

SMBJ5.0 - SMBJ188CA series

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

Protect sensitive electronics against voltage transients induced by electro-static discharge (ESD), inductive load switching, and lightning. Ideal for the protection of I/O interfaces, Vcc bus and other integrated circuits.

FEATURES

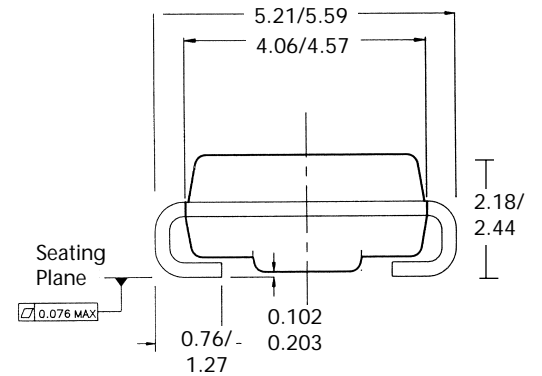
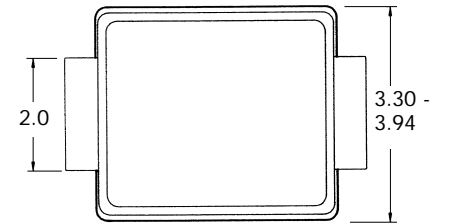
- Stand-off Voltage Range 5.0 to 188 Volts
- Uni-directional and Bi-directional
- Glass Passivated Junction
- Jedec package designed to meet SM assembly needs
- Low lead inductance
- Each device 100% surge tested
- UL Recognized

MAXIMUM RATINGS

- Peak Pulse Power (Ppk) 600 Watts (10 X 1000µs)
(see diagram on page 6 for wave form)
- 1.5 Watt Steady State
- Response time: 1 X 10⁻¹² secs (theoretical)
- Forward surge rating: 100A, 8.3 ms single half sine-wave
(Uni-directional only)
- Operating & storage Temp.: -55°C to +150°C

MECHANICAL DATA

- CASE: D0214AA moulded plastic over glass passivated junction UL94V(O) (Thermoset) Epoxy.
- Terminals: Solder plated solderable per MIL-STD-750 Method 2026
- Solderable leads: 230°C for 10 seconds.
- Marking: cathode band(positive terminal, uni-directional devices only), device code, logo
- Weight: 0.093 gram (approx.)



ORDERING INFORMATION



T1 = Taped (500 pcs)

T3 = Taped (3000 pcs)

Figure 1 - Capacitance

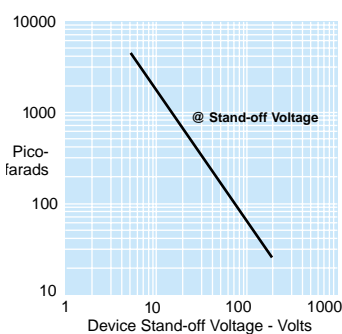


Figure 2 - Pad Size

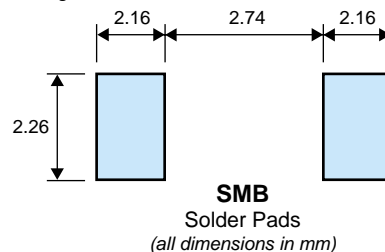
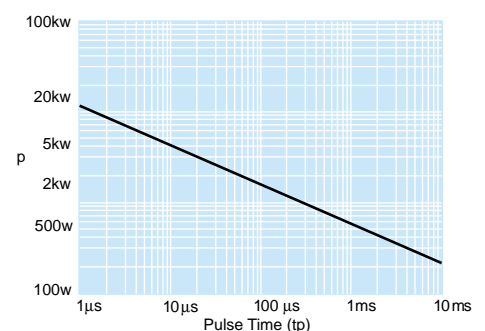


