

## 600W SURFACE MOUNT TVS

### Features

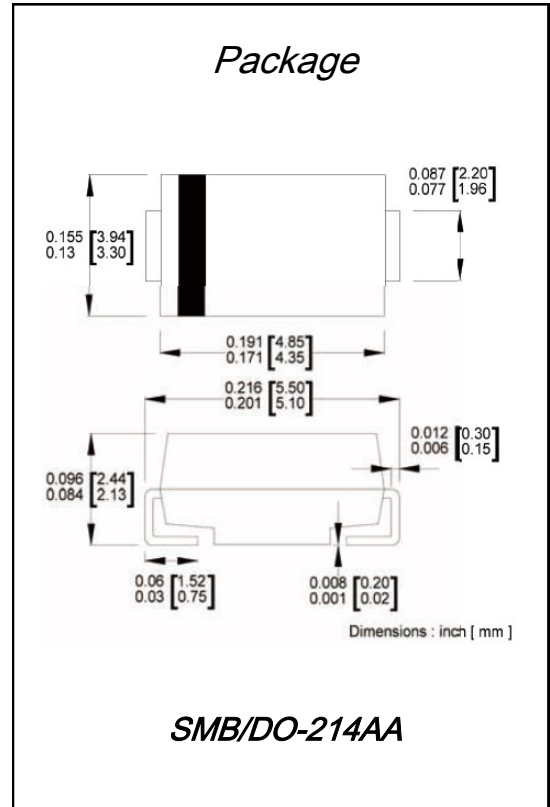
- ◆ Glass Passivated Chip
- ◆ Low Leakage
- ◆ Uni and Bidirectional Unit
- ◆ Excellent Clamping Capability
- ◆ Very Fast Response Time
- ◆ RoHS Compliant
- ◆ 600 W peak pulse power capability with 10/1000us waveform, repetitive rate (duty cycle): 0.01 %

### Application

- ◆ IPC
- ◆ Car Electronics
- ◆ Power Supply
- ◆ Smart Meters

### Mechanical Characteristics

- ◆ Case: Molded Plastic
- ◆ Epoxy: UL 94V-0 rate flame retardant
- ◆ Lead: Solderable per MIL-STD-750, method 2026
- ◆ Polarity: Color band denotes cathode end except Bi-directional parts
- ◆ Mounting position: Any



Packing Info	
Reel Size	13"
Qty / Reel	3000
Reel / Box	2
Box / Carton	8

## DEVICE CHARACTERISTICS

Maximum Rating			
Parameter	Symbol	Value	Units
Peak Power Dissipation With 10/1000us Waveform	P <sub>PP</sub>	600	Watt
Peak Pulse Current With 10/1000us Waveform	I <sub>PP</sub>	-	A
Power Dissipation On Infinite Heatsink @ T <sub>L</sub> = 75°C	P <sub>D</sub>	5.0	Watt
Peak Forward Surge Current	I <sub>FSM</sub>	100	A
Maximum Instantaneous Forward Voltage @ 50 A	V <sub>F</sub>	3.5/5	V
Operating Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C

