

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: $\pm$ 20					
Rated capacitance range ( $\mu$ 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 <sub>20°C</sub>	0.6 to 2.0					
		+105°C	Z/Z <sub>20°C</sub>	0.6 to 2.0					
Endurance	85°C, 1,000h rated voltage applied	$\Delta$ C/C		Within $\pm$ 20% of the initial value					
		DF		$\leq$ 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	$\Delta$ C/C		Within +40%, -20% of the initial value					
		DF		$\leq$ 1.5 times of the initial limit					
		LC		$\leq$ 3 times of the initial limit					
Surge	85°C, 1,000 cycles, 1k $\Omega$ discharge resistance, surge voltage applied	$\Delta$ C/C		Within $\pm$ 5% of the initial value					
		DF		Within the initial limit					
		LC		$\leq$ 3 times of the initial limit					

Marking and dimensions

※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( $\mu$ F)	33	47	100	150	220
Mark	N7	S7	A8	E8	J8

Size code	L +0.3 -0.1	W +0.3 -0.1	H $\pm$ 0.1	S $\pm$ 0.2	W1 $\pm$ 0.1
B1G	3.5	2.8	1.1	0.8	2.2
B15G	3.5	2.8	1.4	0.8	2.2

(unit : mm)

Recommended land pattern dimension of PWB

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

(unit : mm)

Size list

$\mu$ F	RV:Rated voltage					
	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 ( $\mu$ F)	Category voltage (V)	Category temperature (°C)	DF (% max)	LC ( $\mu$ A) max/5min.	ESR (m $\Omega$ max) 100kHz/20°C	Maximum allowable ripple current (mA Arms) 100kHz※1	MSL	
											Reflow temp. $\leq$ 260°C	Reflow temp. $\leq$ 250°C
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