

Features

- ◆ 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 IEC 1000-4-4(IEC801-2)
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Glass passivated junction chip
- ◆ 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: 260°C/10S at terminals

Mechanical Data

Case : Molded plastic body

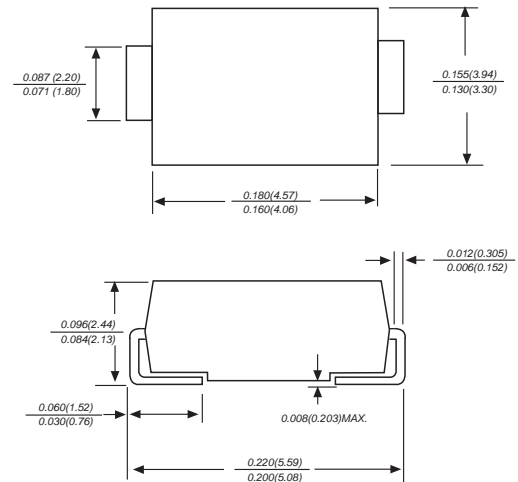
Terminals : Solder plated, solderable per MIL-STD-750, Method 2026

Polarity : Polarity symbol marking on body

Mounting Position : Any

Weight : 0.0035 ounce, 0.098 grams

DO-214AA/SMB



Uni-Polar

Bi-Polar



Dimensions in inches and (millimeters)

Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	SYMBOLS	VALUE	UNITS
Peak pulse power dissipation with a 10/1000µs 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 10/1000µs 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 5.0mm copper pads to each terminal

3.Measured on 8.3ms single half sine-wine.For uni-directional devices only.

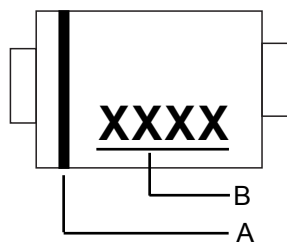
4.V_F=3.5V on SMB-5.0 thru SMB-220 devices and V_F=5.0V on SMB-250 thru SMB-600 devices



