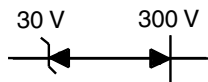


Asymmetric Transient Voltage Suppressor



DO-214AA (SMB)



FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- Very fast response time
- Low incremental surge resistance, excellent clamping capability
- Meets MSL level 1, per J-STD-020C, LF max peak of 260 °C
- Solder dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



TYPICAL APPLICATIONS

For use in wiper motor application, to replace varistor.

MECHANICAL DATA

Case: DO-214AA (SMB)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Color band denotes TVS 30 V cathode end, the cathode of 300 V is at the other terminal side

PRIMARY CHARACTERISTICS

I_{PPM}	14.5 A
V_C	41.4 V
V_{BR} at TVS	30 V
V_{BR} at Diode	300 V
T_J max.	150 °C

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse current with a 10/1000 μ s waveform per (Fig. 1)	I_{PPM}	14.5	A
Maximum reverse current of 30 V TVS side at $V_{WM} = 25.6$ V ⁽¹⁾⁽²⁾	I_D	5.0	μ A
Maximum reverse current of 300 V diode side at $V_{WM} = 243$ V ⁽¹⁾⁽²⁾	I_D	1.0	μ A
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150	°C

Notes:

(1) All terms and symbols are consistent with ANSI/IEEE C62.35

(2) V_{WM} means stand-off voltage

ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted)

DEVICE TYPE	DEVICE MARKING CODE	BREAKDOWN VOLTAGE V_{BR} AT I_T ⁽¹⁾ (V)		TEST CURRENT I_T (mA)	TYPICAL JUNCTION CAPACITANCE AT 4.0 V, 1 MHz C_J (pF)	MAXIMUM PEAK PULSE SURGE CURRENT I_{PPM} ⁽²⁾ (A)	MAXIMUM CLAMPING VOLTAGE AT I_{PPM} V_C (V)
		MIN	MAX				
SMB30A300	30F						
30 V TVS		28.5	31.5	1.0	130	14.5	41.4
300 V Diode		270	360	1.0	72	-	-

Notes:

(1) Pulse test: $t_p \leq 50$ ms

(2) Surge current waveform per Fig. 1

ORDERING INFORMATION (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SMB30A300-E3/52	0.096	52	750	7" diameter plastic tape and reel
SMB30A300-E3/5B	0.096	5B	3200	13" diameter plastic tape and reel
SMB30A300HE3/52 ⁽¹⁾	0.096	52	750	7" diameter plastic tape and reel
SMB30A300HE3/5B ⁽¹⁾	0.096	5B	3200	13" diameter plastic tape and reel

