Technical Data
Data Sheet N0193, Rev. D

Automotive Qualified

SMBJ SERIES SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

SMB

Features

- Glass Passivated Die Construction
- 600W Peak Pulse Power Dissipation
- 5.0V- 200V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- "-A" is an AEC-Q101 qualified device
- RoHS Compliant
- All SMC Parts are Traceable to the Wafer Lot
- Additional testing can be offered upon request

Circuit Diagram

Unipolar

Bipolar

Mechanical Data

- Case: SMB Low Profile Molded Plastic
- Terminals: Solder Plated , Solderable per MIL-STD 750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Weight:0.093 grams(approx.)

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

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation at T_A=25°C by 10x1000μs Waveform (Fig.1)(Note 1), (Note 2)	P_{PPM}	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 2),(Note 3)	I_{FSM}	100	A
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	20	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	100	°C/W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 to 150	°C

Notes: 1. Non-repetitive current pulse , per Fig. 3 and derated above TA = 25°C per Fig. 2.
2. Mounted on 5.0mm² （0.013mm thick） land areas.
3. Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4pulses per minute maximum.

Electrical Characteristics @T_A=25°C unless otherwise specified

UNI-POLAR	BI-POLAR	DEVICE MARKING CODE		REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT(MA)	MAXMUM CLAMPING VOLTAGE @IPP VC(V)	PEAK PULSE CURRENT IPP(A)	REVERSE LEAKAGE @VRWM IR(uA)
		UNI	BI							
SMBJ5.0A	SMBJ5.0CA	KE	AE	5	6.4	7	10	9.2	65.3	800
SMBJ6.0A	SMBJ6.0CA	KG	AG	6	6.67	7.37	10	10.3	58.3	800
SMBJ6.5A	SMBJ6.5CA	KK	AK	6.5	7.22	7.98	10	11.2	53.6	500
SMBJ7.0A	SMBJ7.0CA	KM	AM	7	7.78	8.6	10	12	50	200
SMBJ7.5A	SMBJ7.5CA	KP	AP	7.5	8.33	9.21	1	12.9	46.6	100
SMBJ8.0A	SMBJ8.0CA	KR	AR	8	8.89	9.83	1	13.6	44.2	50
SMBJ8.5A	SMBJ8.5CA	KT	AT	8.5	9.44	10.4	1	14.4	41.7	20
SMBJ9.0A	SMBJ9.0CA	KV	AV	9	10	11.1	1	15.4	39	10
SMBJ10A	SMBJ10CA	KX	AX	10	11.1	12.3	1	17	35.3	5
SMBJ11A	SMBJ11CA	KZ	AZ	11	12.2	13.5	1	18.2	33	5
SMBJ12A	SMBJ12CA	LE	BE	12	13.3	14.7	1	19.9	30.2	5
SMBJ13A	SMBJ13CA	LG	BG	13	14.4	15.9	1	21.5	28	5
SMBJ14A	SMBJ14CA	LK	BK	14	15.6	17.2	1	23.2	25.9	5
SMBJ15A	SMBJ15CA	LM	BM	15	16.7	18.5	1	24.4	24.6	5
SMBJ16A	SMBJ16CA	LP	BP	16	17.8	19.7	1	26	23.1	5
SMBJ17A	SMBJ17CA	LR	BR	17	18.9	20.9	1	27.6	21.8	5
SMBJ18A	SMBJ18CA	LT	BT	18	20	22.1	1	29.2	20.6	5
SMBJ20A	SMBJ20CA	LV	BV	20	22.2	24.5	1	32.4	18.6	5
SMBJ22A	SMBJ22CA	LX	BX	22	24.4	26.9	1	35.5	16.9	5
SMBJ24A	SMBJ24CA	LZ	BZ	24	26.7	29.5	1	38.9	15.5	5
SMBJ26A	SMBJ26CA	ME	CE	26	28.9	31.9	1	42.1	14.3	5
SMBJ28A	SMBJ28CA	MG	CG	28	31.1	34.4	1	45.4	13.3	5
SMBJ30A	SMBJ30CA	MK	CK	30	33.3	36.8	1	48.4	12.4	5
SMBJ33A	SMBJ33CA	MM	CM	33	36.7	40.6	1	53.3	11.3	5
SMBJ36A	SMBJ36CA	MP	CP	36	40	44.2	1	58.1	10.4	5
SMBJ40A	SMBJ40CA	MR	CR	40	44.4	49.1	1	64.5	9.3	5
SMBJ43A	SMBJ43CA	MT	CT	43	47.8	52.8	1	69.4	8.7	5
SMBJ45A	SMBJ45CA	MV	CV	45	50	55.3	1	72.7	8.3	5
SMBJ48A	SMBJ48CA	MX	CX	48	53.3	58.9	1	77.4	7.8	5
SMBJ51A	SMBJ51CA	MZ	CZ	51	56.7	62.7	1	82.4	7.3	5
SMBJ54A	SMBJ54CA	NE	DE	54	60	66.3	1	87.1	6.9	5
SMBJ58A	SMBJ58CA	NG	DG	58	64.4	71.2	1	93.6	6.5	5
SMBJ60A	SMBJ60CA	NK	DK	60	66.7	73.7	1	96.8	6.2	5
SMBJ64A	SMBJ64CA	NM	DM	64	71.1	78.6	1	103	5.9	5
SMBJ70A	SMBJ70CA	NP	DP	70	77.8	86	1	113	5.3	5
SMBJ75A	SMBJ75CA	NR	DR	75	83.3	92.1	1	121	5	5
SMBJ78A	SMBJ78CA	NT	DT	78	86.7	95.8	1	126	4.8	5
SMBJ85A	SMBJ85CA	NV	DV	85	94.4	104	1	137	4.4	5
SMBJ90A	SMBJ90CA	NX	DX	90	100	111	1	146	4.1	5
SMBJ100A	SMBJ100CA	NZ	DZ	100	111	123	1	162	3.7	5
SMBJ110A	SMBJ110CA	PE	EE	110	122	135	1	177	3.4	5
SMBJ120A	SMBJ120CA	PG	EG	120	133	147	1	193	3.1	5
SMBJ130A	SMBJ130CA	PK	EK	130	144	159	1	209	2.9	5
SMBJ150A	SMBJ150CA	PM	EM	150	167	185	1	243	2.5	5
SMBJ160A	SMBJ160CA	PP	EP	160	178	197	1	259	2.3	5
SMBJ170A	SMBJ170CA	PR	ER	170	189	209	1	275	2.2	5
SMBJ180A	SMBJ180CA	PT	ET	180	201	222	1	292	2.1	1
SMBJ200A	SMBJ200CA	PV	EV	200	224	247	1	324	1.9	1

