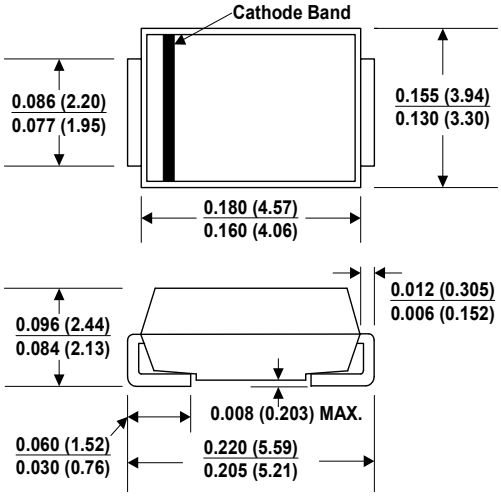
P6SMB SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE - 6.8 TO 600 Volts
600 Watt Peak Pulse Power

DO-214AA (SMB J-Bend)



Dimensions in inches and(millimeters)

FEATURES

- ◎ Halogen-Free
- ◎ RoHS compliant
- ◎ Typical maximum temperature coefficient $\triangle V_{BR}$=0.1%xV_{BR}@25℃x$\triangle$T
- ◎ For surface mounted applications in order to optimize board space
- ◎ Low profile package
- ◎ Built-in strain relief
- ◎ Glass passivated junction
- ◎ Low inductance
- ◎ Excellent clamping capability
- ◎ Repetition Rate(duty cycle):0.01%
- ◎ Fast response time: typically less than 1.0ps from 0 Volts to BV
- ◎ Typical IR less than 1μA above 12V
- ◎ IEC-61000-4-2 ESD 30kV(Air), 30kV (Contact)
- ◎ High temperature soldering: 260°C/40 seconds at terminals
- ◎ Matte Tin Lead-free plated

MECHANICAL DATA

Case：JEDEC DO214AA. Molded plastic over glass passivated junction
Terminal：Solderable per MIL-STD-750, Method 2026
Polarity：Color band denotes positive end (cathode) except Bidirectional
Standard Packaging：12mm tape(EIA STD RS-481)
Weight： 0.003ounce, 0.093gram

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000μs waveform (Note 1,FIG.1)	P_{PPM}	Minimum 600	Watts
Peak Pulse Current of on 10/1000μs waveform (Note 1,FIG.3)	I_{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method) (Note 3)	I_{FSM}	100	Amps
Operating junction and Storage Temperature Range	T_J , T_{STG}	-55 to + 150	℃

Notes :
1.Non-repetitive current pulse , per Fig. 3 and derated above T_A = 25℃ per Fig. 2 .
2.Mounted on 5.0mm x 5.0mm(0.03mm thick) Copper Pads to each terminal
3.8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

P6SMB SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE - 6.8 TO 550 Volts
600 Watt Peak Pulse Power

