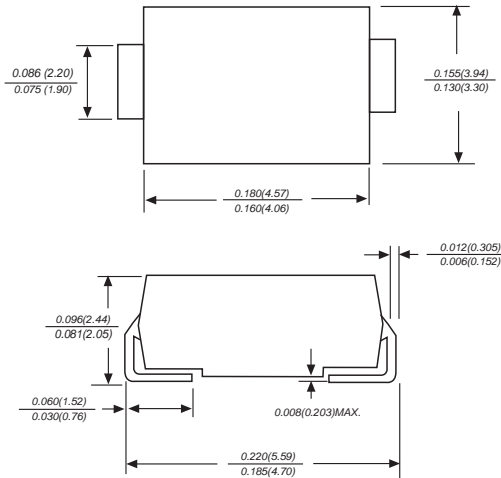


P6SMB6.8A THRU P6SMB540A

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Breskdown voltage: 6.8-540 Volts Peak pulse power: 600 Wallts

DO-214AA



Dimensions in inches and (millimeters)

FEATURE

- ◆ Optimized for LAN protection applications
- ◆ Ideal for ESD protection of data lines in accordance with IEC 1000-4-2(IEC801-2)
- ◆ Ideal for EFT protection of data lines in accordance with IEC1000-4-4(IEC801-2)
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Glass passivated junction
- ◆ 600w peak pulse power capability
- ◆ Excellent clamping capability
- ◆ Low incremental surge resistance
- ◆ Fast response time: typically less than 1.0ps from 0v to $V_{(BR)}$ min
- ◆ High temperature soldering guaranteed: 265°C/10S at terminals

MECHANICAL DATA

Case: JEDEC DO-214AA molded plastic body over passivated junction

Terminals: Solder plated , solderable per MIL-STD 750, method 2026

Polarity: Color band denotes cathode except for bidirectional types

Mounting Position: Any

Weight : 0.09 grams

DEVICES FOR BIDIRECTIONAL APPLICATIONS

For bidirectional use suffix CA for types P6SMB6.8A thru P6SMB540A (e.g. P6SMB6.8CA,P6SMB540CA)
Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	VALUE	UNITS
Peak pulse power dissipation with a 10/1000ms wavetorm(NOTE 1,2,FIG.1)	P _{PPM}	Minimum 600	Watts
Peak forward surge current (Note 1,2,3)	I _{FSM}	100.0	Amps
Peak pulse current with a 10/1000ms waveform(NOTE 1)	I _{PPM}	See Table 1	Amps
Steady state power dissipation (Note 3)	P _{M(AV)}	5.0	Watts
Maximum instantaneous forward voltage at 50A(Note 3,4) unidirectional only	V _F	3.5/5.0	Volts
Operating junction and storage temperature range	T _{STG} ,T _J	-55 to + 150	°C

Notes: 1.Non-repetitive current pulse,per Fig.3 and derated above T_A=25°C per Fig.2

2.Mounted on 5.0mm² copper pads to each terminal

3.Measured on 8.3ms single half sine-wave or equivalent square wave,duty cycle=4 pulses per minute maximum.

4.V_F=3.5V on P6SMB6.8A thru P6SMB100A devices and V_F=5.0V on P6SMB110A thru P6SMB540A devices

ELECTRICAL CHARACTERISTICS (at TA=25°C unless otherwise noted)

