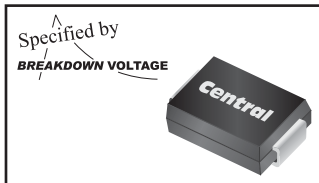
P6SMB6.8A
THRU
P6SMB250A

SURFACE MOUNT SILICON
UNI-DIRECTIONAL
GLASS PASSIVATED JUNCTION
TRANSIENT VOLTAGE SUPPRESSORS
600 WATT, 6.8 THRU 250 VOLT



SMB CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR P6SMB6.8A series devices are surface mount uni-directional glass passivated junction Transient Voltage Suppressors designed to protect voltage sensitive components from high voltage transients.

THIS DEVICE IS MANUFACTURED WITH A GLASS PASSIVATED CHIP FOR OPTIMUM RELIABILITY.

Note: For Bi-directional devices, please refer to the P6SMB6.8CA Series data sheet.

MARKING CODE: SEE ELECTRICAL CHARACTERISTICS TABLE

MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)	**SYMBOL**		**UNITS**
Peak Power Dissipation (Note 1)	P_{DM}	600	W
Peak Forward Surge Current (JEDEC Method)	I_{FSM}	100	A
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

TYPE	BREAKDOWN VOLTAGE V_{BR} @ I_T			TEST CURRENT	WORKING PEAK REVERSE VOLTAGE	MAXIMUM REVERSE LEAKAGE CURRENT @ V_{RWM}	MAXIMUM REVERSE SURGE CURRENT (Note 1)	MAXIMUM REVERSE VOLTAGE @ I_{RSM}	MAXIMUM TEMPERATURE COEFFICIENT	MARKING CODE
	MIN (V)	NOM (V)	MAX (V)	I_T (mA)	V_{RWM} (V)	I_R (μA)	I_{RSM} (A)	V_{RSM} (V)	ΘV_{BR} (% / °C)	
P6SMB6.8A	6.45	6.8	7.14	10	5.8	1000	57	10.5	0.057	C6V8A
P6SMB7.5A	7.13	7.5	7.88	10	6.4	500	53	11.3	0.061	C7V5A
P6SMB8.2A	7.79	8.2	8.61	10	7.02	200	50	12.1	0.065	C8V2A
P6SMB9.1A	8.65	9.1	9.55	1.0	7.78	50	45	13.4	0.068	C9V1A
P6SMB10A	9.5	10	10.5	1.0	8.55	10	41	14.5	0.073	C10A
P6SMB11A	10.5	11	11.6	1.0	9.4	5.0	38	15.6	0.075	C11A
P6SMB12A	11.4	12	12.6	1.0	10.2	5.0	36	16.7	0.078	C12A
P6SMB13A	12.4	13	13.7	1.0	11.1	5.0	33	18.2	0.081	C13A
P6SMB15A	14.3	15	15.8	1.0	12.8	5.0	28	21.2	0.084	C15A
P6SMB16A	15.2	16	16.8	1.0	13.6	5.0	27	22.5	0.086	C16A
P6SMB18A	17.1	18	18.9	1.0	15.3	5.0	24	25.2	0.088	C18A
P6SMB20A	19	20	21	1.0	17.1	5.0	22	27.7	0.090	C20A
P6SMB22A	20.9	22	23.1	1.0	18.8	5.0	20	30.6	0.092	C22A
P6SMB24A	22.8	24	25.2	1.0	20.5	5.0	18	33.2	0.094	C24A
P6SMB27A	25.7	27	28.4	1.0	23.1	5.0	16	37.5	0.096	C27A
P6SMB30A	28.5	30	31.5	1.0	25.6	5.0	14.4	41.4	0.097	C30A
P6SMB33A	31.4	33	34.7	1.0	28.2	5.0	13.2	45.7	0.098	C33A
P6SMB36A	34.2	36	37.8	1.0	30.8	5.0	12	49.9	0.099	C36A
P6SMB39A	37.1	39	41	1.0	33.3	5.0	11.2	53.9	0.100	C39A

Notes 1: Non-repetitive 10x1,000μs pulse.