P6SMB PART NUMBER		DEVICE MARKING CODE		REVERSE STAND-OFF VOLTAGE V_{RWM}(V)	BREAKDOWN VOLTAGE V_{BR}(V) @I_T		TEST CURRENT I_T (mA)	MAXIMUN CLAMPING VOLTAGE @Ipp Vc(V) (10/1000uS)	PEAK PULSE CURRENT Ipp (A) (10/1000uS)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc(V) (8/20uS)	PEAK PULSE CURRENT Ipp (A) (8/20uS)	REVERSE LEAKAGE @ V_{RWM} I_R(μA)
UNI- POLAR	BI-POLAR	UNI	BI		MIN	MAX						
P6SMB 6.8A	P6SMB 6.8CA	6V8A	6V8C	5.8	6.45	7.14	10	10.5	58.10	13.7	290.5	1000.0
P6SMB 7.5A	P6SMB 7.5CA	7V5A	7V5C	6.4	7.13	7.88	10	11.3	54.00	14.7	270.0	500.0
P6SMB 8.2A	P6SMB 8.2CA	8V2A	8V2C	**7.1**	7.79	8.61	10	12.1	50.40	15.7	252.0	200.0
P6SMB 9.1A	P6SMB 9.1CA	9V1A	9V1C	7.8	8.65	9.55	1	13.4	45.50	17.4	227.5	50.0
P6SMB 10A	P6SMB 10CA	10A	10C	8.6	9.50	10.50	1	14.5	42.10	18.9	210.5	10.0
P6SMB 11A	P6SMB 11CA	11A	11C	9.4	10.50	11.60	1	15.6	39.10	20.3	195.5	5.0
P6SMB 12A	P6SMB 12CA	12A	12C	10.2	11.40	12.60	1	16.7	36.50	21.7	182.5	5.0
P6SMB 13A	P6SMB 13CA	13A	13C	11.1	12.40	13.70	1	18.2	33.50	23.7	167.5	1.0
P6SMB 15A	P6SMB 15CA	15A	15C	12.8	14.30	15.80	1	21.2	28.80	27.6	144.0	1.0
P6SMB 16A	P6SMB 16CA	16A	16C	13.6	15.20	16.80	1	22.5	27.10	29.3	135.5	1.0
P6SMB 18A	P6SMB 18CA	18A	18C	15.3	17.10	18.90	1	25.5	24.20	33.2	121.0	1.0
P6SMB 20A	P6SMB 20CA	20A	20C	17.1	19.00	21.00	1	27.7	22.00	36.0	110.0	1.0
P6SMB 22A	P6SMB 22CA	22A	22C	18.8	20.90	23.10	1	30.6	19.90	39.8	99.5	1.0
P6SMB 24A	P6SMB 24CA	24A	24C	20.5	22.80	25.20	1	33.2	18.40	43.2	92.0	1.0
P6SMB 27A	P6SMB 27CA	27A	27C	23.1	25.70	28.40	1	37.5	16.30	48.8	81.5	1.0
P6SMB 30A	P6SMB 30CA	30A	30C	25.6	28.50	31.50	1	41.4	14.70	53.8	73.5	1.0
P6SMB 33A	P6SMB 33CA	33A	33C	28.2	31.40	34.70	1	45.7	13.30	59.4	66.5	1.0
P6SMB 36A	P6SMB 36CA	36A	36C	30.8	34.20	37.80	1	49.9	12.20	64.9	61.0	1.0
P6SMB 39A	P6SMB 39CA	39A	39C	33.3	37.10	41.00	1	53.9	11.30	70.1	56.5	1.0
P6SMB 43A	P6SMB 43CA	43A	43C	36.8	40.90	45.20	1	59.3	10.30	77.1	51.5	1.0
P6SMB 47A	P6SMB 47CA	47A	47C	40.2	44.70	49.40	1	64.8	9.40	84.2	47.0	1.0
P6SMB 51A	P6SMB 51CA	51A	51C	43.6	48.50	53.60	1	70.1	8.70	91.1	43.5	1.0