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

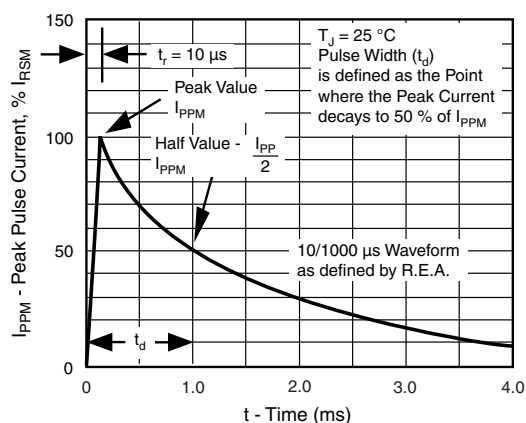


Figure 1. Pulse Waveform

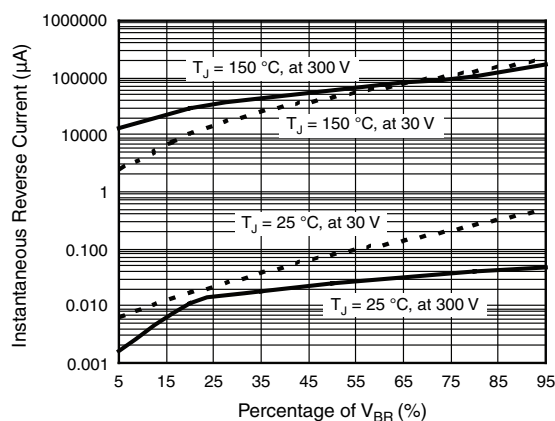


Figure 3. Typical Reverse Leakage Current

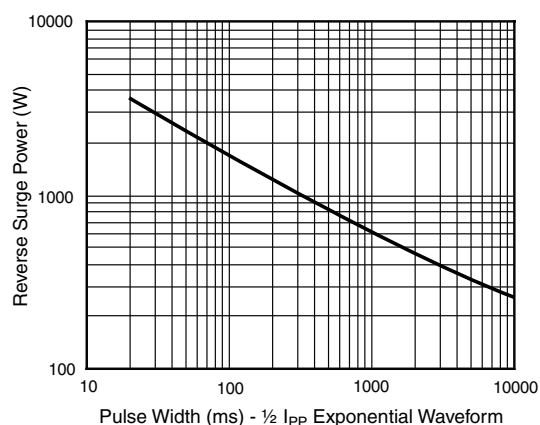


Figure 2. Reverse Power Capability for TVS

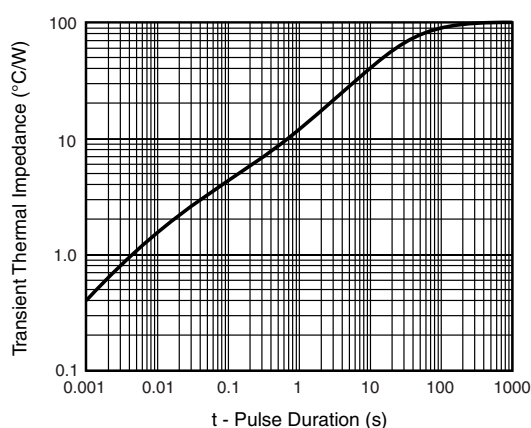
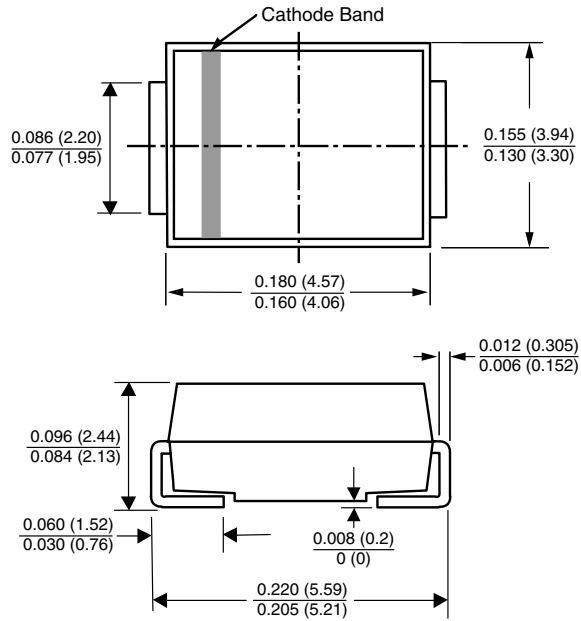
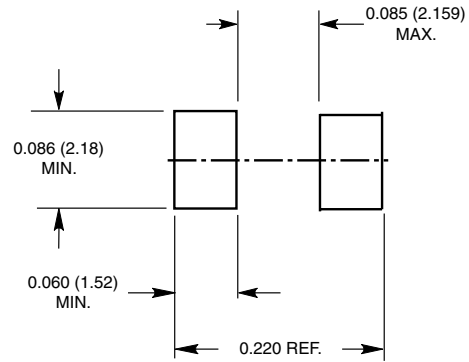


Figure 4. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)**DO-214AA (SMB)****Mounting Pad Layout**



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