PART NUMBER	DEVICE MARKING CODE		BREAKDOWN VOLTAGE V _{BR} AT I _T ⁽¹⁾ (V)		TEST CURRENT I _T (mA)	STAND-OFF VOLTAGE V _{WM} (V)	MAXIMUM REVERSE LEAKAGE AT V _{WM} I _D ⁽³⁾ (μA)	MAXIMUM PEAK PULSE CURRENT I _{PPM} ⁽²⁾ (A)	MAXIMUM CLAMPING VOLTAGE AT I _{PPM} V _C (V)	MAXIMUM TEMP. COEFFICIENT OF V _{BR} (%/°C)
	UNI	BI	MIN.	MAX.						
P6SMB6.8A	6V8A	6V8C	6.45	7.14	10	5.80	1000	57.1	10.5	0.057
P6SMB7.5A	7V5A	7V5C	7.13	7.88	10	6.40	500	53.1	11.3	0.061
P6SMB8.2A	8V2A	8V2C	7.79	8.61	10	7.02	200	49.6	12.1	0.065
P6SMB9.1A	9V1A	9V1C	8.65	9.55	1.0	7.78	50	44.8	13.4	0.068
P6SMB10A	10A	10C	9.50	10.5	1.0	8.55	10	41.4	14.5	0.073
P6SMB11A	11A	11C	10.5	11.6	1.0	9.40	5.0	38.5	15.6	0.075
P6SMB12A	12A	12C	11.4	12.6	1.0	10.2	5.0	35.9	16.7	0.078
P6SMB13A	13A	13C	12.4	13.7	1.0	11.1	5.0	33.0	18.2	0.081
P6SMB15A	15A	15C	14.3	15.8	1.0	12.8	5.0	28.3	21.2	0.084
P6SMB16A	16A	16C	15.2	16.8	1.0	13.6	5.0	26.7	22.5	0.086
P6SMB18A	18A	18C	17.1	18.9	1.0	15.3	5.0	23.8	25.2	0.088
P6SMB20A	20A	20C	19.0	21.0	1.0	17.1	5.0	21.7	27.7	0.090
P6SMB22A	22A	22C	20.9	23.1	1.0	18.8	5.0	19.6	30.6	0.092
P6SMB24A	24A	24C	22.8	25.2	1.0	20.5	5.0	18.1	33.2	0.094
P6SMB27A	27A	27C	25.7	28.4	1.0	23.1	5.0	16.0	37.5	0.096
P6SMB30A	30A	30C	28.5	31.5	1.0	25.6	5.0	14.5	41.4	0.097
P6SMB33A	33A	33C	31.4	34.7	1.0	28.2	5.0	13.1	45.7	0.098
P6SMB36A	36A	36C	34.2	37.8	1.0	30.8	5.0	12.0	49.9	0.099
P6SMB39A	39A	39C	37.1	41.0	1.0	33.3	5.0	11.1	53.9	0.100
P6SMB43A	43A	43C	40.9	45.2	1.0	36.8	5.0	10.1	59.3	0.101
P6SMB47A	47A	47C	44.7	49.4	1.0	40.2	5.0	9.3	64.8	0.101
P6SMB51A	51A	51C	48.5	53.6	1.0	43.6	5.0	8.6	70.1	0.102
P6SMB56A	56A	56C	53.2	58.8	1.0	47.8	5.0	7.8	77.0	0.103
P6SMB62A	62A	62C	58.9	65.1	1.0	53.0	5.0	7.1	85.0	0.104
P6SMB68A	68A	68C	64.6	71.4	1.0	58.1	5.0	6.5	92.0	0.104
P6SMB75A	75A	75C	71.3	78.8	1.0	64.1	5.0	5.8	103	0.105
P6SMB82A	82A	82C	77.9	86.1	1.0	70.1	5.0	5.3	113	0.105
P6SMB91A	91A	91C	86.5	95.5	1.0	77.8	5.0	4.8	125	0.106
P6SMB100A	100A	100C	95.0	105	1.0	85.5	5.0	4.4	137	0.106
P6SMB110A	110A	110C	105	116	1.0	94.0	5.0	3.9	152	0.107
P6SMB120A	120A	120C	114	126	1.0	102	5.0	3.6	165	0.107
P6SMB130A	130A	130C	124	137	1.0	111	5.0	3.4	179	0.107
P6SMB150A	150A	150C	143	158	1.0	128	5.0	2.9	207	0.108
P6SMB160A	160A	160C	152	168	1.0	136	5.0	2.7	219	0.108
P6SMB170A	170A	170C	162	179	1.0	145	5.0	2.6	234	0.108
P6SMB180A	180A	180C	171	189	1.0	154	5.0	2.4	246	0.108
P6SMB200A	200A	200C	190	210	1.0	171	5.0	2.2	274	0.108
P6SMB220A	220A	220C	209	231	1.0	185	5.0	1.8	328	0.108
P6SMB250A	250A	-	237	263	1.0	214	5.0	1.74	344	0.110
P6SMB300A	300A	-	285	315	1.0	256	5.0	1.45	414	0.110
P6SMB350A	350A	-	333	368	1.0	300	5.0	1.24	482	0.110
P6SMB400A	400A	-	380	420	1.0	342	5.0	1.10	548	0.110
P6SMB440A	440A	-	418	462	1.0	376	5.0	1.00	602	0.110
P6SMB480A	480A	-	456	504	1.0	408	5.0	0.91	658	0.110
P6SMB510A	510A	-	485	535	1.0	434	5.0	0.86	698	0.110
P6SMB540A	540A	-	513	567	1.0	459	5.0	0.81	740	0.110