P6SMB 56A	P6SMB 56CA	56A	56C	47.8	53.20	58.80	1	77.0	7.90	100.1	39.5	1.0
P6SMB 62A	P6SMB 62CA	62A	62C	53.0	58.90	65.10	1	85.0	7.20	110.5	36.0	1.0
P6SMB 68A	P6SMB 68CA	68A	68C	58.1	64.60	71.40	1	92.0	6.60	119.6	33.0	1.0
P6SMB 75A	P6SMB 75CA	75A	75C	64.1	71.30	78.80	1	103.0	5.90	133.9	29.5	1.0
P6SMB 82A	P6SMB 82CA	82A	82C	70.1	77.90	86.10	1	113.0	5.40	146.9	27.0	1.0
P6SMB 91A	P6SMB 91CA	91A	91C	77.8	86.50	95.50	1	125.0	4.90	162.5	24.5	1.0
P6SMB 100A	P6SMB 100CA	100A	100C	85.5	95.00	105.00	1	137.0	4.50	178.1	22.5	1.0
P6SMB 110A	P6SMB 110CA	110A	110C	94.0	105.00	116.00	1	152.0	4.00	197.6	20.0	1.0
P6SMB 120A	P6SMB 120CA	120A	120C	102.0	114.00	126.00	1	165.0	3.70	214.5	18.5	1.0
P6SMB 130A	P6SMB 130CA	130A	130C	111.0	124.00	137.00	1	179.0	3.40	232.7	17.0	1.0
P6SMB 150A	P6SMB 150CA	150A	150C	128.0	143.00	158.00	1	207.0	2.90	269.1	14.5	1.0
P6SMB 160A	P6SMB 160CA	160A	160C	136.0	152.00	168.00	1	219.0	2.80	284.7	14.0	1.0
P6SMB 170A	P6SMB 170CA	170A	170C	145.0	162.00	179.00	1	234.0	2.60	304.2	13.0	1.0
P6SMB 180A	P6SMB 180CA	180A	180C	154.0	171.00	189.00	1	246.0	2.50	319.8	12.5	1.0
P6SMB 200A	P6SMB 200CA	200A	200C	171.0	190.00	210.00	1	274.0	2.20	356.2	11.0	1.0
P6SMB 220A	P6SMB 220CA	220A	220C	185.0	209.00	231.00	1	328.0	1.90	426.4	9.5	1.0
P6SMB 250A	P6SMB 250CA	250A	250C	214.0	237.00	263.00	1	344.0	1.80	447.2	9.0	1.0
P6SMB 300A	P6SMB 300CA	300A	300C	256.0	285.00	315.00	1	414.0	1.50	538.2	7.5	1.0
P6SMB 350A	P6SMB 350CA	350A	350C	300.0	332.00	368.00	1	482.0	1.30	626.6	6.5	1.0
P6SMB 400A	P6SMB 400CA	400A	400C	342.0	380.00	420.00	1	548.0	1.10	712.4	5.5	1.0
P6SMB 440A	P6SMB 440CA	440A	440C	376.0	418.00	462.00	1	602.0	1.00	782.6	5.0	1.0
P6SMB 480A	P6SMB 480CA	480A	480C	408.0	456.00	504.00	1	658.0	0.92	855.4	4.6	1.0
P6SMB 510A	P6SMB 510CA	510A	510C	434.0	485.00	535.00	1	698.0	0.90	907.4	4.5	1.0
P6SMB 530A	P6SMB 530CA	530A	530C	477.0	503.50	556.50	1	725.0	0.83	942.5	4.2	1.0
P6SMB 540A	P6SMB 540CA	540A	540C	486.0	513.00	567.00	1	740.0	0.82	962.0	4.1	1.0
P6SMB 550A	P6SMB 550CA	550A	550C	495.0	522.50	577.50	1	760.0	0.80	988.0	4.0	1.0

