DACO

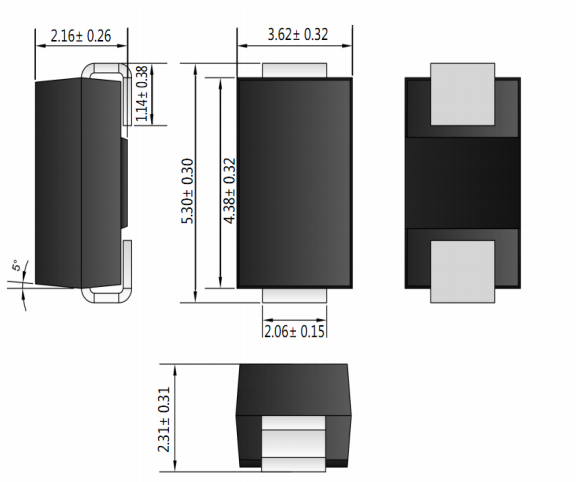
P6SMB Series

600W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Features

- Glass Passivated Die Construction
- 600W Peak Pulse Power Dissipation
- 5.8V – 513V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Voltage
- Typical Response Time < 1nS
- Plastic Case Material has UL Flammability Classification Rating 94V-0

SMB /DO-214AA



Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band Except Bi-Directional
- Marking: Device Code
- Weight: 0.093 grams (approx.)
- **Lead Free: For RoHS / Lead Free Version**

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000μS Waveform (Note 1, 2, 5)	P_{PPM}	600	W
Peak Pulse Current on 10/1000μS Waveform (Note 1)	I_{PPM}	See Table 1	A
Peak Forward Surge Current (Note 2, 3)	I_{FSM}	100	A
Maximum Instantaneous Forward Voltage at 50A (Note 3, 4)	V_F	3.5 / 5.0	V
Power Dissipation on Infinite Heatsink at T_A = 50°C	P_D	5.0	W
Typical Thermal Resistance, Junction to Ambient (Note 2) Typical Thermal Resistance, Junction to Lead (Note 2)	$R_{\theta JA}$ $R_{\theta JL}$	100 20	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Note: 1. Non-repetitive current pulse per Figure 5 and derated above T_A = 25°C per Figure 1.
2. Mounted on 5.0 x 5.0mm copper pads to each terminal.
3. Measured on 8.3ms single half sine-wave, duty cycle = 4 pulses per minute maximum. For uni-directional devices only.
4. V_F < 3.5V for V_{BR} ≤ 200V and V_F < 5.0V for V_{BR} ≥ 201V.
5. Peak pulse power waveform is 10/1000μS.

