

### FEATURES

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition rate (duty cycle):0.01%
- Fast response time: typically less than 1.0 ps from 0 volts to BV for unidirectional types
- Typical IR less than 1μA above 10v
- High temperature soldering:  
250°C/10 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability Classification 94 V-0

### MECHANICAL DATA

Case: JEDEC DO214AA. Molded plastic over glass passivated junction

Terminals: Solder plated, solderable per

MIL-STD-750, Method 2026

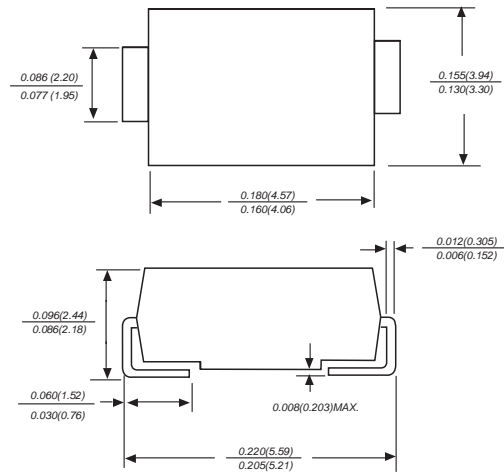
Polarity: Color band denoted positive end (cathode) except Bidirectional

Standard Packaging: 12mm tape (EIA STD RS-481)

Weight: 0.003 ounces, 0.093 grams)

For Bidirectional use C or CA Suffix for types SMBJ5.0 thru types SMBJ440 (e.g. SMBJ5.0C, SMBJ440CA)  
Electrical characteristics apply in both directions.

**DO-214AA/SMB**



*Dimensions in inches and (millimeters)*

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μs waveform (NOTE 1, 2, Fig.1)	P <sub>PPM</sub>	Minimum 600	Watts
Peak Pulse Current of on 10/1000 μs waveform (Note 1, Fig 3)	I <sub>PPM</sub>	SEE TABLE 1	Amps
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load, (JEDEC Method)(Note2, 3)	I <sub>FSM</sub>	100	Amps
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 +150	°C

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above Ta=25 °C per Fig.2.
2. Mounted on Copper Pad area of 0.8x0.8" (20x20mm) per Fig.5.
3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle=4 pulses per minutes maximum.