Ratings and Characteristics Curves

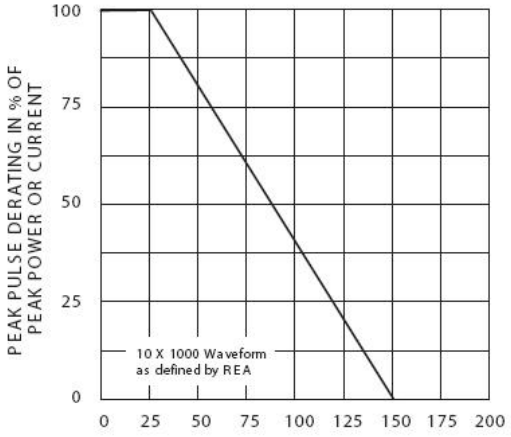

Fig. 1 Pulse Derating Curve

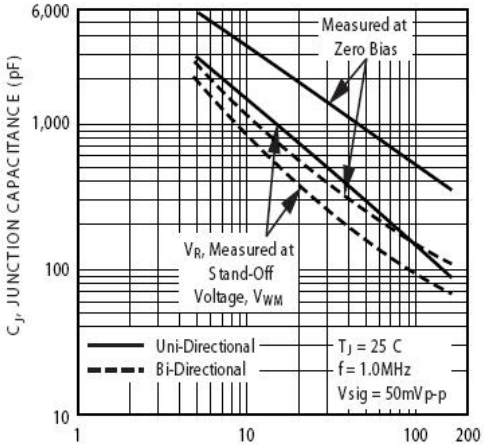

Fig. 2 Typical Junction Capacitance

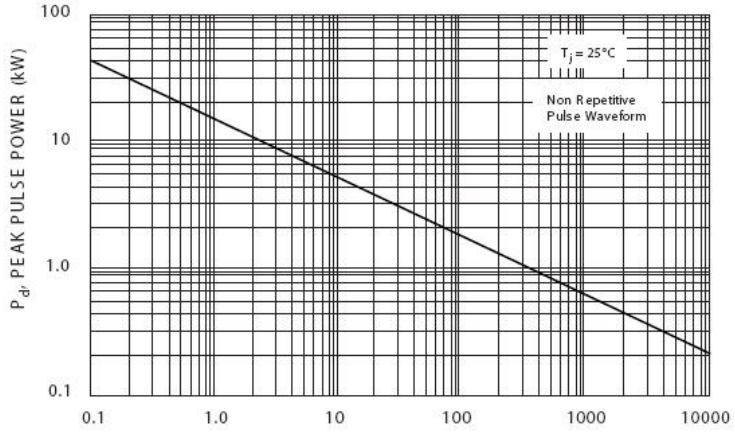

Fig. 3 Pulse Rating Curve

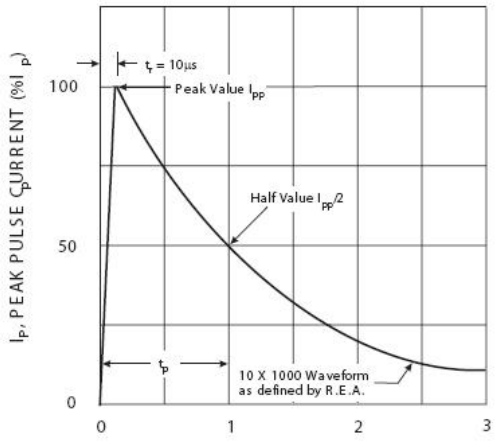

Fig. 4 Pulse Waveform

Technical Data
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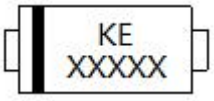
Ordering Information

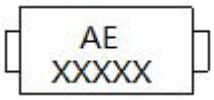
Device	Package	Shipping
SMBJ SERIES	SMB (Pb-Free)	3000pcs / reel
SMBJ SERIES TR	SMB (Pb-Free)	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram



SMBJ5.0A



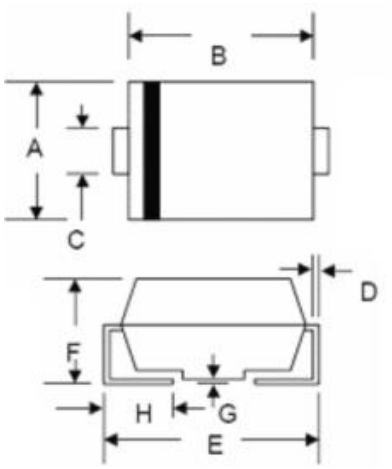
SMBJ5.0CA

Where XXXXX is YYWWL

KE/AE = Marking code
YY = Year
WW = Week
L = Lot Number