ELECTRICAL CHARACTERISTICS @ 25°C										
Part Number	Part Number	Marking Code		Breakdown Voltage VBR @IT			IR @ V <sub>RWM</sub>	V <sub>RWM</sub>	I <sub>PP</sub>	V <sub>C</sub> @ I <sub>PP</sub>
		Uni	Bi	Min (V)	Max (V)	IT (mA)	(uA)	(V)	(A)	(V)
SMBJ5.0A	SMBJ5.0CA	KE	AE	6.4	7	10	800	5	65.3	9.2
SMBJ6.0A	SMBJ6.0CA	KG	AG	6.67	7.37	10	800	6	58.3	10.3
SMBJ6.5A	SMBJ6.5CA	KK	AK	7.22	7.98	10	500	6.6	53.6	11.2
SMBJ7.0A	SMBJ7.0CA	KM	AM	7.78	8.6	10	200	7	50	12
SMBJ7.5A	SMBJ7.5CA	KP	AP	8.33	9.21	1	100	7.5	46.6	12.9
SMBJ8.0A	SMBJ8.0CA	KR	AR	8.89	9.83	1	50	8	44.2	13.6
SMBJ8.5A	SMBJ8.5CA	KT	AT	9.44	10.4	1	10	8.5	41.7	14.4
SMBJ9.0A	SMBJ9.0CA	KV	AV	10	11.1	1	5	9	39	15.4
SMBJ10A	SMBJ10CA	KX	AX	11.1	12.3	1	5	10	35.3	17
SMBJ11A	SMBJ11CA	KZ	AZ	12.2	13.5	1	5	11	33	18.2
SMBJ12A	SMBJ12CA	LE	BE	13.3	14.7	1	5	12	30.2	19.9
SMBJ13A	SMBJ13CA	LG	BG	14.4	15.9	1	5	13	28	21.5
SMBJ14A	SMBJ14CA	LK	BK	15.6	17.2	1	5	14	25.9	23.2
SMBJ15A	SMBJ15CA	LM	BM	16.7	18.5	1	5	15	24.6	24.4
SMBJ16A	SMBJ16CA	LP	BP	17.8	19.7	1	5	16	23.1	26
SMBJ17A	SMBJ17CA	LR	BR	18.9	20.9	1	5	17	21.8	27.6
SMBJ18A	SMBJ18CA	LT	BT	20	21.1	1	5	18	20.6	29.2
SMBJ20A	SMBJ20CA	LV	BV	22.2	24.5	1	5	20	18.6	32.4

## DEVICE CHARACTERISTICS

ELECTRICAL CHARACTERISTICS @ 25°C										
Part Number	Part Number	Marking Code		Breakdown Voltage VBR @IT			IR @ V <sub>RWM</sub> ( $\mu$ A)	V <sub>RWM</sub> (V)	I <sub>PP</sub> (A)	V <sub>C</sub> @ I <sub>PP</sub> (V)
		Uni	Bi	Min (V)	Max (V)	IT (mA)				
SMBJ22A	SMBJ22CA	LX	BX	24.4	26.9	1	5	22	16.9	35.5
SMBJ24A	SMBJ24CA	LZ	BZ	26.7	29.5	1	5	24	15.5	38.9
SMBJ26A	SMBJ26CA	ME	CE	28.9	31.9	1	5	26	14.3	42.1
SMBJ28A	SMBJ28CA	MG	CG	31.1	34.4	1	5	28	13.3	45.4
SMBJ30A	SMBJ30CA	MK	CK	33.3	36.8	1	5	30	12.4	48.4
SMBJ33A	SMBJ33CA	MM	CM	36.7	40.6	1	5	33	11.3	53.3
SMBJ36A	SMBJ36CA	MP	CP	40	44.2	1	5	36	10.4	58.1
SMBJ40A	SMBJ40CA	MR	CR	44.4	49.1	1	5	40	9.3	64.5
SMBJ43A	SMBJ43CA	MT	CT	47.8	52.8	1	5	43	8.7	69.4
SMBJ45A	SMBJ45CA	MV	CV	50	55.3	1	5	45	8.3	72.7
SMBJ48A	SMBJ48CA	MX	CX	53.3	58.9	1	5	48	7.8	77.4
SMBJ51A	SMBJ51CA	MZ	CZ	56.7	62.7	1	5	51	7.3	82.4
SMBJ54A	SMBJ54CA	NE	DE	60	66.3	1	5	54	6.9	87.1
SMBJ58A	SMBJ58CA	NG	DG	64.4	71.2	1	5	58	6.5	93.6
SMBJ60A	SMBJ60CA	NK	DK	66.7	73.7	1	5	60	6.2	96.8
SMBJ64A	SMBJ64CA	NM	DM	71.1	78.6	1	5	64	5.9	103
SMBJ70A	SMBJ70CA	NP	DP	77.8	86	1	5	70	5.3	113
SMBJ75A	SMBJ75CA	NR	DR	83.3	92.1	1	5	75	5	121
SMBJ78A	SMBJ78CA	NT	DT	86.7	95.8	1	5	78	4.8	126
SMBJ85A	SMBJ85CA	NV	DV	94.4	104	1	5	85	4.4	137
SMBJ90A	SMBJ90CA	NX	DX	100	111	1	5	90	4.1	146
SMBJ100A	SMBJ100CA	NZ	DZ	111	123	1	5	100	3.7	162
SMBJ110A	SMBJ110CA	PE	EE	122	135	1	5	110	3.4	177
SMBJ120A	SMBJ120CA	PG	EG	133	147	1	5	120	3.1	193
SMBJ130A	SMBJ130CA	PK	EK	144	159	1	5	130	2.9	209
SMBJ150A	SMBJ150CA	PM	EM	167	185	1	5	150	2.5	243
SMBJ160A	SMBJ160CA	PP	EP	178	197	1	5	160	2.3	259
SMBJ170A	SMBJ170CA	PR	ER	189	209	1	5	170	2.2	275
SMBJ180A	SMBJ180CA	PT	ET	201	222	1	5	180	2.1	292
SMBJ200A	SMBJ200CA	PV	EV	224	247	1	5	200	1.9	324
SMBJ220A	SMBJ220CA	PX	EX	246	272	1	5	220	1.7	356
SMBJ250A	SMBJ250CA	PZ	EZ	279	309	1	5	250	1.5	405
SMBJ300A	SMBJ300CA	QE	FE	335	371	1	5	300	1.3	486
SMBJ350A	SMBJ350CA	QG	FG	391	432	1	5	350	1.1	567
SMBJ400A	SMBJ400CA	QK	FK	447	494	1	5	400	0.9	648
SMBJ440A	SMBJ440CA	QM	FM	492	543	1	5	440	0.9	713