Figure 3 - Peak Pulse Power vs. Pulse Time



ELECTRICAL SPECIFICATION @ Tamb = 25°C

PART NUMBER UNI-POLAR	DEVICE CODE UNI-POLAR	PART NUMBER BI-POLAR	DEVICE CODE BI-POLAR C' or 'CA' VERSION	REVERSE STANDOFF VOLTAGE V _R (Volts)	BREAKDOWN VOLTAGE V _{BR} (Volts) @ I _T		MAXIMUM REVERSE LEAKAGE I _r @ V _R (µA)	MAXIMUM CLAMPING VOLTAGE V _c @ I _{PP} (Volts)	MAXIMUM PEAK PULSE CURRENT I _{PP} (A)
					MIN	(mA)			
SMBJ5.0A*	KE	SMBJ5.0CA*	AE	5.0	6.40	10	800.0	9.2	65.2
SMBJ6.0A*	KG	SMBJ6.0CA*	AG	6.0	6.67	10	800.0	10.3	58.3
SMBJ6.5A	KK	SMBJ6.5CA	AK	6.5	7.22	10	500.0	11.2	53.6
SMBJ7.0A	KM	SMBJ7.0CA	AM	7.0	7.78	10	200.0	12.0	50.0
SMBJ7.5A	KP	SMBJ7.5CA*	AP	7.5	8.33	1	100.0	12.9	46.5
SMBJ8.0A	KR	SMBJ8.0CA	AR	8.0	8.89	1	50.0	13.6	44.1
SMBJ8.5A*	KT	SMBJ8.5CA*	AT	8.5	9.44	1	20.0	14.4	41.7
SMBJ9.0A	KV	SMBJ9.0CA	AV	9.0	10.00	1	10.0	15.4	39.0
SMBJ10A	KX	SMBJ10CA	AX	10.0	11.10	1	5.0	17.0	35.3
SMBJ11A	KZ	SMBJ11CA	AZ	11.0	12.20	1	5.0	18.2	33.0
SMBJ12A*	LE	SMBJ12CA*	BE	12.0	13.30	1	5.0	19.9	30.2
SMBJ13A	LG	SMBJ13CA*	BG	13.0	14.40	1	5.0	21.5	27.9
SMBJ14A	LK	SMBJ14CA	BK	14.0	15.60	1	5.0	23.2	25.8
SMBJ15A*	LM	SMBJ15CA*	BM	15.0	16.70	1	5.0	24.4	24.0
SMBJ16A	LP	SMBJ16CA	BP	16.0	17.80	1	5.0	26.0	23.1
SMBJ17A	LR	SMBJ17CA	BR	17.0	18.90	1	5.0	27.6	21.0
SMBJ18A*	LT	SMBJ18CA	BT	18.0	20.00	1	5.0	29.2	20.5
SMBJ20A	LV	SMBJ20CA	BV	20.0	22.20	1	5.0	32.4	18.5
SMBJ22A	LX	SMBJ22CA*	BX	22.0	24.40	1	5.0	35.5	16.9
SMBJ24A	LZ	SMBJ24CA*	BZ	24.0	26.70	1	5.0	38.9	15.4
SMBJ26A*	ME	SMBJ26CA	CE	26.0	28.90	1	5.0	42.1	14.2
SMBJ28A	MG	SMBJ28CA	CG	28.0	31.10	1	5.0	45.4	13.2
SMBJ30A	MK	SMBJ30CA	CK	30.0	33.30	1	5.0	46.6	12.4
SMBJ33A*	MM	SMBJ33CA	CM	33.0	36.70	1.0	5.0	53.3	11.3
SMBJ36A*	MP	SMBJ36CA*	CP	36.0	40.00	1.0	5.0	58.1	10.3
SMBJ40A	MR	SMBJ40CA	CR	40.0	44.40	1.0	5.0	64.5	9.3
SMBJ43A	MT	SMBJ43CA	CT	43.0	47.80	1.0	5.0	69.4	8.6
SMBJ45A	MV	SMBJ45CA	CV	45.0	50.00	1.0	5.0	72.7	8.3
SMBJ48A	MX	SMBJ48CA	CX	48.0	53.30	1.0	5.0	77.4	7.7
SMBJ51A	MZ	SMBJ51CA*	CZ	51.0	56.70	1.0	5.0	82.4	7.3
SMBJ54A	NE	SMBJ54CA	DE	54.0	60.00	1.0	5.0	87.1	6.9
SMBJ58A	NG	SMBJ58CA	DG	58.0	64.40	1.0	5.0	93.6	6.4
SMBJ60A	NK	SMBJ60CA	DK	60.0	66.70	1.0	5.0	96.8	6.2
SMBJ64A	NM	SMBJ64CA	DM	64.0	71.10	1.0	5.0	103.0	5.8
SMBJ70A	NP	SMBJ70CA	DP	70.0	77.80	1.0	5.0	113.0	5.3
SMBJ75A	NR	SMBJ75CA	DR	75.0	83.30	1.0	5.0	121.0	4.9
SMBJ78A	NT	SMBJ78CA	DT	78.0	86.70	1.0	5.0	126.0	4.7
SMBJ85A	NV	SMBJ85CA	DV	85.0	94.40	1.0	5.0	137.0	4.4
SMBJ90A	NX	SMBJ90CA	DX	90.0	100.00	1.0	5.0	146.0	4.1
SMBJ100A	NZ	SMBJ100CA	DZ	100.0	111.00	1.0	5.0	162.0	3.7
SMBJ110A	PE	SMBJ110CA	EE	110.0	122.00	1.0	5.0	177.0	3.4
SMBJ120A	PG	SMBJ120CA	EG	120.0	133.00	1.0	5.0	193.0	3.1
SMBJ130A	PK	SMBJ130CA	EK	130.0	144.00	1.0	5.0	209.0	2.9
SMBJ150A*	PM	SMBJ150CA	EM	150.0	167.00	1.0	5.0	243.0	2.5
SMBJ160A	PP	SMBJ160CA	EP	160.0	178.00	1.0	5.0	259.0	2.3
SMBJ170A	PR	SMBJ170CA*	ER	170.0	189.00	1.0	5.0	275.0	2.2
SMBJ188A	PS	SMBJ188A	ES	188.0	209	1.0	5.0	328	2.0

*Note: Non "A" devices have higher clamping voltage. Add suffix "C" to denote bi-polar devices.

1. For Bi-directional devices having V_R of 10 volts and under the I_r limit is doubled.

2. For Uni-direction devices V_r = 3.5 Volts max at I_f 50A, 300 µS square wave pulse. * Preferred voltages.