## 600 Watt Surface Mount TVS

UNI-POLAR	BI-POLAR	REVERSE STANDOFF VOLTAGE $V_{RWM}$ (V)	BREAKDOWN VOLTAGE $V_{BR}$ (V) MIN. @ $I_T$	BREAKDOWN VOLTAGE $V_{BR}$ (V) MAX. @ $I_T$	TEST CURRENT ( $I_T$ ) mA	MAXIMUM CLAMPING VOLTAGE @ $I_{PP}$ $V_C$ (V)	PEAK PULSE CURRENT $I_{PP}$ (A)	REVERSE LEAKAGE @ $V_{RWM}$ $I_R$ ( $\mu$ A)
SMBJ5.0A	SMBJ5.0CA	5.00	6.40	7.00	10	9.2	65.3	800
SMBJ6.0A	SMBJ6.0CA	6.00	6.67	7.37	10	10.3	58.3	800
SMBJ6.5A	SMBJ6.5CA	6.50	7.22	7.98	10	11.2	53.6	500
SMBJ7.0A	SMBJ7.0CA	7.00	7.78	8.60	10	12.0	50.0	200
SMBJ7.5A	SMBJ7.5CA	7.50	8.33	9.21	1	12.9	46.6	100
SMBJ8.0A	SMBJ8.0CA	8.00	8.89	9.83	1	13.6	44.2	50
SMBJ8.5A	SMBJ8.5CA	8.50	9.44	10.40	1	14.4	41.7	20
SMBJ9.0A	SMBJ9.0CA	9.00	10.00	11.10	1	15.4	39.0	10
SMBJ10A	SMBJ10CA	10.00	11.10	12.30	1	17.0	35.3	5
SMBJ11A	SMBJ11CA	11.00	12.20	13.50	1	18.2	33.0	5
SMBJ12A	SMBJ12CA	12.00	13.30	14.70	1	19.9	30.2	5
SMBJ13A	SMBJ13CA	13.00	14.40	15.90	1	21.5	28.0	5
SMBJ14A	SMBJ14CA	14.00	15.60	17.20	1	23.2	25.9	5
SMBJ15A	SMBJ15CA	15.00	16.70	18.50	1	24.4	24.6	5
SMBJ16A	SMBJ16CA	16.00	17.80	19.70	1	26.0	23.1	5
SMBJ17A	SMBJ17CA	17.00	18.90	20.90	1	27.6	21.8	5
SMBJ18A	SMBJ18CA	18.00	20.00	22.10	1	29.2	20.6	5
SMBJ20A	SMBJ20CA	20.00	22.20	24.50	1	32.4	18.6	5
SMBJ22A	SMBJ22CA	22.00	24.40	26.90	1	35.5	16.9	5
SMBJ24A	SMBJ24CA	24.00	26.70	29.50	1	38.9	15.5	5
SMBJ26A	SMBJ26CA	26.00	28.90	31.90	1	42.1	14.3	5
SMBJ28A	SMBJ28CA	28.00	31.10	34.40	1	45.4	13.3	5
SMBJ30A	SMBJ30CA	30.00	33.30	36.80	1	48.4	12.4	5
SMBJ33A	SMBJ33CA	33.00	36.70	40.60	1	53.3	11.3	5
SMBJ36A	SMBJ36CA	36.00	40.00	44.20	1	58.1	10.4	5
SMBJ40A	SMBJ40CA	40.00	44.40	49.10	1	64.5	9.3	5
SMBJ43A	SMBJ43CA	43.00	47.80	52.80	1	69.4	8.7	5
SMBJ45A	SMBJ45CA	45.00	50.00	55.30	1	72.7	8.3	5
SMBJ48A	SMBJ48CA	48.00	53.30	58.90	1	77.4	7.8	5
SMBJ51A	SMBJ51CA	51.00	56.70	62.70	1	82.4	7.3	5
SMBJ54A	SMBJ54CA	54.00	60.00	66.30	1	87.1	6.9	5
SMBJ58A	SMBJ58CA	58.00	64.40	71.20	1	93.6	6.5	5
SMBJ60A	SMBJ60CA	60.00	66.70	73.70	1	96.8	6.2	5
SMBJ64A	SMBJ64CA	64.00	71.10	78.60	1	103.0	5.9	5
SMBJ70A	SMBJ70CA	70.00	77.80	86.00	1	113.0	5.3	5
SMBJ75A	SMBJ75CA	75.00	83.30	92.10	1	121.0	5.0	5
SMBJ78A	SMBJ78CA	78.00	86.70	95.80	1	126.0	4.8	5
SMBJ85A	SMBJ85CA	85.00	94.40	104.00	1	137.0	4.4	5
SMBJ90A	SMBJ90CA	90.00	100.00	111.00	1	146	4.1	5
SMBJ100A	SMBJ100CA	100.00	111.00	123.00	1	162	3.7	5
SMBJ110A	SMBJ110CA	110.00	122.00	135.00	1	177	3.4	5
SMBJ120A	SMBJ120CA	120.00	133.00	147.00	1	193	3.1	5
SMBJ130A	SMBJ130CA	130.00	144.00	159.00	1	209	2.9	5
SMBJ150A	SMBJ150CA	150.00	167.00	185.00	1	243	2.5	5
SMBJ160A	SMBJ160CA	160.00	178.00	197.00	1	259	2.3	5
SMBJ170A	SMBJ170CA	170.00	189.00	209.00	1	275	2.2	5
SMBJ180A	SMBJ180CA	180.00	201.00	222.00	1	292	2.1	5
SMBJ200A	SMBJ200CA	200.00	224.00	247.00	1	324	1.9	5
SMBJ220A	SMBJ220CA	220.00	246.00	272.00	1	356	1.7	5
SMBJ250A	SMBJ250CA	250.00	279.00	309.00	1	405	1.5	5
SMBJ300A	SMBJ300CA	300.00	335.00	371.00	1	486	1.3	5
SMBJ350A	SMBJ350CA	350.00	391.00	432.00	1	567	1.1	5
SMBJ400A	SMBJ400CA	400.00	447.00	494.00	1	648	0.9	5
SMBJ440A	SMBJ440CA	440.00	492.00	543.00	1	713	0.9	5

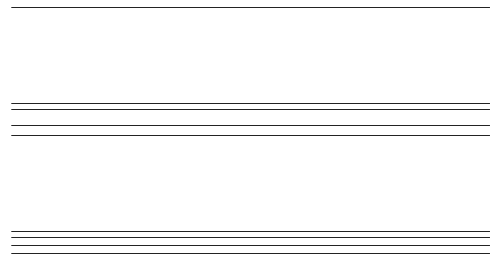
For bidirectional type having  $V_{RWM}$  of 10 volts and less, the  $I_R$  limit is double

For parts without A, the  $V_{BR}$  is  $\pm 10\%$

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# RATING AND CHARACTERISTIC CURVES SMBJ SERIES

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**Fig.6 - Maximum Non-Repetitive Peak Forward Surge Current**

