C3,D2E,D3L,D4 size)



Size code	L* ¹ (±0.3)	W (±0.2)	H* ² (±0.2)	S (±0.2)	W1 (±0.1)
C3	6.0	3.2	2.5	1.3	1.8
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 ±0.2: C3
※2 ±0.1: D2E

Size List

RV (SV)	2.5 (3.2)	4.0 (5.0)	6.3 (8.0)	10.0 (13.0)
μF				
68				D2E
100			D2E	
150		D2E	D2E, C3	
220	D2E	D2E, C3	D2E	D3L
330	D2E, C3	D2E	D3L	D4
470	D2E	D3L	D4	
680	D3L	D4		
1000	D4			

TPE Series

Characteristics list

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
D2E	10TPE68M	10.0	68	10.0	68.0	25	2400
	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	4.0	330	10.0	132.0	25	2400
	4TPE330MI					18	2800
	2R5TPE220M	2.5	220	10.0	55.0	25	2400
	2R5TPE220MI					18	2800
	2R5TPE220MF					15	3100
	2R5TPE220MC					12	3500
	2R5TPE220M9					9	3900
	2R5TPE330M	2.5	330	10.0	82.5	25	2400
	2R5TPE330MI					18	2800
	2R5TPE330MF					15	3100
	2R5TPE330MC					12	3500
	2R5TPE330M9					9	3900
	2R5TPE470M	2.5	470	10.0	117.5	25	2400
	2R5TPE470MI					18	2800
	2R5TPE470MF					15	3100
	2R5TPE470MC					12	3500
	2R5TPE470M9					9	3900
D3L	10TPE220ML	10.0	220	10.0	220.0	25	2400
	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 *2					12	3500
	2R5TPE680ML	2.5	680	10.0	170.0	25	2400
	2R5TPE680MIL					18	2800
	2R5TPE680MFL					15	3100
	2R5TPE680MCL *2					12	3500
D4	10TPE330M	10.0	330	10.0	330.0	25	3000
	6TPE470M	6.3	470	10.0	296.1	25	3000
	6TPE470MI					18	3500
	4TPE680M	4.0	680	10.0	272.0	25	3000
	4TPE680MI					18	3500
	4TPE680MF					15	3900
	2R5TPE1000M	2.5	1000	10.0	250.0	25	3000
	2R5TPE1000MI					18	3500
	2R5TPE1000MF					15	3900
C3	6TPE150MPC	6.3	150	8.0	94.0	25	2400
	4TPE220MPC	4.0	220	8.0	88.0	25	2400
	4TPE220MIC *2					18	2800
	2R5TPE330MPC	2.5	330	8.0	82.5	25	2400
	2R5TPE330MIC					18	2800

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