

- Low ESR (5 mΩ)
- Large capacitance (1,000 μF max.)
- RoHS compliance, Halogen free



Specifications

Items	Specifications		
	D2E	D3L	D4
Size code	D2E	D3L	D4
Category temperature range	-55 to +105 °C		
Rated voltage range	2.0 to 10 V.DC		
Rated capacitance range	220 to 330 μF	150 to 680 μF	470 to 1000 μF
Capacitance tolerance	±20 % (120 Hz/+20 °C)		
Leakage current	Please see the attached characteristics list		
Dissipation factor(tan δ)	Please see the attached characteristics list		
Surge voltage	Rated voltage x1.15		
Endurance	105 °C, 2,000 h, 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, 500 h, No-applied voltage		
	ΔC/C	Within +50 %, -20 % of the initial value (2TPF220M6, 2TPF330M6, ETPF1000M6H (5H))	
		Within +40 %, -20 % of the initial value (Except for above model)	
	DF	≤1.5 times of the initial limit	
	LC	≤3 times of the initial limit	

Marking and dimensions

(unit : mm)

Size code	L ±0.3	W ±0.2	H ±0.2*1	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

R. Voltage (V.DC)	2.0	2.5	4.0	6.3	10.0
Code	d	e	g	j	A

Characteristics list

Series	Rated voltage (V.DC)	Rated temp. (°C)	Category voltage (V.DC)	Category temp. (°C)	Rated capacitance (μF)	Case size (mm)			Size code	Specifications				Standard	
						L	W	H		Maximum allowable ripple current (mA rms) 100 kHz ※1	ESR ※2 (mΩ max.)	tan δ ※3	LC ※4 (μA)	Part number	Min. Packaging Qty (pcs)
TPF	2	105	2.0	105	220	7.3	4.3	1.8	D2E	4700	6	0.10	88.0	2TPF220M6	3000
		105	2.0	105	330	7.3	4.3	1.8	D2E	4700	6	0.10	132.0	2TPF330M6	3000
	2.5	105	2.5	105	330	7.3	4.3	2.8	D3L	4400	7	0.10	82.5	2R5TPF330M7L	2500
										4400	6	0.10	117.5	2R5TPF470M6L	2500
		105	2.5	105	470	7.3	4.3	2.8	D3L	4400	7	0.10	117.5	2R5TPF470M7L	2500
										4400	10	0.10	117.5	2R5TPF470ML	2500
		105	2.5	105	470	7.3	4.3	3.8	D4	6100	5	0.10	117.5	ETPF470M5H	2000
										4400	6	0.10	170.0	2R5TPF680M6L	2500
		105	2.5	105	680	7.3	4.3	2.8	D3L	4400	7	0.10	170.0	2R5TPF680M7L	2500
										4400	10	0.10	170.0	2R5TPF680ML	2500
		105	2.5	105	680	7.3	4.3	3.8	D4	6100	5	0.10	170.0	ETPF680M5H	2000
										6100	5	0.10	250.0	ETPF1000M5H	2000
		105	2.5	105	1000	7.3	4.3	3.8	D4	5600	6	0.10	250.0	ETPF1000M6H	2000
										4000	12	0.10	132.0	4TPF330ML	2500
	4	105	4.0	105	470	7.3	4.3	2.8	D3L	4400	10	0.10	188.0	4TPF470ML	2500
										4400	10	0.10	272.0	4TPF680MAH	2000
										6100	5	0.10	138.6	6TPF220M5L	2500
	6.3	105	6.3	105	220	7.3	4.3	2.8	D3L	4600	9	0.10	138.6	6TPF220M9L	2500
										4000	12	0.10	138.6	6TPF220ML	2500
										3900	9	0.10	207.9	6TPF330M9L	2500
		105	6.3	105	330	7.3	4.3	2.8	D3L	4400	10	0.10	296.1	6TPF470MAH	2000
										7.3	4.3	2.8	D3L	3600	15
10	105	10.0	105	150	7.3	4.3	2.8	D3L	3600	15	0.10	150.0	10TPF150ML	2500	

※1: Ripple current (100 kHz/ +45 °C), ※2: ESR (100 kHz/+20 °C) ※3: tan δ (120 Hz/+20 °C) ※4: After 5 minutes

◆Please refer to each page in this catalog for "Reflow conditions" and "Taping specifications".

※: Small order quantity (500 pcs/reel) is available with TPF series. Please contact our sales representative if you prefer it.