Electrical Characteristics (@T_A=25°C unless otherwise specified) Table 1

Uni-Directional Part No.	Bi-Directional Part No.	Device Marking Code		Reverse Stand-Off Voltage V_{RWM} (V)	Breakdown Voltage V_{BR} (V) @I_T		Test Current I_T (mA)	Maximum Clamping Voltage @I_{PP} V_C (V)	Peak Pulse Current I_{PP} (A)	Reverse Leakage* @V_{RWM} I_R (μA)
		UNI	BI		Min.	Max.				
P6SMB6.8A	P6SMB6.8CA	6V8A	6V8C	5.8	6.46	7.14	10	10.5	57.14	1000
P6SMB7.5A	P6SMB7.5CA	7V5A	7V5C	6.4	7.13	7.88	10	11.3	53.10	500
P6SMB8.2A	P6SMB8.2CA	8V2A	8V2C	7.0	7.79	8.61	10	12.1	49.59	200
P6SMB9.1A	P6SMB9.1CA	9V1A	9V1C	7.8	8.65	9.56	1	13.4	44.78	50
P6SMB10A	P6SMB10CA	10A	10C	8.6	9.50	10.50	1	14.5	41.38	10
P6SMB11A	P6SMB11CA	11A	11C	9.4	10.45	11.55	1	15.6	38.46	5
P6SMB12A	P6SMB12CA	12A	12C	10.2	11.40	12.60	1	16.7	35.93	5
P6SMB13A	P6SMB13CA	13A	13C	11.1	12.35	13.65	1	18.2	32.97	1
P6SMB15A	P6SMB15CA	15A	15C	12.8	14.25	15.75	1	21.2	28.30	1
P6SMB16A	P6SMB16CA	16A	16C	13.6	15.20	16.80	1	22.5	26.67	1
P6SMB18A	P6SMB18CA	18A	18C	15.3	17.10	18.90	1	25.2	23.81	1
P6SMB20A	P6SMB20CA	20A	20C	17.1	19.00	21.00	1	27.7	21.66	1
P6SMB22A	P6SMB22CA	22A	22C	18.8	20.90	23.10	1	30.6	19.61	1
P6SMB24A	P6SMB24CA	24A	24C	20.5	22.80	25.20	1	33.2	18.07	1
P6SMB27A	P6SMB27CA	27A	27C	23.1	25.65	28.35	1	37.5	16.00	1
P6SMB30A	P6SMB30CA	30A	30C	25.6	28.50	31.50	1	41.4	14.49	1
P6SMB33A	P6SMB33CA	33A	33C	28.2	31.35	34.65	1	45.7	13.13	1
P6SMB36A	P6SMB36CA	36A	36C	30.8	34.20	37.80	1	49.9	12.02	1
P6SMB39A	P6SMB39CA	39A	39C	33.3	37.05	40.95	1	53.9	11.13	1
P6SMB43A	P6SMB43CA	43A	43C	36.8	40.85	45.15	1	59.3	10.12	1
P6SMB47A	P6SMB47CA	47A	47C	40.2	44.65	49.35	1	64.8	9.26	1
P6SMB51A	P6SMB51CA	51A	51C	43.6	48.45	53.55	1	70.1	8.56	1
P6SMB56A	P6SMB56CA	56A	56C	47.8	53.20	58.80	1	77.0	7.79	1
P6SMB62A	P6SMB62CA	62A	62C	53.0	58.90	65.10	1	85.0	7.06	1
P6SMB68A	P6SMB68CA	68A	68C	58.1	64.60	71.40	1	92.0	6.52	1
P6SMB75A	P6SMB75CA	75A	75C	64.1	71.25	78.75	1	103.0	5.83	1
P6SMB82A	P6SMB82CA	82A	82C	70.1	77.90	86.10	1	113.0	5.31	1
P6SMB91A	P6SMB91CA	91A	91C	77.8	86.45	95.55	1	125.0	4.80	1
P6SMB100A	P6SMB100CA	100A	100C	85.5	95.00	105.00	1	137.0	4.38	1
P6SMB110A	P6SMB110CA	110A	110C	94.0	104.50	115.50	1	152.0	3.95	1
P6SMB120A	P6SMB120CA	120A	120C	102.0	114.00	126.00	1	165.0	3.64	1
P6SMB130A	P6SMB130CA	130A	130C	111.0	123.50	136.50	1	179.0	3.35	1
P6SMB150A	P6SMB150CA	150A	150C	128.0	142.50	157.50	1	207.0	2.90	1
P6SMB160A	P6SMB160CA	160A	160C	136.0	152.00	168.00	1	219.0	2.74	1
P6SMB170A	P6SMB170CA	170A	170C	145.0	161.50	178.50	1	234.0	2.56	1
P6SMB180A	P6SMB180CA	180A	180C	154.0	171.00	189.00	1	246.0	2.44	1
P6SMB200A	P6SMB200CA	200A	200C	171.0	190.00	210.00	1	274.0	2.19	1
P6SMB220A	P6SMB220CA	220A	220C	185.0	209.00	231.00	1	328.0	1.83	1
P6SMB250A	P6SMB250CA	250A	250C	214.0	237.50	262.50	1	344.0	1.74	1
P6SMB300A	P6SMB300CA	300A	300C	256.0	285.00	315.00	1	414.0	1.45	1
P6SMB350A	P6SMB350CA	350A	350C	299.3	332.50	367.50	1	482.0	1.24	1
P6SMB380A	P6SMB380CA	380A	380C	324.9	361.00	399.00	1	524.4	1.14	1
P6SMB400A	P6SMB400CA	400A	400C	342.0	380.00	420.00	1	548.0	1.09	1
P6SMB440A	P6SMB440CA	440A	440C	376.2	418.00	462.00	1	607.2	0.99	1
P6SMB500A	P6SMB500CA	500A	500C	427.5	475.00	525.00	1	690.0	0.87	1
P6SMB520A	P6SMB520CA	520A	520C	444.6	494.00	546.00	1	717.6	0.84	1
P6SMB550A	P6SMB550CA	550A	550C	470.3	522.50	577.50	1	759.0	0.79	1
P6SMB600A	P6SMB600CA	600A	600C	513.0	570.00	630.00	1	828.0	0.72	1

*For bi-directional devices V_{RWM} ≤ 10V, the I_R limit is double.

