

Surface
mount type

TPG



Update

Series

RoHS compliance, Halogen free

Small size, Low profile: L3.5xW2.8xH1.1mm (B1G)

Large capacitance: 6.3V220 μ F (B15G)

Specifications

Items		Condition		Specifications					
Rated voltage	(V)	—		2.5	4.0	6.3	8.0	10	12.5
Surge voltage	(V)	—		2.9	4.6	7.2	9.2	12	14
Category temperature range	(°C)	—		−55 to +105					
Capacitance tolerance	(%)	120Hz/20°C		M : ± 20					
Rated capacitance range	(μ F)	120Hz/20°C		33 to 220					
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				
			+105°C	Z/Z _{20°C}	0.6 to 2.0				
Endurance	85°C, 1,000h rated voltage applied		Δ C/C		Within $\pm 20\%$ 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		Δ C/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, 1k Ω discharge resistance, surge voltage applied		Δ C/C		Within $\pm 5\%$ of the initial value				
			DF		Within the initial limit				
			LC		≤ 3 times of the initial limit				

Marking and dimensions

Top view: Length L, Width W. The left end features a cross symbol (+) on a black background.

Side view: Height H. The bottom has two mounting tabs, each with a width of S.

End view: Width W1.

The marking diagram shows the following labels on the capacitor's surface:

- Anode(+): Indicated by an arrow pointing to the cross symbol.
- Rated capacitance^{※3}: Indicated by a dashed box around the code "A8".
- Rated voltage^{※1}: Indicated by a dashed box around the code "G".
- Lot. No.^{※2}: Indicated by a dashed box around the code "15".

※1 The rated voltage is as follows.

R.V.	2.5	4.0	6.3	8.0	10	12.5
Mark	e	g	j	k	A	B

※2 Lot.No.shows roughly manufacturing date.

※3 The rated capacitance is as follows.

Capacitance(μ F)	33	47	100	150	220
Mark	N7	S7	A8	E8	J8

(unit : mm)

Size code	L $\begin{smallmatrix} +0.3 \\ -0.1 \end{smallmatrix}$	W $\begin{smallmatrix} +0.3 \\ -0.1 \end{smallmatrix}$	H ± 0.1	S ± 0.2	W1 ± 0.1
B1G	3.5	2.8	1.1	0.8	2.2
B15G	3.5	2.8	1.4	0.8	2.2

Recommended land pattern dimension of PWB

The diagram illustrates the layout of two square panels. Each panel has a width of a and a height of b . The horizontal distance between the right edge of the first panel and the left edge of the second panel is labeled c .

(unit : mm)

Size code	a	b	c
B1G	1.6	2.7	1.4
B15G	1.6	2.7	1.4

Size list

		RV:Rated voltage					
μ F	RV	2.5	4.0	6.3	8.0	10.0	12.5
33							B1G
47					B1G	B1G	
100				B1G			
150				B15G			
220	B1G,B15G	B15G					

TPG series characteristics list

Size code	Part number	Rated voltage (V)	Rated temperature (°C)	Rated capacitance (μ F)	Category voltage (V)	Category temperature (°C)	DF (% max)	LC (μ A) max/5min.	ESR (m Ω max) 100kHz/20°C	Maximum allowable ripple current (mA rms) 100kHz ^{※1}	MSL	
B1G	12TPG33M	12.5	85	33	10	105	10	41.3	70	1000	3	3
	10TPG47M	10	85	47	8.0	105	10	47.0	70	1000	3	3
	8TPG47M	8.0	85	47	6.4	105	10	37.6	70	1000	3	3
	6TPG100M	6.3	85	100	5.0	105	10	63.0	70	1000	3	3
	6TPG100MG	6.3	85	100	5.0	105	10	63.0	55	1100	3	3
	6TPG100MZGD ^{※2}	6.3	85	100	5.0	105	10	126.0	35/300kHz	1200	3	3
	2R5TPG220M	2.5	85	220	2.0	105	10	55.0	70	1000	3	3
B15G	6TPG150M	6.3	85	150	5.0	105	10	94.5	70	1000	3	3
	6TPG150MZG	6.3	85	150	5.0	105	10	189.0	35/300kHz	1200	3	3
	4TPG220M	4.0	85	220	3.2	105	10	88.0	70	1000	3	3
	2R5TPG220MUG	2.5	85	220	2.0	105	10	110.0	30/300kHz	1400	3	3

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

※ Red letters : New models