**RATING CURVES**

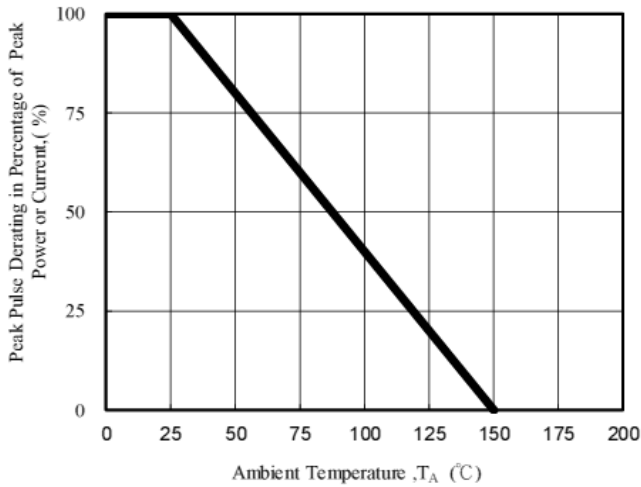


Fig. 1 - Pulse Derating Curve

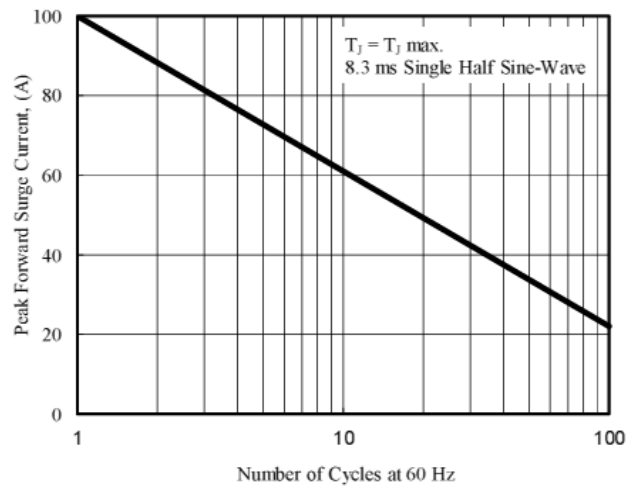


Fig. 2 - Maximum Non-Repetitive Surge Current

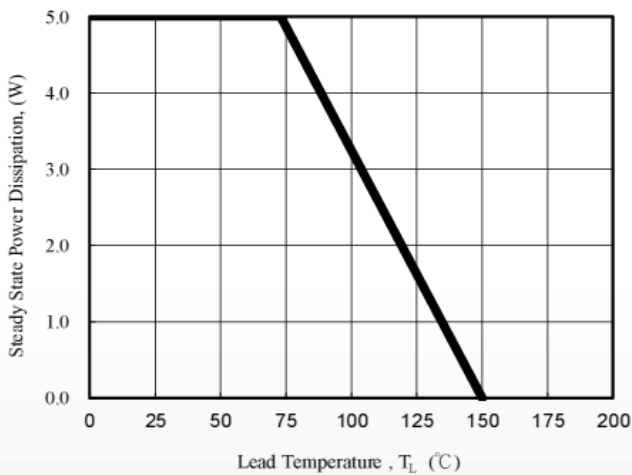


Fig. 3 - Steady State Power Derating Curve

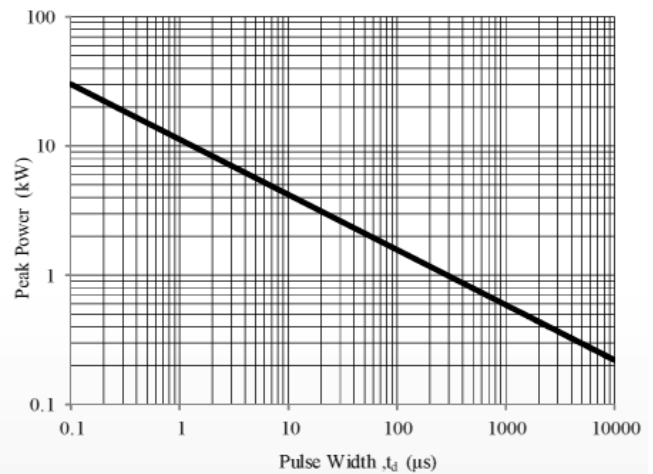