Type		Marking		Peak Pulse Power	Stand-off Voltage	Maximum Reverse Current at Vr	Breakdown Voltage at IT		Test Current	Maximum Peak Pulse Current	Maximum Clamping Voltage at Ipp
Uni-Polar	Bi-Polar	Uni-Polar	Bi-Polar	PPP	V(R)	IR	V (BR) (V)		IT	Ipp	Vc
				(W)	(V)	(uA)	Min.	Max.	(mA)	(A)	(V)
P6SMB6.8A	P6SMB6.8CA	6V8A	6V8C	600	5.8	1000	6.45	7.14	10	58.1	10.5
P6SMB7.5A	P6SMB7.5CA	7V5A	7V5C	600	6.4	500	7.13	7.88	10	54.0	11.3
P6SMB8.2A	P6SMB8.2CA	8V2A	8V2C	600	7.02	200	7.79	8.61	10	50.4	12.1
P6SMB9.1A	P6SMB9.1CA	9V1A	9V1C	600	7.78	50	8.65	9.55	1	45.5	13.4
P6SMB10A	P6SMB10CA	10A	10C	600	8.55	10	9.5	10.5	1	42.1	14.5
P6SMB11A	P6SMB11CA	11A	11C	600	9.4	5	10.5	11.6	1	39.1	15.6
P6SMB12A	P6SMB12CA	12A	12C	600	10.2	5	11.4	12.6	1	36.5	16.7
P6SMB13A	P6SMB13CA	13A	13C	600	11.1	1	12.4	13.7	1	33.5	18.2
P6SMB15A	P6SMB15CA	15A	15C	600	12.8	1	14.3	15.8	1	28.8	21.2
P6SMB16A	P6SMB16CA	16A	16C	600	13.6	1	15.2	16.8	1	27.1	22.5
P6SMB18A	P6SMB18CA	18A	18C	600	15.3	1	17.1	18.9	1	24.2	25.5
P6SMB20A	P6SMB20CA	20A	20C	600	17.1	1	19	21	1	22.0	27.7
P6SMB22A	P6SMB22CA	22A	22C	600	18.8	1	20.9	23.1	1	19.9	30.6
P6SMB24A	P6SMB24CA	24A	24C	600	20.5	1	22.8	25.2	1	18.4	33.2
P6SMB27A	P6SMB27CA	27A	27C	600	23.1	1	25.7	28.4	1	16.3	37.5
P6SMB30A	P6SMB30CA	30A	30C	600	25.6	1	28.5	31.5	1	14.7	41.4
P6SMB33A	P6SMB33CA	33A	33C	600	28.2	1	31.4	34.7	1	13.3	45.7
P6SMB36A	P6SMB36CA	36A	36C	600	30.8	1	34.2	37.8	1	12.2	49.9
P6SMB39A	P6SMB39CA	39A	39C	600	33.3	1	37.1	41	1	11.3	53.9
P6SMB43A	P6SMB43CA	43A	43C	600	36.8	1	40.9	45.2	1	10.3	59.3
P6SMB47A	P6SMB47CA	47A	47C	600	40.2	1	44.7	49.4	1	9.4	64.8
P6SMB51A	P6SMB51CA	51A	51C	600	43.6	1	48.5	53.6	1	8.7	70.1
P6SMB56A	P6SMB56CA	56A	56C	600	47.8	1	53.2	58.8	1	7.9	77
P6SMB58A	P6SMB58CA	58A	58C	600	52.78	1	55.1	60.9	1	7.7	79.8
P6SMB62A	P6SMB62CA	62A	62C	600	53	1	58.9	65.1	1	7.2	85
P6SMB68A	P6SMB68CA	68A	68C	600	58.1	1	64.6	71.4	1	6.6	92
P6SMB75A	P6SMB75CA	75A	75C	600	64.1	1	71.3	78.8	1	5.9	103
P6SMB82A	P6SMB82CA	82A	82C	600	70.1	1	77.9	86.1	1	5.4	113
P6SMB91A	P6SMB91CA	91A	91C	600	77.8	1	86.5	95.5	1	4.9	125
P6SMB100A	P6SMB100CA	100A	100C	600	85.5	1	95	105	1	4.5	137
P6SMB110A	P6SMB110CA	110A	110C	600	94	1	105	116	1	4.0	152
P6SMB120A	P6SMB120CA	120A	120C	600	102	1	114	126	1	3.7	165
P6SMB130A	P6SMB130CA	130A	130C	600	111	1	124	137	1	3.4	179
P6SMB150A	P6SMB150CA	150A	150C	600	128	1	143	158	1	2.9	207
P6SMB160A	P6SMB160CA	160A	160C	600	136	1	152	168	1	2.8	219
P6SMB170A	P6SMB170CA	170A	170C	600	145	1	162	179	1	2.6	234
P6SMB180A	P6SMB180CA	180A	180C	600	154	1	171	189	1	2.5	246
P6SMB200A	P6SMB200CA	200A	200C	600	171	1	190	210	1	2.2	274
P6SMB220A	P6SMB220CA	220A	220C	600	185	1	209	231	1	1.9	328
P6SMB250A	P6SMB250CA	250A	250C	600	214	1	237	263	1	1.8	344

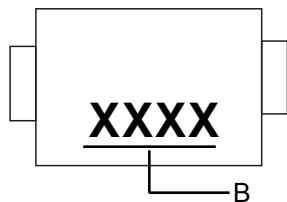
Type		Marking		Peak Pulse Power	Stand-off Voltage	Maximum Reverse Current at VR	Breakdown Voltage at IT		Test Current	Maximum Peak Pulse Current	Maximum Clamping Voltage at Ipp
Uni-Polar	Bi-Polar	Uni-Polar	Bi-Polar	PPP	V(R)	IR	V (BR) (V)		IT	Ipp	Vc
				(W)	(V)	(uA)	Min.	Max.	(mA)	(A)	(V)
P6SMB300A	P6SMB300CA	300A	300C	600	256	1	285	315	1	1.5	414
P6SMB350A	P6SMB350CA	350A	350C	600	300	1	332	368	1	1.3	482
P6SMB400A	P6SMB400CA	400A	400C	600	342	1	380	420	1	1.1	548
P6SMB440A	P6SMB440CA	440A	440C	600	376	1	418	462	1	1.0	602
P6SMB480A	P6SMB480CA	480A	480C	600	408	1	456	504	1	0.9	658
P6SMB510A	P6SMB510CA	510A	510C	600	434	1	485	535	1	0.9	698
P6SMB530A	P6SMB530CA	530A	530C	600	451	1	503.5	556.5	1	0.8	725
P6SMB540A	P6SMB540CA	540A	540C	600	460	1	513	567	1	0.8	740
P6SMB550A	P6SMB550CA	550A	550C	600	468	1	522.5	577.5	1	0.8	760
P6SMB600A	P6SMB600CA	600A	600C	600	512	1	570	630	1	0.8	828