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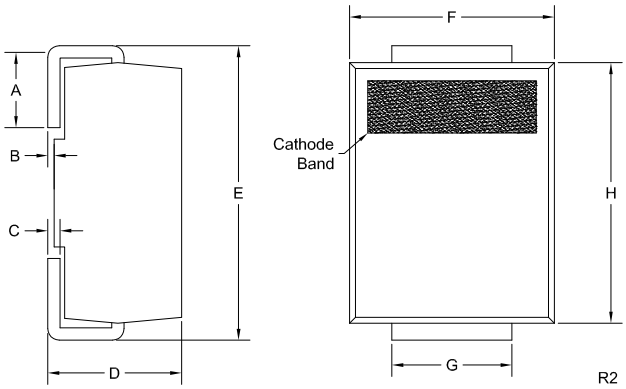
ELECTRICAL CHARACTERISTICS - Continued: (T_A=25°C unless otherwise noted)

TYPE	BREAKDOWN VOLTAGE V_{BR} @ I_T			TEST CURRENT	WORKING PEAK REVERSE VOLTAGE	MAXIMUM REVERSE LEAKAGE CURRENT @ V_{RWM}	MAXIMUM REVERSE SURGE CURRENT (Note 1)	MAXIMUM REVERSE VOLTAGE @ I_{RSM}	MAXIMUM TEMPERATURE COEFFICIENT	MARKING CODE
	MIN (V)	NOM (V)	MAX (V)	I_T (mA)	V_{RWM} (V)	I_R (µA)	I_{RSM} (A)	V_{RSM} (V)	ΘV_{BR} (% / °C)	
P6SMB43A	40.9	43	45.2	1.0	36.8	5.0	10.1	59.3	0.101	C43A
P6SMB47A	44.7	47	49.4	1.0	40.2	5.0	9.3	64.8	0.101	C47A
P6SMB51A	48.5	51	53.6	1.0	43.6	5.0	8.6	70.1	0.102	C51A
P6SMB56A	53.2	56	58.8	1.0	47.8	5.0	7.8	77	0.103	C56A
P6SMB62A	58.9	62	65.1	1.0	53	5.0	7.1	85	0.104	C62A
P6SMB68A	64.6	68	71.4	1.0	58.1	5.0	6.5	92	0.104	C68A
P6SMB75A	71.3	75	78.8	1.0	64.1	5.0	5.8	103	0.105	C75A
P6SMB82A	77.9	82	86.1	1.0	70.1	5.0	5.3	113	0.105	C82A
P6SMB91A	86.5	91	95.5	1.0	77.8	5.0	4.8	125	0.106	C91A
P6SMB100A	95	100	105	1.0	85.5	5.0	4.4	137	0.106	C100A
P6SMB110A	104.5	110	115.5	1.0	94.0	5.0	4.0	152	0.107	C110A
P6SMB120A	114	120	126	1.0	102	5.0	3.6	165	0.107	C120A
P6SMB130A	123.5	130	136.5	1.0	111	5.0	3.3	179	0.107	C130A
P6SMB150A	142.5	150	157.5	1.0	128	5.0	2.9	207	0.108	C150A
P6SMB160A	152	160	168	1.0	136	5.0	2.7	219	0.108	C160A
P6SMB170A	161.5	170	178.5	1.0	145	5.0	2.6	234	0.108	C170A
P6SMB180A	171	180	189	1.0	154	5.0	2.4	246	0.108	C180A
P6SMB200A	190	200	210	1.0	171	5.0	2.2	274	0.108	C200A
P6SMB220A	209	220	231	1.0	185	5.0	1.8	328	0.108	C220A
P6SMB250A	237.5	250	262.5	1.0	214	5.0	1.7	344	0.110	C250A

SMB CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.000	0.008	0.00	0.20
C	0.006	0.012	0.15	0.30
D	0.086	0.096	2.18	2.44
E	0.200	0.220	5.08	5.59
F	0.130	0.150	3.30	3.81
G	0.077	0.083	1.96	2.11
H	0.160	0.191	4.06	4.85

SMB (REV: R2)

R7 (11-September 2018)

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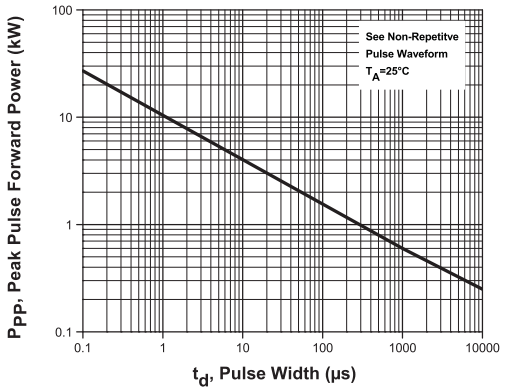
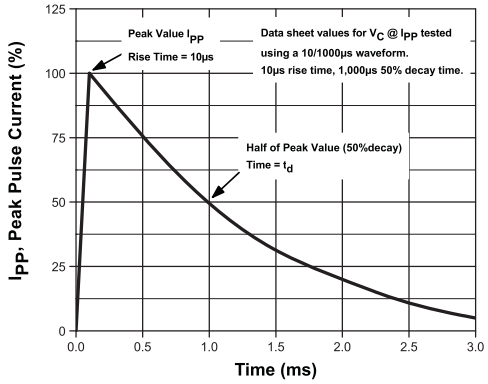
600 WATT, 6.8 THRU 250 VOLT

