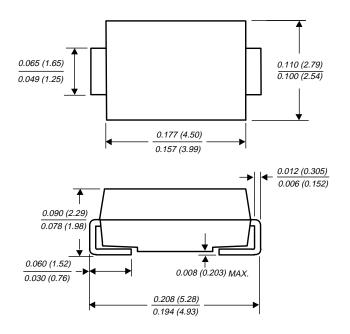
SMAJ530 AND SMAJ550

SURFACE MOUNT TRANSZORB™ TRANSIENT VOLTAGE SUPPRESSOR

Steady State Power - 1 Watt Reverse Voltage - 530, 550 Volts

DO-214AC



Dimensions in inches and (millimeters)

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ♦ Protects TOPSwitch®
- ♦ Glass Passivated Junction
- High temperature soldering guaranteed: 250°C/10 seconds at terminals



- ◆ Exellent Clamping capability
- Available in unidirectional only

MECHANICAL DATA

Case: JEDEC DO-214AC molded plastic body over

passivated chip

Terminals: Solder plated, solderable per MIL-STD-750,

Method 2026

Polarity: The color band denotes the cathode, which is positive with respect to the anode under normal TVS

operation

Mounting Position: Any

Weight: 0.002 ounces, 0.064 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

		SYMBOLS	SMAJ530	SMAJ550	UNITS
Device marking code			HD	SB	
Steady state power dissipation (NOTE 3)		P _{M(AV)}	1.0		Watts
Peak pulse power dissipation (NOTE 1,2,5, FIG.1)		P _{PPM}	Minimum 300		Watts
Minimum breakdown voltage at 100μA		V _(BR)	530	550	Volts
Maximum clamping voltage at 300mA, 10/1000 μs-waveform		Vc	660		Volts
Stand-off voltage		VwM	477	495	Volts
Maximum DC reverse leakage current at V _{WM}		ID	5.0		μΑ
Typical thermal resistance		R⊖JL	27		°C/W
Typical thermal resistance		R⊖JA	75		°C/W
Typical temperature coefficient of V _(BR)			650		mV°C
Typical capacitance (NOTE 4)	at 0V at 200V	CJ	75 45		pF
Operating junction and storage temperature range		TJ, TSTG	-55 to +150		°C

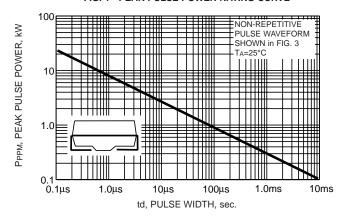
NOTES:

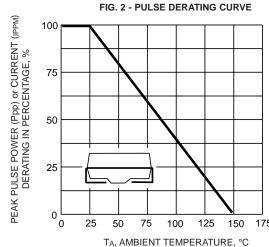
- (1) Non-repetitive current pulse, per Fig.3 and derated above 25°C per Fig. 2
- (2) Mounted on 5.0mm² copper pads to each terminal
- (3) Lead temperature at 75°C=T_L per Fig. 5
- (4) Measured at 1MHz
- (5) Peak pulse power waveform is 10/100μS



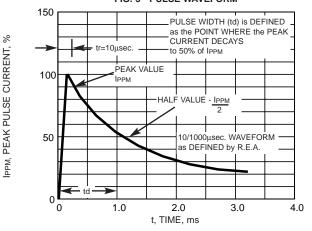
MAXIMUM RATINGS AND CHARACTERISTIC CURVES SMAJ530 AND SMAJ550

FIG. 1 - PEAK PULSE POWER RATING CURVE







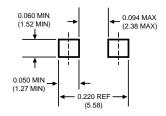


APPLICATION NOTES

RECOMMENDED PAD LAYOUT

The pad dimensions should be 0.010" (2.5mm) longer than the contact size in the lead axis. This allows a solder fillet to form, see figure below. Contact factory for soldering methods.

MODIFIED J-BEND



Dimensions in inches and (millimeters)

- Respect Thermal Resistance (PCB Layout) as the temperature coefficient also contributes to the clamping voltage.
- Select minimum breakdown voltage, so you get acceptable power dissipation and PCB tie point temperature. Devices with higher breakdown voltage will have a shorter conduction time and will dissipate less power.
- Clamping voltage is influenced by internal resistance design approximation is 7V per 100mA slope.
- Keep temperature of TVS lower than TOPSwitch® as a recommendation.
- Maximum current is determined by the maximum T_J and can be higher than 300mA. Contact supplier for different clamping voltage / current arrangements.
- Minimum breakdown voltage can be customized for other applications. Contact supplier.