Marking For Uni-Polar



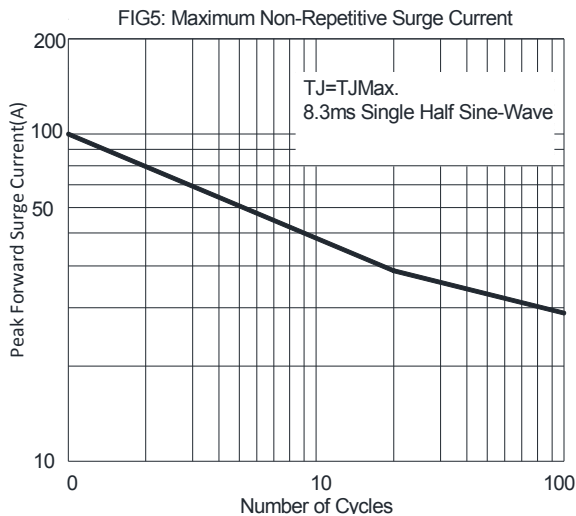
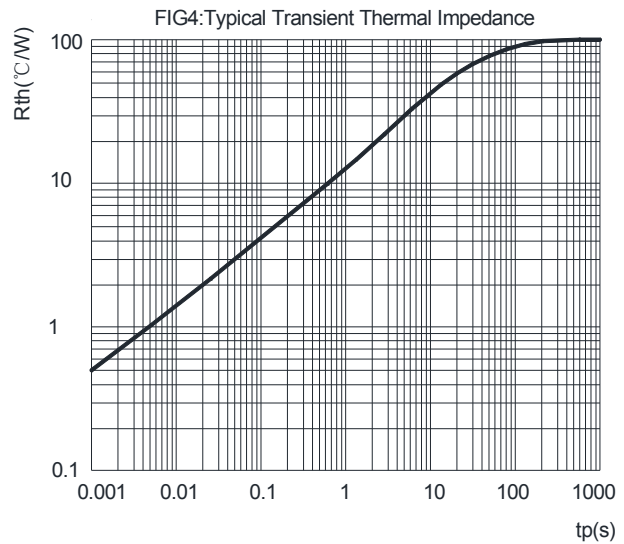
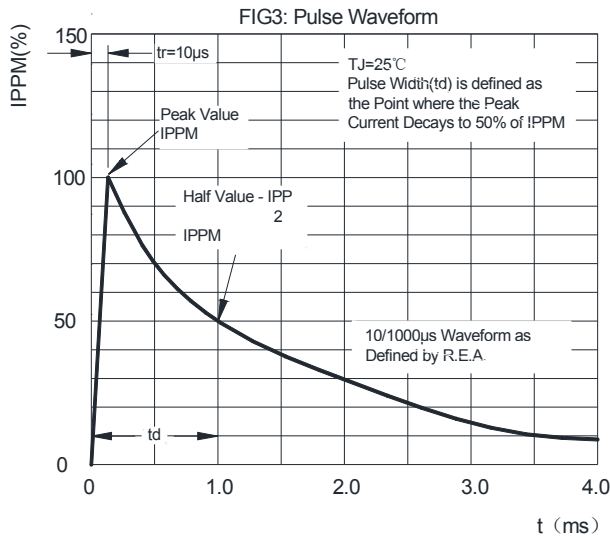
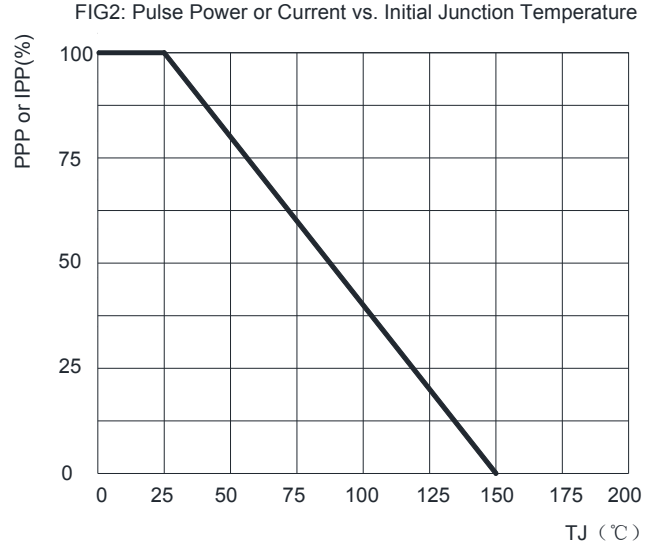
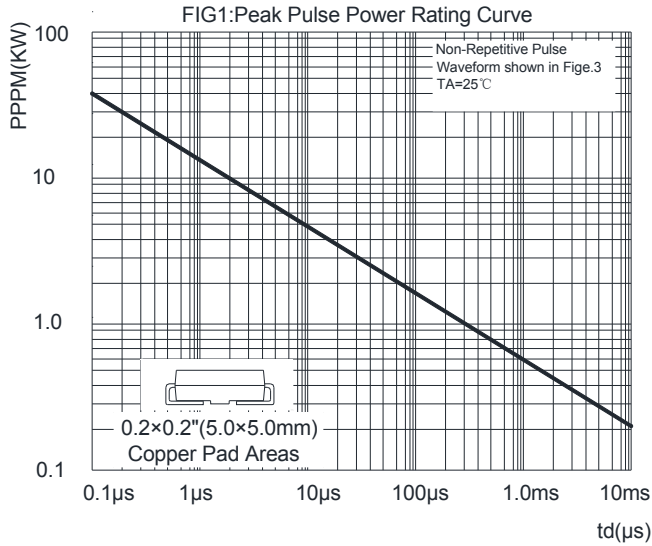
Symbol	Explanation
A	Color Band Denotes Cathode
B	Marking Code, as above sheet