TYPICAL ELECTRICAL CHARACTERISTICS

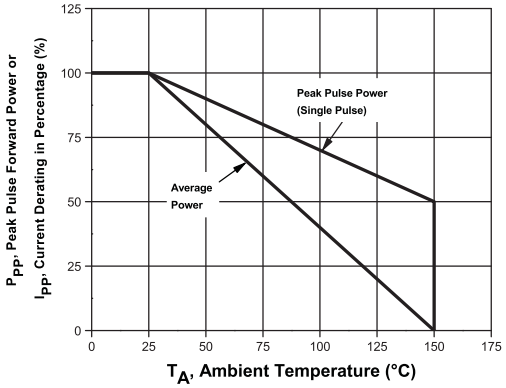
Peak Pulse Forward Power



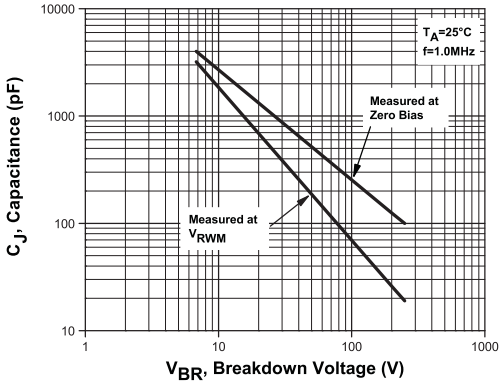
Non-Repetitive Pulse Waveform



Power & Current Derating



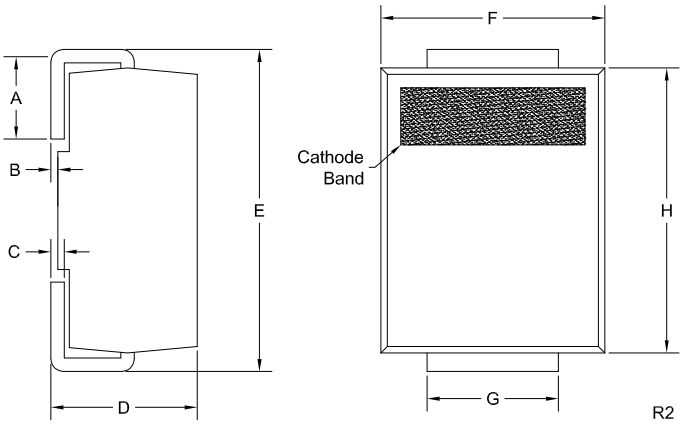
Typical Capacitance



Package Details
SMB Case

Central Semiconductor Corp.

Mechanical Drawing



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	INCHES		MILLIMETERS	
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A	0.030	0.060	0.76	1.52
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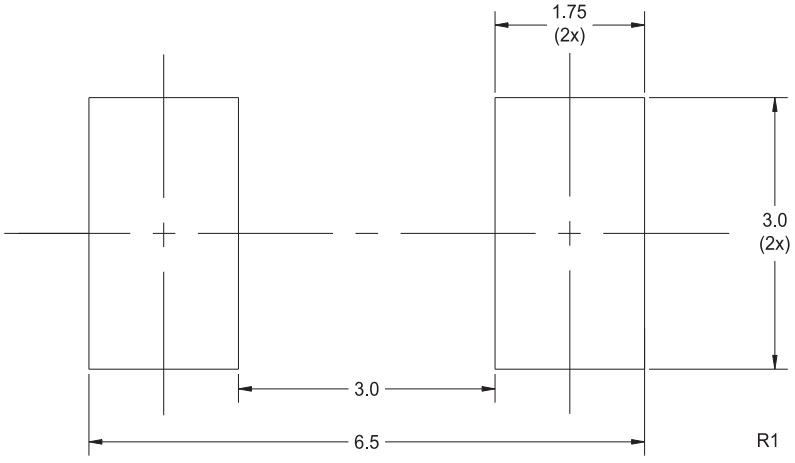
D	0.086	0.096	2.18	2.44
E	0.200	0.220	5.08	5.59
F	0.130	0.150	3.30	3.81
G	0.077	0.083	1.96	2.11
H	0.160	0.191	4.06	4.85

SMB (REV: R2)

Lead Code:
Reference individual device datasheet.

