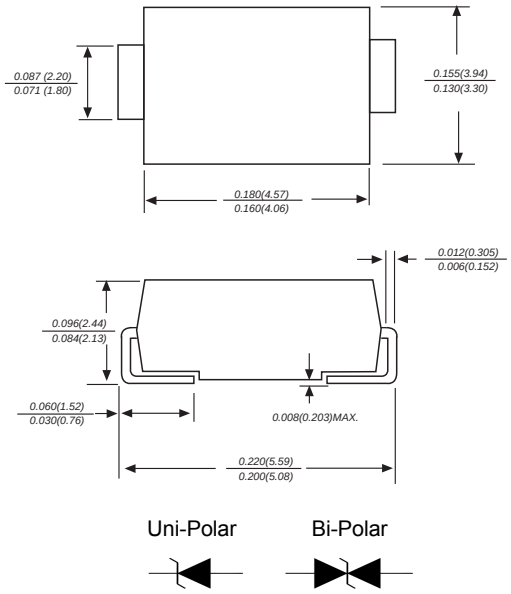
Features

- Optimzed 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

DO-214AA/SMB



Uni-Polar Bi-Polar

Dimensions in inches and (millimeters)

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

Maximum Ratings And Electrical Characteristics

Ratings at 25℃ 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 dissapation (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

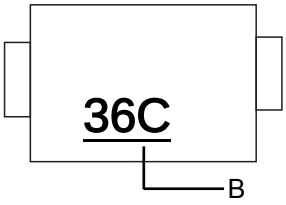
3.Measured on 8.3ms single half sine-wine.For uni-directional devices only.

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

Type	Marking	Peak Pulse Power	Stand-off Voltage	Maximum Reverse Current at V_R	Breakdown Voltage at IT		Test Current	Maximum Peak Pulse Current	Maximum Clamping Voltage at Ipp
Bi-Polar	Bi-Polar	PPP	$V_{(R)}$	IR	$V_{(BR)}$ (V)		IT	Ipp	Vc
		(W)	(V)	(uA)	Min.	Max.	(mA)	(A)	(V)
P6SMB6.8CA	6V8C	600	5.8	1000	6.45	7.14	10	58.1	10.5
P6SMB7.5CA	7V5C	600	6.4	500	7.13	7.88	10	54.0	11.3
P6SMB8.2CA	8V2C	600	7.02	200	7.79	8.61	10	50.4	12.1
P6SMB9.1CA	9V1C	600	7.78	50	8.65	9.55	1	45.5	13.4
P6SMB10CA	10C	600	8.55	10	9.5	10.5	1	42.1	14.5
P6SMB11CA	11C	600	9.4	5	10.5	11.6	1	39.1	15.6
P6SMB12CA	12C	600	10.2	5	11.4	12.6	1	36.5	16.7
P6SMB13CA	13C	600	11.1	1	12.4	13.7	1	33.5	18.2
P6SMB15CA	15C	600	12.8	1	14.3	15.8	1	28.8	21.2
P6SMB16CA	16C	600	13.6	1	15.2	16.8	1	27.1	22.5
P6SMB18CA	18C	600	15.3	1	17.1	18.9	1	24.2	25.5
P6SMB20CA	20C	600	17.1	1	19	21	1	22.0	27.7
P6SMB22CA	22C	600	18.8	1	20.9	23.1	1	19.9	30.6
P6SMB24CA	24C	600	20.5	1	22.8	25.2	1	18.4	33.2
P6SMB27CA	27C	600	23.1	1	25.7	28.4	1	16.3	37.5
P6SMB30CA	30C	600	25.6	1	28.5	31.5	1	14.7	41.4
P6SMB33CA	33C	600	28.2	1	31.4	34.7	1	13.3	45.7
P6SMB36CA	36C	600	30.8	1	34.2	37.8	1	12.2	49.9
P6SMB39CA	39C	600	33.3	1	37.1	41	1	11.3	53.9
P6SMB43CA	43C	600	36.8	1	40.9	45.2	1	10.3	59.3
P6SMB47CA	47C	600	40.2	1	44.7	49.4	1	9.4	64.8
P6SMB51CA	51C	600	43.6	1	48.5	53.6	1	8.7	70.1
P6SMB56CA	56C	600	47.8	1	53.2	58.8	1	7.9	77
P6SMB58CA	58C	600	52.78	1	55.1	60.9	1	7.7	79.8
P6SMB62CA	62C	600	53	1	58.9	65.1	1	7.2	85
P6SMB68CA	68C	600	58.1	1	64.6	71.4	1	6.6	92
P6SMB75CA	75C	600	64.1	1	71.3	78.8	1	5.9	103
P6SMB82CA	82C	600	70.1	1	77.9	86.1	1	5.4	113
P6SMB91CA	91C	600	77.8	1	86.5	95.5	1	4.9	125
P6SMB100CA	100C	600	85.5	1	95	105	1	4.5	137
P6SMB110CA	110C	600	94	1	105	116	1	4.0	152
P6SMB120CA	120C	600	102	1	114	126	1	3.7	165
P6SMB130CA	130C	600	111	1	124	137	1	3.4	179
P6SMB150CA	150C	600	128	1	143	158	1	2.9	207
P6SMB160CA	160C	600	136	1	152	168	1	2.8	219
P6SMB170CA	170C	600	145	1	162	179	1	2.6	234
P6SMB180CA	180C	600	154	1	171	189	1	2.5	246
P6SMB200CA	200C	600	171	1	190	210	1	2.2	274
P6SMB220CA	220C	600	185	1	209	231	1	1.9	328
P6SMB250CA	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
Bi-Polar	Bi-Polar	PPP	V(R)	IR	V（BR）（V）		IT	Ipp	Vc
		（W）	（V）	（uA）	Min.	Max.	（mA	（A）	（V）
P6SMB300CA	300C	600	256	1	285	315	1	1.5	414
P6SMB350CA	350C	600	300	1	332	368	1	1.3	482
P6SMB400CA	400C	600	342	1	380	420	1	1.1	548
P6SMB440CA	440C	600	376	1	418	462	1	1.0	602
P6SMB480CA	480C	600	408	1	456	504	1	0.9	658
P6SMB510CA	510C	600	434	1	485	535	1	0.9	698
P6SMB530CA	530C	600	451	1	503.5	556.5	1	0.8	725
P6SMB540CA	540C	600	460	1	513	567	1	0.8	740
P6SMB550CA	550C	600	468	1	522.5	577.5	1	0.8	760
P6SMB600CA	600C	600	512	1	570	630	1	0.8	828