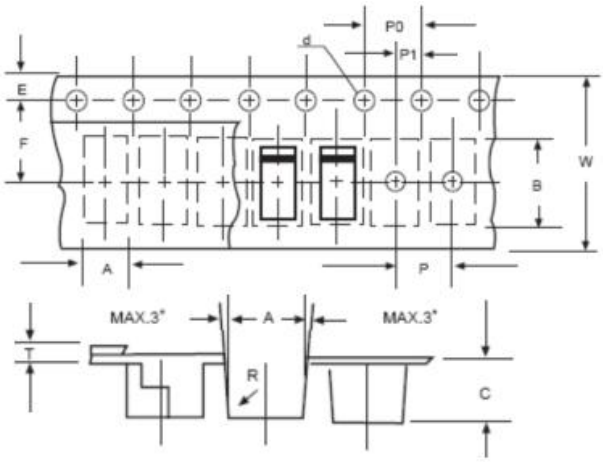
Cautions: Molding resin
Epoxy resin UL:94V-0

Mechanical Dimensions SMB



	SMB/DO-214AA			
Dim.	**Min.**	**Max.**	**Min.**	**Max.**
A	**3.30**	**3.94**	**0.130**	**0.155**
B	**4.06**	**4.70**	**0.160**	**0.185**
C	**1.80**	**2.20**	**0.071**	**0.087**
D	**0.152**	**0.305**	**0.006**	**0.012**
E	**4.80**	**5.59**	**0.189**	**0.220**
F	**2.10**	**2.60**	**0.083**	**0.102**
G	**0.051**	**0.203**	**0.002**	**0.008**
H	**0.76**	**1.52**	**0.030**	**0.060**
	In Millimeters		**In inches**	

Carrier Tape Specification SMB



SYMBOL	Millimeters	
	Min.	Max.
A	3.99	4.19
B	5.72	5.92
C	3.23	3.43
d	1.40	1.60
E	1.40	1.60
F	5.60	5.70
P	7.90	8.10
P0	3.90	4.10
P1	1.90	2.10
T	-	0.60
W	11.80	12.20

Technical Data
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