Part Marking: 3-6 Character Alpha/Numeric Code

Mounting Pad Geometry (Dimensions in mm)

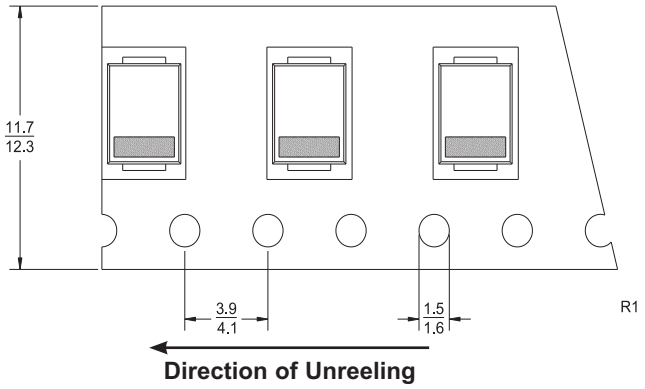


R3 (4-September 2018)

Package Details
SMB Case

Tape Dimensions and Orientation (Dimensions in mm)

Tape Width: 12mm



Devices are taped in accordance with Electronic Industries Association Standard EIA-481-D

Packaging Base

13” Reel = 3,000 pcs.

Reel Labeling Information

Each reel is labeled with the following information:
Central Part Number, Customer Part Number, Purchase Order Number, Quantity, Lot Number, Date Code and Ship Date.

Reel Packing Information

Reel Size	Reels per Box (Maximum)	Parts per Box (Maximum)	Box Dimensions		Shipping Weight (Max.)	
			INCH	CM	LB	KG
13”	5	15,000	15x4x15	38x10x38	8	4
	14	42,000	15x15x9	38x38x23	21	10
	26	78,000	15x15x18	38x38x46	39	18

Ordering Information

- For devices taped and reeled on 13” reels, add TR13 suffix to part number.
- All SMDs are available in small quantities for prototype and manual placement applications.

Material Composition Specification

SMB Case

Device average mass . . . . . **92 mg**

Fluctuation margin . . . . . **+/-10%**

Component	Material	Material		Substance	CAS No.	Substance		
		(%wt)	(mg)			(%wt)	(mg)	(ppm)
active device	doped Si	0.83%	0.76	Si	7440-21-3	0.83%	0.76	8,262
leadframe	copper	37%	34.04	Cu	7440-50-8	37%	34.04	370,032
die attach	high temperature solder paste	2.45%	2.25	Pb	7439-92-1	2.26%	2.081	22,622
				Sn	7440-31-5	0.12%	0.113	1,228
				Ag	7440-22-4	0.06%	0.056	609
encapsulation*	EMC	58.96%	54.23	silica	7631-86-9	40.09%	36.88	400,904
				epoxy resin	29690-82-2	11.79%	10.85	117,945
				phenol resin	9003-35-4	5.89%	5.42	58,918
				Sb_2O_3	1309-64-4	0.59%	0.542	5,892
				Br	7726-95-6	0.59%	0.542	5,892
	EMC GREEN	58.96%	54.23	silica (fused)	60676-86-0	45.4%	41.76	453,953
				epoxy resin	29690-82-2	5.9%	5.423	58,951
				phenol resin	9003-35-4	5.72%	5.26	57,179
				carbon black	1333-86-4	0.18%	0.163	1,772
				metal hydroxide	1309-42-8	1.77%	1.628	17,697
plating**	tin/lead process	0.77%	0.71	Sn	7440-31-5	0.62%	0.566	6,153
				Pb	7439-92-1	0.15%	0.142	1,544
	matte tin	0.77%	0.71	Sn	7440-31-5	0.77%	0.708	7,696

*EMC GREEN molding compound is Halogen-Free.

**For Lead Free plating, add suffix “PB FREE” to part number.
For Tin/Lead plating, add suffix “TIN/LEAD” to part number.
No suffix designation allows for the supply of either lead-free or tin/lead plated product depending on availability.

Disclaimer

The information provided in this Material Composition data sheet is, to the best of our knowledge, correct. However, there is no guarantee to completeness or accuracy, as some information is derived from data sources outside the company.

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	EMC GREEN	58.96%	54.23	silica (fused)	60676-86-0	45.4%	41.76	453,953
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				phenol resin	9003-35-4	5.72%	5.26	57,179
				carbon black	1333-86-4	0.18%	0.163	1,772
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	matte tin	0.77%	0.71	Sn	7440-31-5	0.77%	0.708	7,696

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