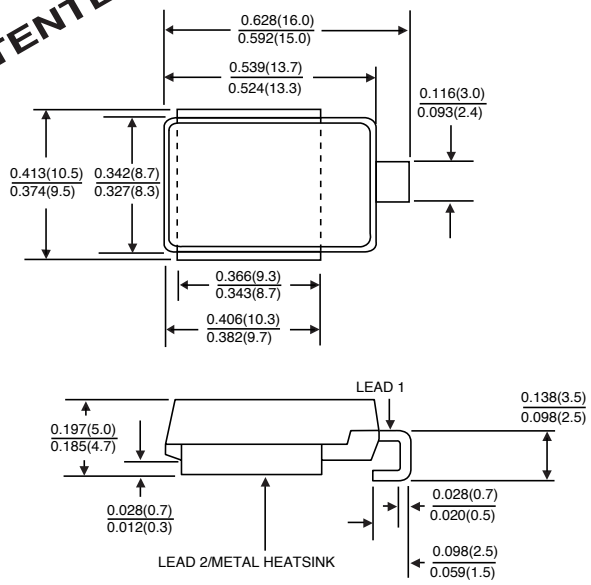
SM6A27 TRANSIENT SUPPRESSOR

SURFACE MOUNT AUTOMOTIVE TRANSIENT VOLTAGE SUPPRESSOR

Zener Voltage - 27.0 Volts **Peak Pulse Current -** 90.0 Amps

PATENTED*

DO-218



*Patent #'s, 4,980,315, 5,166,769, 5,278,095

Dimensions in inches and (millimeters)

FEATURES

- Ideally suited for load dump protection
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature stability due to unique oxide passivation
- Exclusive patented PAR™ oxide passivated chip construction
- Integrally molded heatsink provides a very low thermal resistance for maximum heat dissipation
- Low leakage current at T_J=175°C
- Low forward voltage drop
- High temperature soldering guaranteed: 260°C for 10 seconds at terminals

MECHANICAL DATA

Case: Molded plastic body, surface mount with heatsink integrally mounted in the encapsulation
Terminals: Plated, solderable per MIL-STD-750, Method 2026
Polarity: Heatsink is anode
Mounting Position: Any
Weight: 0.091 ounce, 2.58 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	SM6A27	UNITS
Steady state power dissipation	P_D	6.0	Watts
Non-repetitive peak reverse surge current for 10μs/10ms exponentially decaying waveform	I_{RSM}	90.0	Amps
Maximum working peak stand-off voltage	V_{WM}	22.0	Volts
Minimum reverse zener voltage at 10mA	V_Z	24.0	Volts
Maximum reverse zener voltage at 10mA	V_Z	30.0	Volts
Maximum zener voltage temperature coefficient at I_Z=10mA	V_{ZTC}	36.0	mV/°C
Peak forward surge current, 8.3ms single half sine-wave	I_{FSM}	600.0	Amps
Maximum clamping voltage for 10μs/10ms exponentially decaying waveform at I_{PP}=65A	V_C	40.0	Volts
Maximum instantaneous forward voltage at 6.0A (NOTE 1)	V_F	0.99	Volts
Maximum reverse leakage current at rated V_{WM} T_J=25°C T_J=175°C	I_R	0.5 20.0	μA
Maximum thermal resistance junction to case	$R_{\Theta JC}$	0.95	°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +175	°C

NOTE:
(1) Measured on a 300μs square pulse width

NOTICE: Advanced product information is subject to change without notice

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RATINGS AND CHARACTERISTIC CURVES SM6A27