Fig. 4 - Peak Pulse Power Rating Curve

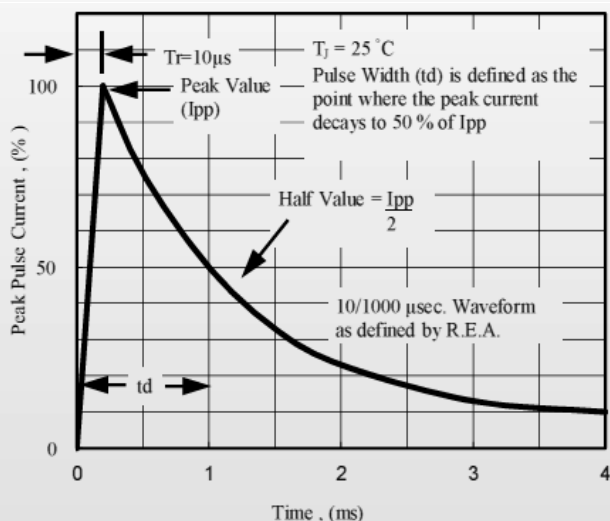


Fig. 5 - Pulse Waveform

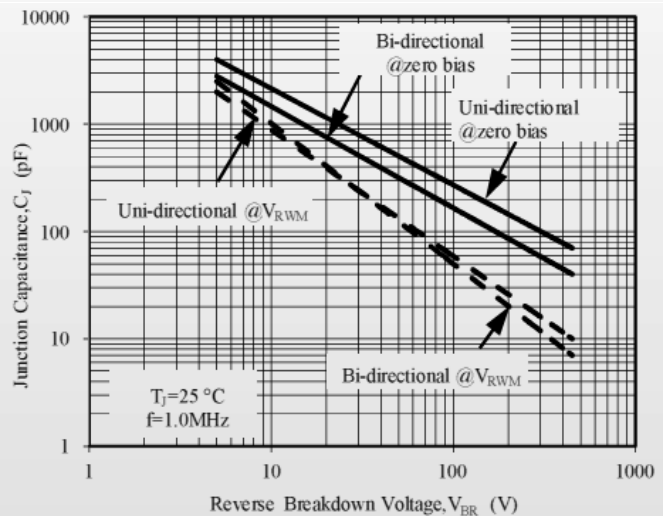


Fig. 6 - Typical Junction Capacitance

**REFERENCE**

<b>Revision History</b>	<b>Modification Description</b>
<b>Rev.1.0</b>	<b>Initial Release</b>
<b>Rev.1.01</b>	<b>Edit Document Layout</b>