Marking For Bi-Polar

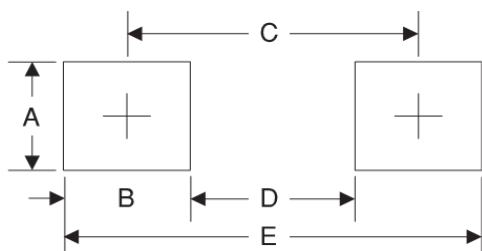


Symbol	Explanation
B	Marking Code, as above sheet

Ratings And Characteristic Curves

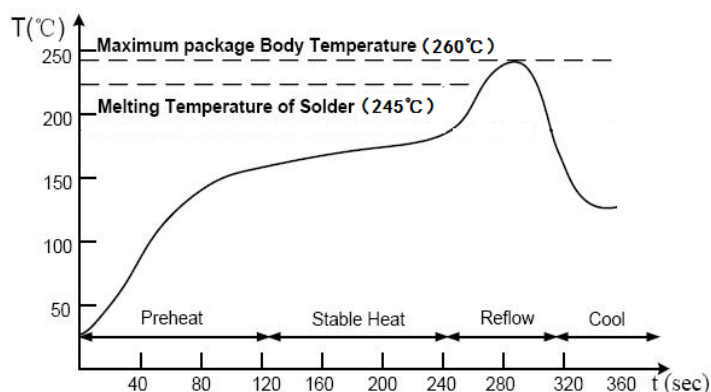


Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	2.30	0.091
B	2.00	0.078
C	4.10	0.161
D	2.10	0.083
E	6.10	0.240

Suggested Soldering Temperature Profile

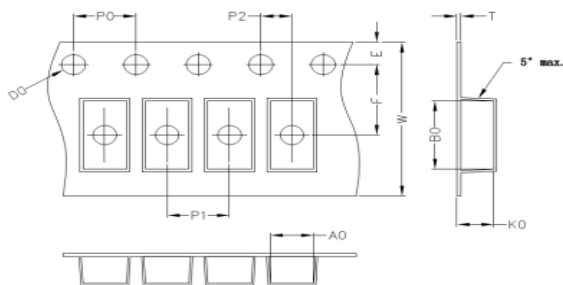


Note

- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 260°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Package Information

Carrier Dimension(mm)



A0	B0	K0	D0	E	F
3.80	5.40	2.45	1.55	1.75	5.50
P0	P1	P2	T	W	Tolerance
4.0	8.0	2.0	0.25	12	0.1

Package Specifications

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SMB	13'	330	3.0	340	6.0	360*360*360	48