

Surface mount type

TPU Series

RoHS compliance, Halogen free
Small size, Low profile: L2.0xW1.25xH0.9mm (S09)
Face down terminal type

Specifications

Items	Condition	Specifications			
		2.5	4.0	6.3	10
Rated voltage (V)	—	2.5	4.0	6.3	10
Surge voltage (V)	—	2.9	4.6	7.2	12
Category temperature range (°C)	—	-55 to +85			
Capacitance tolerance (%)	120Hz/20°C	M: ±20			
Rated capacitance range (μF)	120Hz/20°C	4.7 to 150			
Dissipation Factor (DF)	120Hz/20°C	Please see the attached characteristics list			
Leakage current	Rated voltage applied, after 5 minutes	Please see the attached characteristics list			
Equivalent series resistance (ESR)	100kHz/20°C	Please see the attached characteristics list			
Characteristics of impedance ratio at high temp. and low temp.	100kHz/+20°C	-55°C	Z/Z _{20°C}	0.6 to 2.0	
		+85°C	Z/Z _{20°C}	0.6 to 2.0	
Endurance	85°C, 1,000h, 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, 500h, No-applied voltage	ΔC/C	Within+40%, -20% of the initial value		
		DF	≤ 1.5 times of the initial limit		
		LC	≤ 3 times of the initial limit		
Surge	85°C, 1,000 cycles, 1kΩ discharge resistance, surge voltage applied	ΔC/C	Within±5% of the initial value		
		DF	Within the initial limit		
		LC	≤ 3 times of the initial limit		

Marking and dimensions

S09size

B09size

※1 The rated voltage is as follows.

R.V.	2.5	4.0	6.3	10
Mark	e	g	j	A

※2 Lot.No.shows roughly manufacturing date.

※3 The rated capacitance is as follows.(B09)

Capacitance(μF)	150
Mark	E8

※4 The rated capacitance is as follows.(S09)

R. Cap.(μF)	4.7	10	22	47	68	100
Mark	s	A	J	S	W	A

(unit : mm)

Size code	L ±0.1※1	W ±0.1※1	H ±0.1	S ±0.1※1	W1 ±0.1
S09	2.0	1.25	0.9	0.5	0.9
B09	3.5	2.8	0.9	0.8	2.2

※1 ±0.2:B09

Recommended land pattern dimension of PWB

Size code	a	b	c
S09	1	0.9	0.6
B09	1.6	2.7	1.4

(unit : mm)

Size list

RV:Rated voltage

μF \ RV	2.5	4.0	6.3	10
4.7				S09
10			S09	
22			S09	
47	S09		S09	
68		S09		
100	S09			
150			B09	

TPU series characteristics list

Size code	Part number	Rated voltage (V)	Rated temperature (°C)	Rated capacitance (μF)	Category voltage (V)	Category temperature (°C)	DF (% max)	LC (μA) max/5min.	ESR (mΩmax) 100kHz/20°C	Maximum allowable ripple current (mA rms) 100kHz※1	MSL	
											Reflow temp. ≤ 260°C	Reflow temp. ≤ 250°C
S09	10TPU4R7MSI	10	85	4.7	10	85	10	4.7	300	360	3	3
	6TPU47MSI	6.3	85	47	6.3	85	10	59.2	150	510	—	3
	6TPU22MSI	6.3	85	22	6.3	85	10	27.7	150	510	—	3
	6TPU10MSI	6.3	85	10	6.3	85	10	6.3	250	400	—	3
	4TPU68MSI	4.0	85	68	4.0	85	10	54.4	150	510	—	3
	ETPU100MSI	2.5	85	100	2.5	85	10	50.0	150	510	—	3
	2R5TPU47MSI	2.5	85	47	2.5	85	10	23.5	150	510	—	3
	6TPU150MBI	6.3	85	150	6.3	85	10	94.5	100	670	3	3

※1 100k to 500kHz,45°C