Rating and characteristic curves

Fig. 1 Pulse Derating Curve

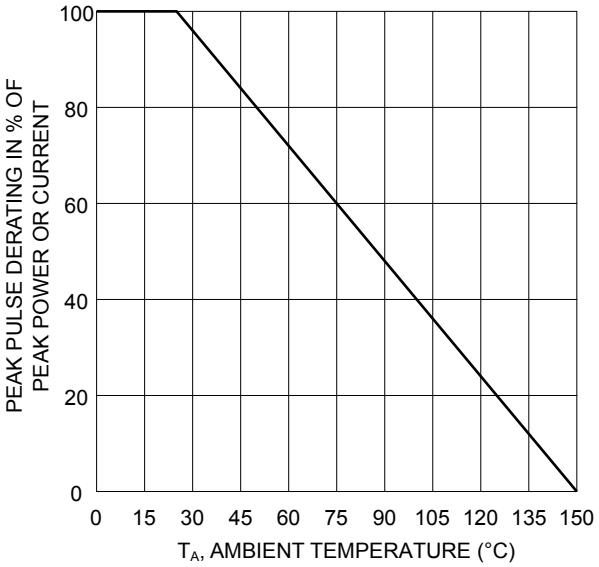


Fig. 2 Forward Surge Current Derating Curve

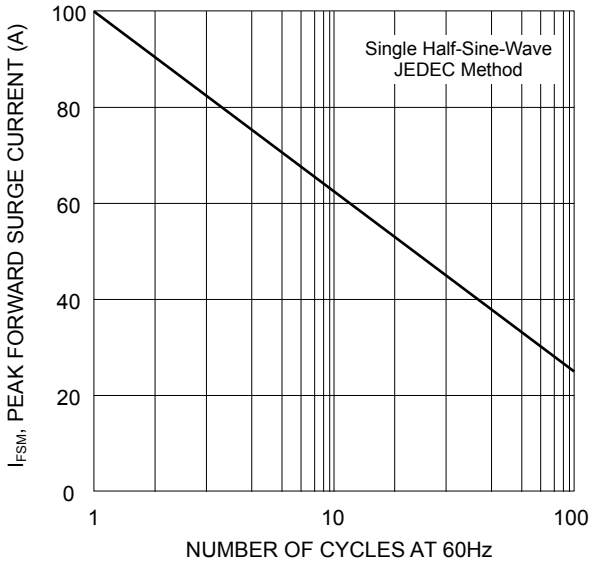


Fig. 3 Steady State Power Derating Curve

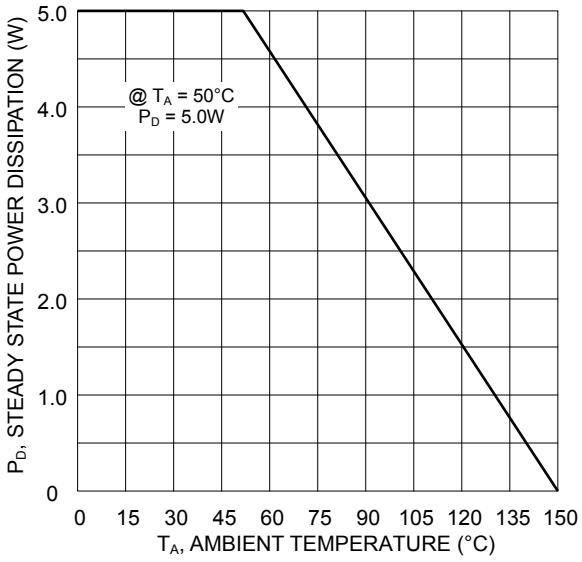


Fig. 4 Pulse Rating Curve

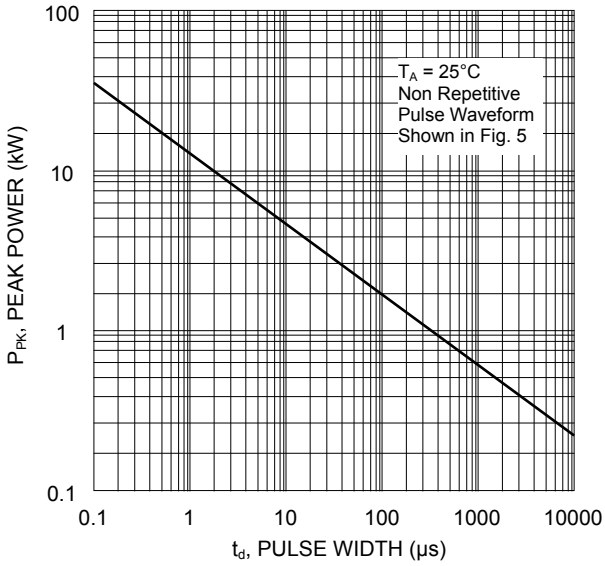


Fig. 5 Pulse Waveform

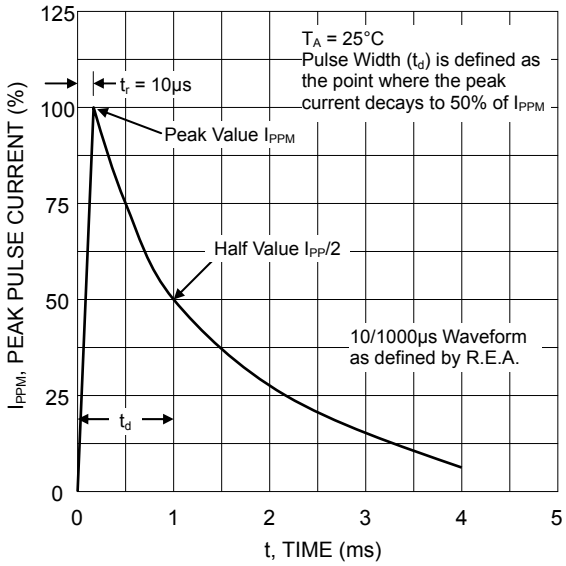
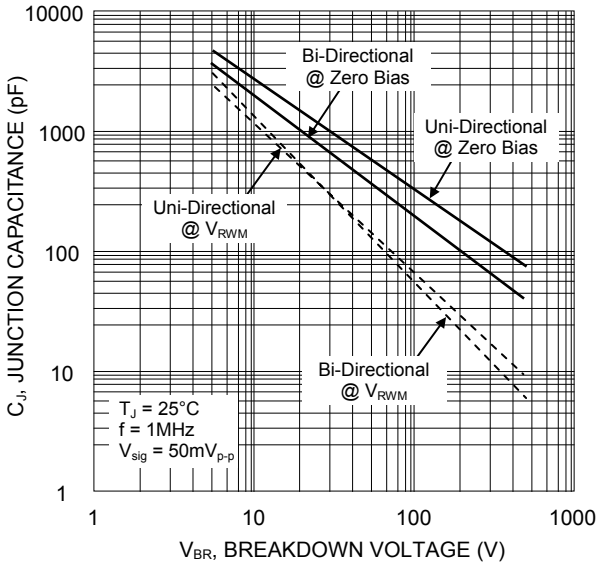
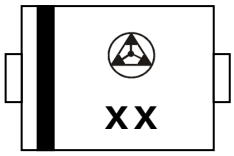