FIG. 1 - POWER DERATING CURVE

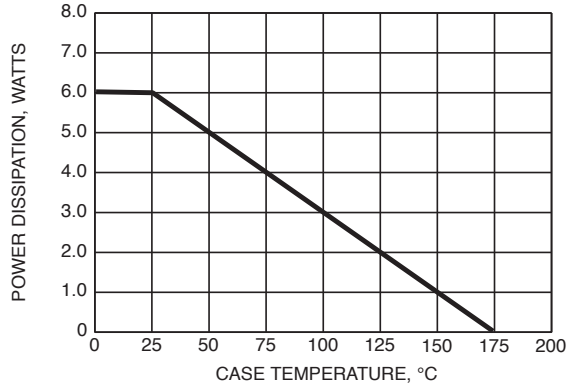


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

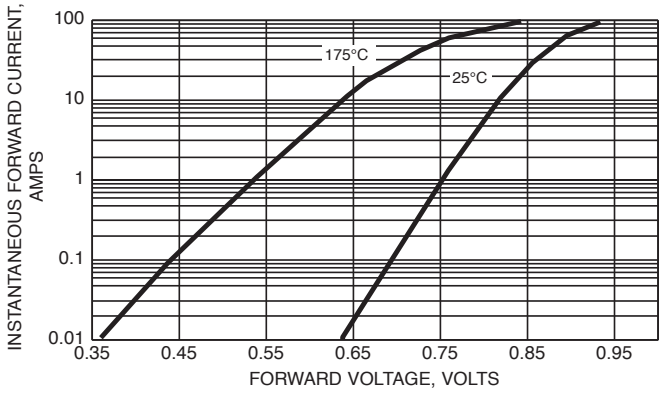


FIG. 3 - PULSE WAVEFORM

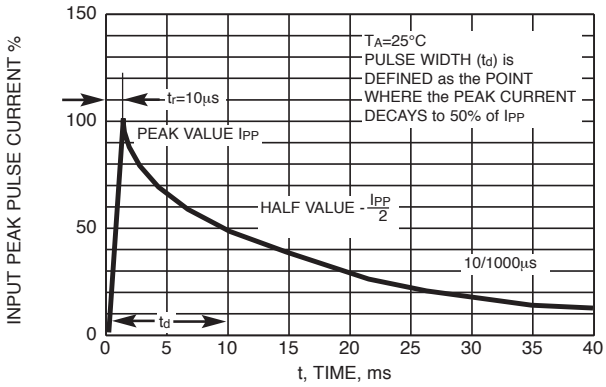


FIG. 4 - REVERSE POWER CAPABILITY

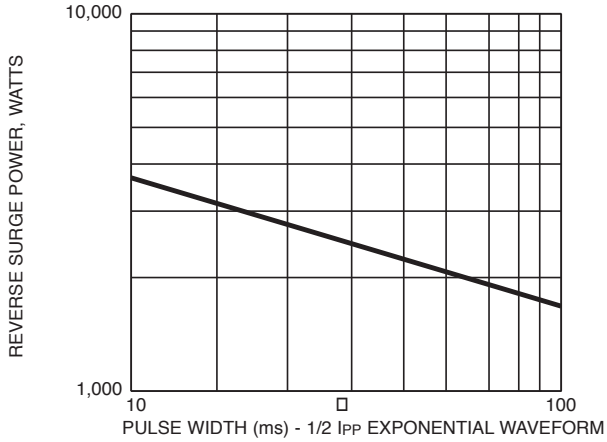


FIG. 5 - LOAD DUMP POWER CHARACTERISTICS (10ms EXPONENTIAL WAVEFORM)

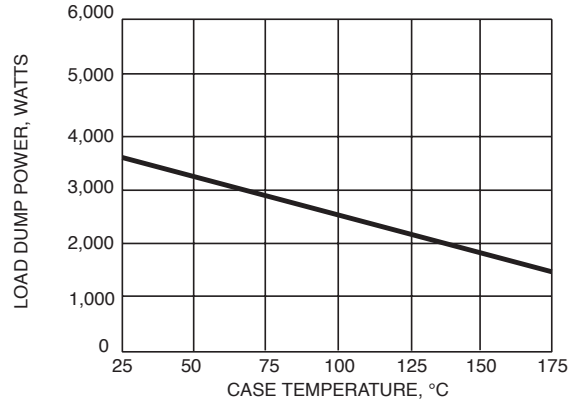


FIG. 6 - TYPICAL REVERSE CHARACTERISTICS

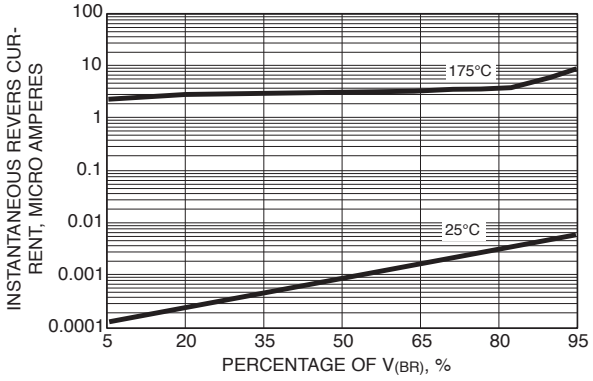
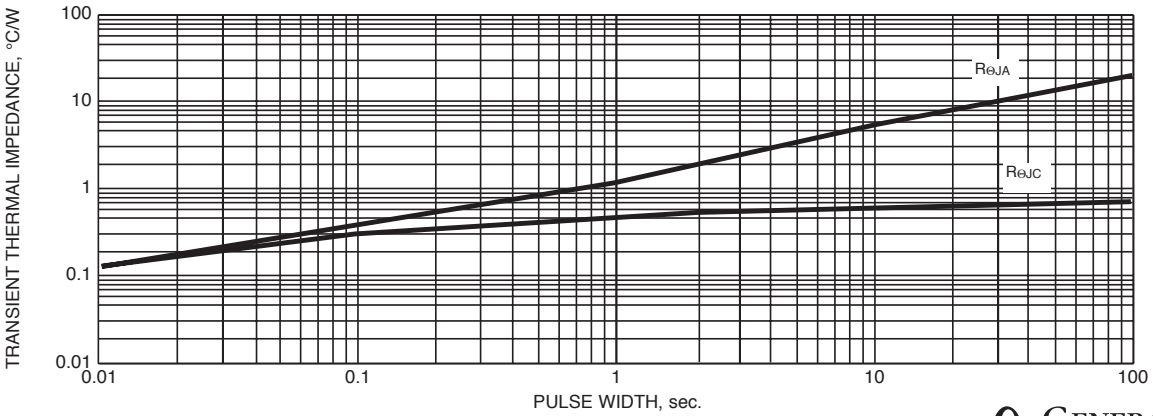


FIG. 7 - TYPICAL TRANSIENT THERMAL IMPEDANCE



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