NOTES:

1. V_{BR} measured after I_T applied for 300ms, I_T=square wave pulse or equivalent
2. Surge current waveform per Fig.3 and derated per Fig.2
3. For bidirectional types having V_{WM} of 10 volts and less, the I_D limit is doubled
4. All items and symbols are consistent with ANSI/IEEE C62.35

RATINGS AND CHARACTERISTIC CURVES P6SMB6.8A THUR P6SMB540A

FIG. 1-PEAK PULSE POWER RATING CURVE

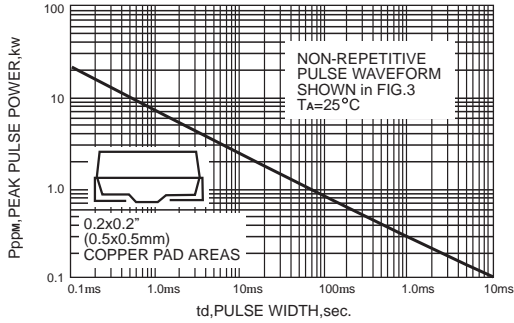


FIG. 2-PULSE DERATING CURVE

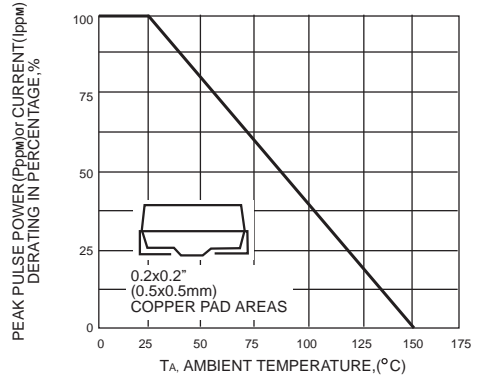


FIG.3-PULSE WAVEFORM

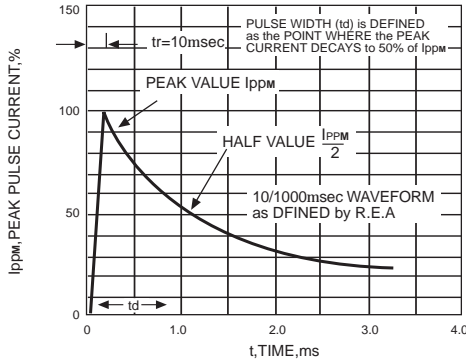


FIG. 4-TYPICAL JUNCTIONAL CAPACITANCE UNIDIRECTIONAL

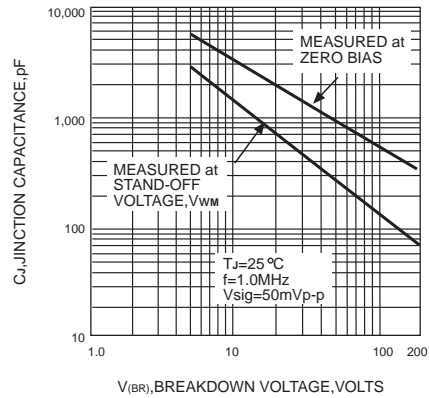


FIG.5-STEADY STATE POWER DERATING CURVE

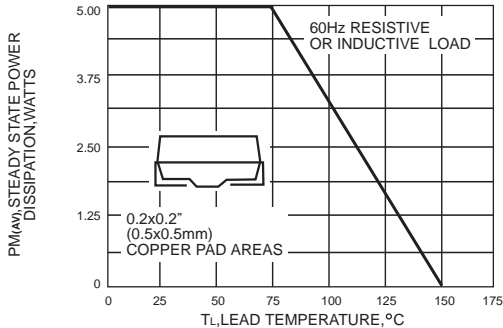


FIG.6-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL ONLY