Marking For Bi-Polar



Symbol	Explanation
B	Marking Code, as above sheet

Ratings And Characteristic Curves

FIG1:Peak Pulse Power Rating Curve

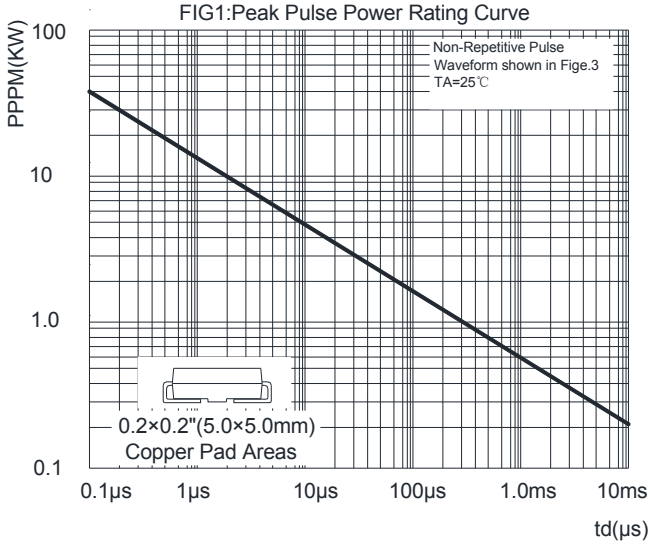


FIG2: Pulse Power or Current vs. Initial Junction Temperature

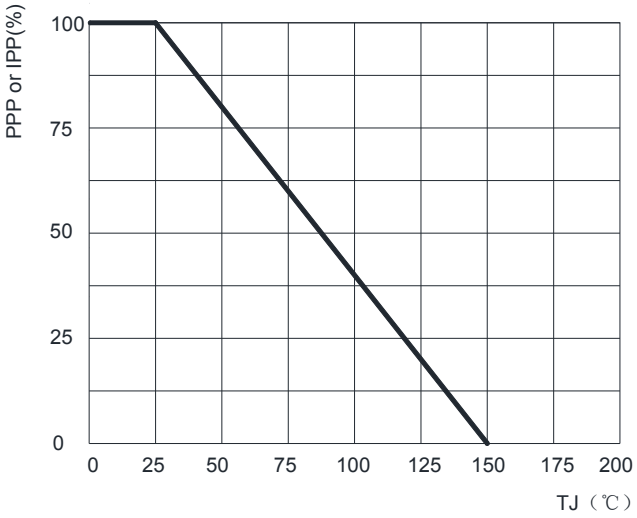


FIG3: Pulse Waveform

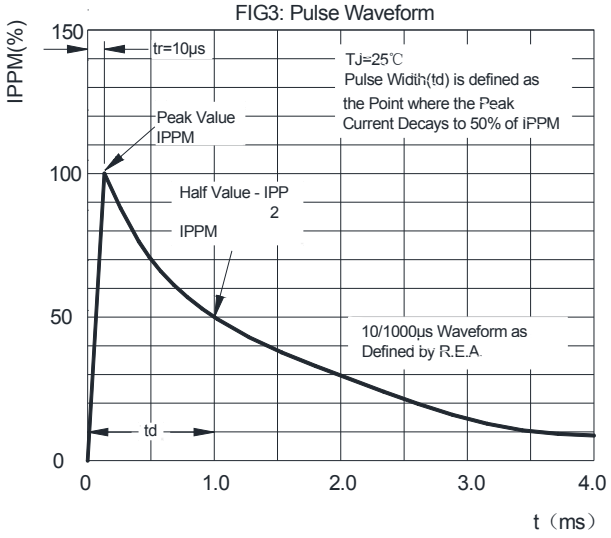


FIG4:Typical Transient Thermal Impedance

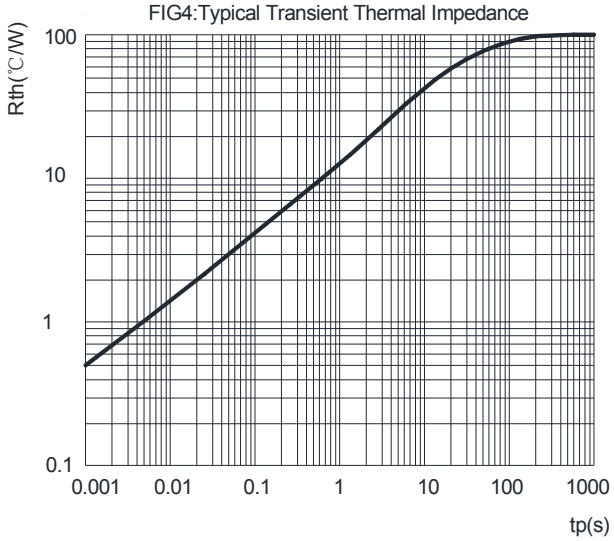