For bidirectional type having Vrwm of 10 volts and less, the IR limit is double.

RATINGS AND CHARACTERISTIC CURVES

Ratings and Characteristic Curves(T_A=25℃ unless otherwise noted)

Fig. 1 - Peak Pulse Power Rating

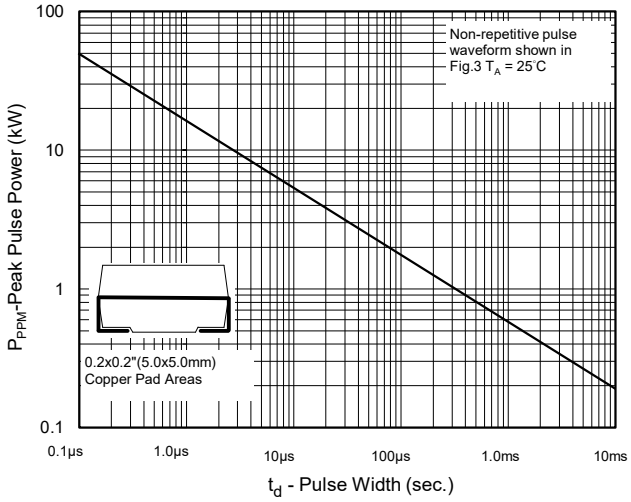


Fig.2 - Pulse Derating Curve

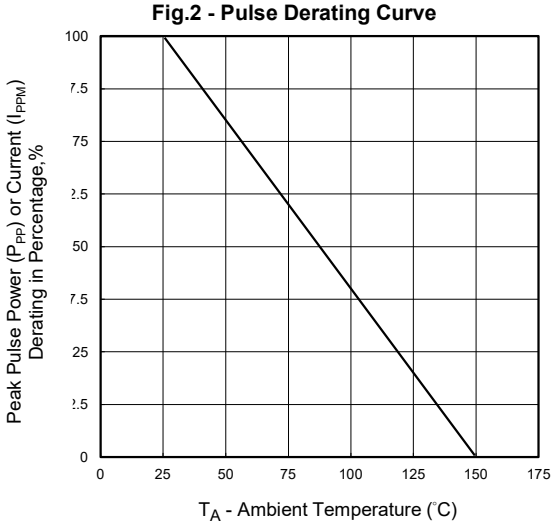


Fig.3 - Pulse Waveform

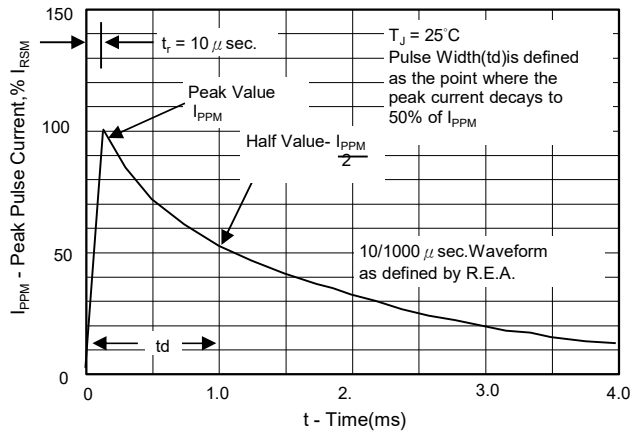


Fig. 4 - Typical Junction Capacitance

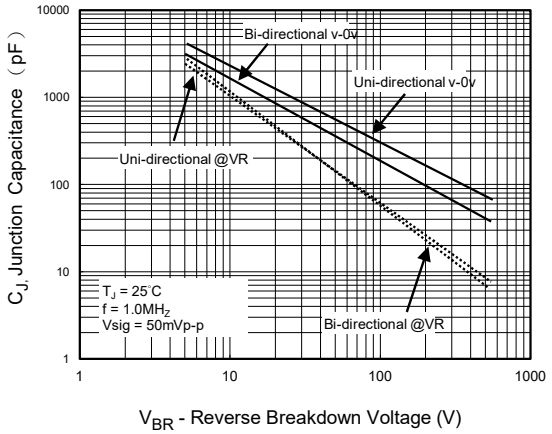


Fig. 5 - Steady State Power Derating Curve

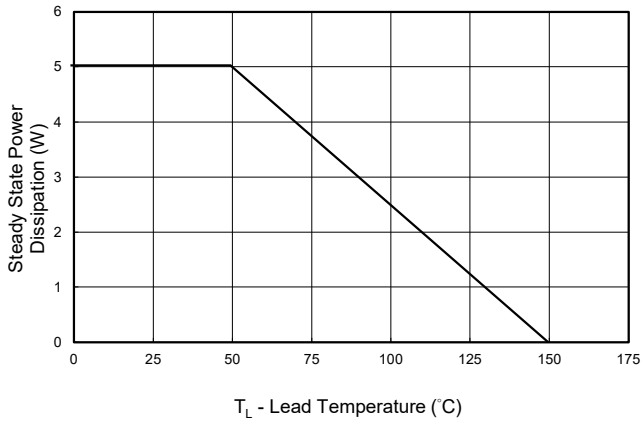
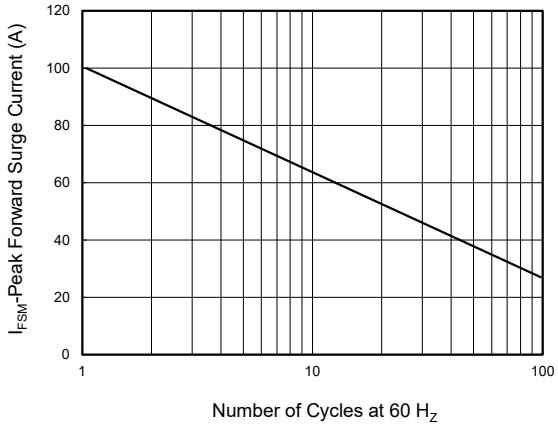
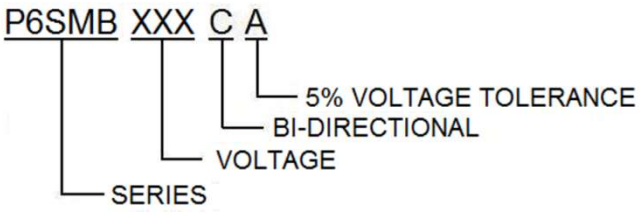


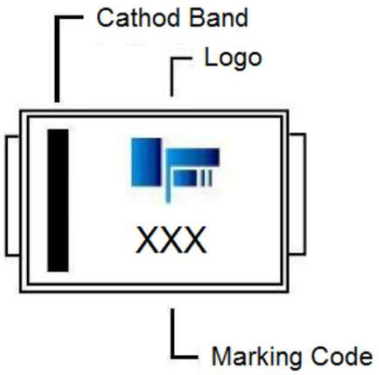
Fig.6 - Maximum Non-repetitive Forward Surge current uni-directional only



Part Numbering System



Part Marking System



Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
P6SMBxxxXX	DO-214AA	3000	Tape & Reel - 12mm/13" tape	EIA STD RS-481
P6SMBxxxXX	DO-214AA	500	Tape & Reel - 12mm/ 7" tape	EIA STD RS-481