Fig. 6 Typical Junction Capacitance

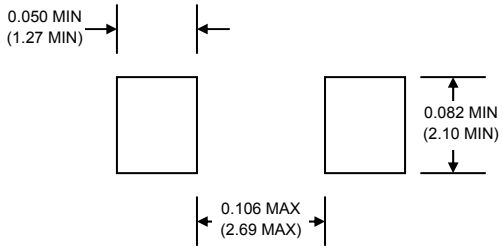


MARKING INFORMATION



Cathode = Polarity Band Except Bi-Directional Types
xx = Device Code, See Table 1

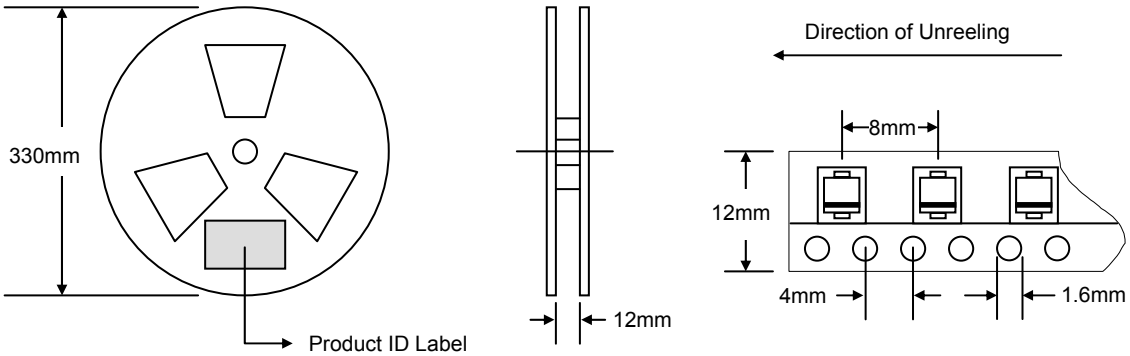
RECOMMENDED FOOTPRINT



inches(mm)

PACKAGING INFORMATION

TAPE & REEL



Reel Diameter (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
330	3,000	340 x 337 x 45	6,000	370 x 370 x 420	48,000	14.0

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