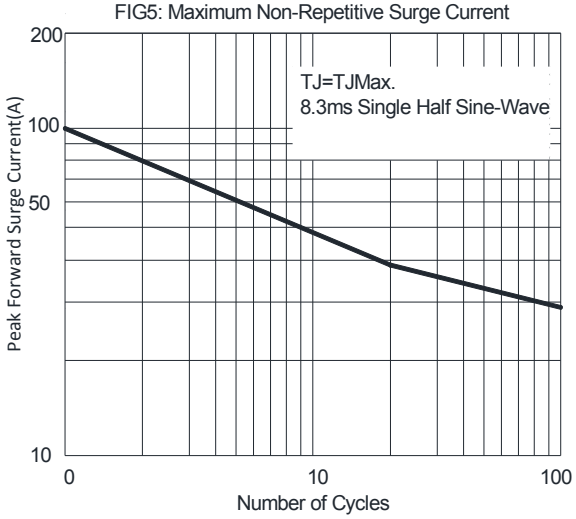
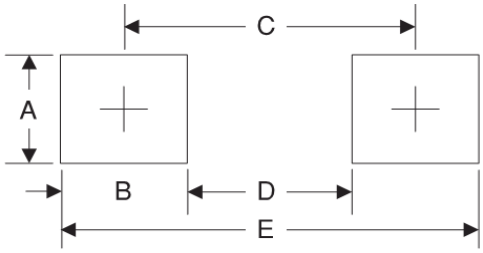


FIG5: Maximum Non-Repetitive Surge Current

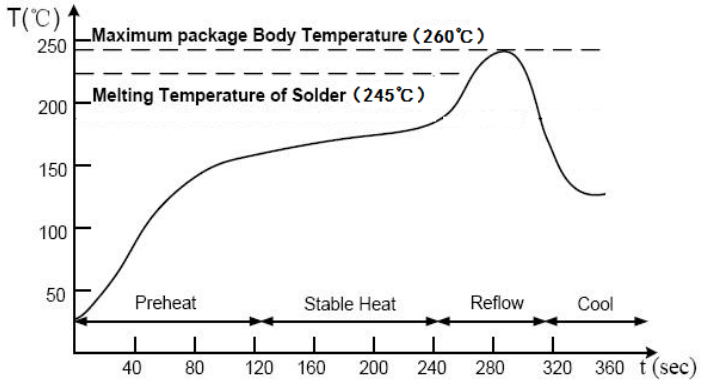


Suggested Pad Layout



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

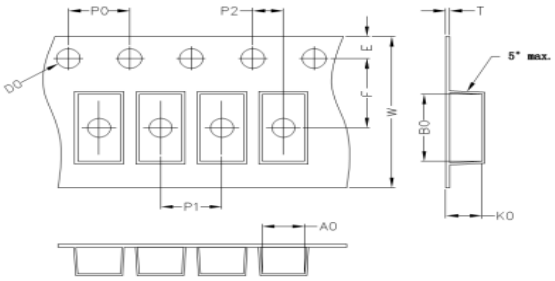


Note

- 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

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