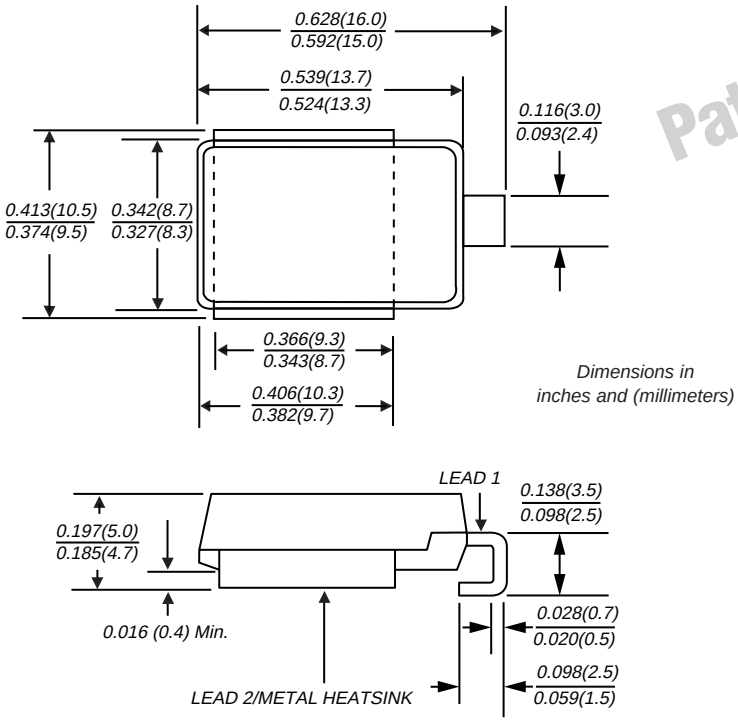
Surface Mount Automotive Transient Voltage Suppressor

DO-218AB

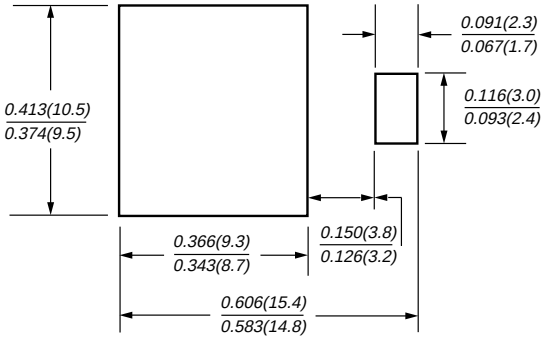
Zener Voltage 27V **Peak Pulse Current** 130A(10/10,000µs)
Peak Pulse Power 6600W (10/1,000µs)



Dimensions in inches and (millimeters)

Patented*

Mounting Pad Layout



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

Features

- Ideally suited for load dump protection
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature stability due to unique oxide passivation and patented PAR® construction
- Integrally molded heatsink provides a very low thermal resistance for maximum heat dissipation
- Low leakage current at T_J = 175°C
- High temperature soldering guaranteed: 260°C for 10 seconds at terminals
- Meets ISO7637-2 surge spec.
- Low forward voltage drop

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 oz., 2.58 g

Packaging codes/options:
2D/750 per 13" Reel (16mm Tape), anode towards sprocket hole, 4.5K/box
2E/750 per 13" Reel (16mm Tape), cathode towards sprocket hole, 4.5K/box

Maximum Ratings and Thermal Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Steady state power dissipation	P_D	8.0	W
Non-repetitive peak reverse surge current for 10µs/10ms exponentially decaying waveform	I_{RSM}	130	A
Maximum working stand-off voltage	V_{WM}	22.0	V
Peak forward surge current 8.3ms single half sine-wave	I_{FSM}	700	A
Typical thermal resistance junction to case	$R_{\theta JC}$	0.90	°C/W
Operating junction and storage temperature range	T_J, T_{STG}	–55 to +175	°C

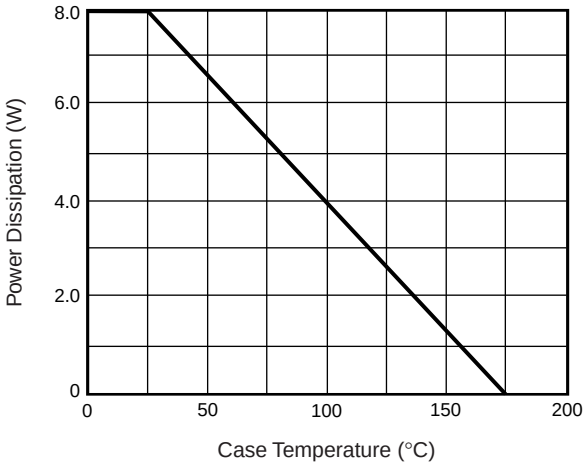
Electrical Characteristics (T_C = 25°C unless otherwise noted)

Parameter		Symbol	Min	Typ	Max	Unit
Reverse zener voltage at 10mA		V_Z	24.0	–	30.0	V
Zener voltage temperature coefficient at I_Z = 10mA		V_{ZTC}	–	–	36	mV/°C
Clamping voltage for 10µs/10ms exponentially decaying waveform at I_{PP} = 75A		V_C	–	–	40.0	V
Instantaneous forward voltage(1)	at 6.0A at 100A	V_F	– –	– 0.93	0.98 –	V
Reverse leakage current at rated V_{WM}	T_J = 25°C T_J = 175°C	I_R	– –	– –	1.0 50.0	µA

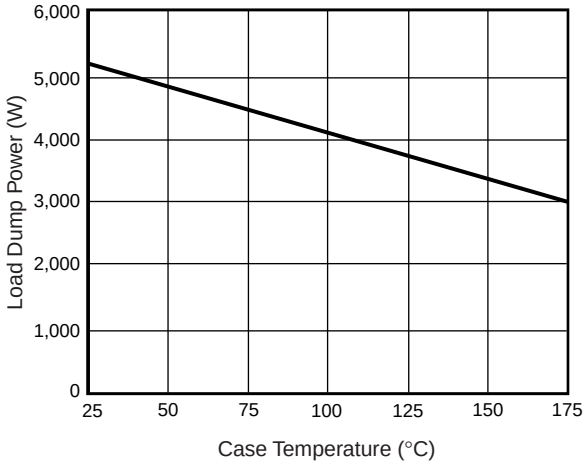
Notes: (1) Measured on a 300µs square pulse width

Ratings and Characteristic Curves T_A=25°C unless otherwise noted.

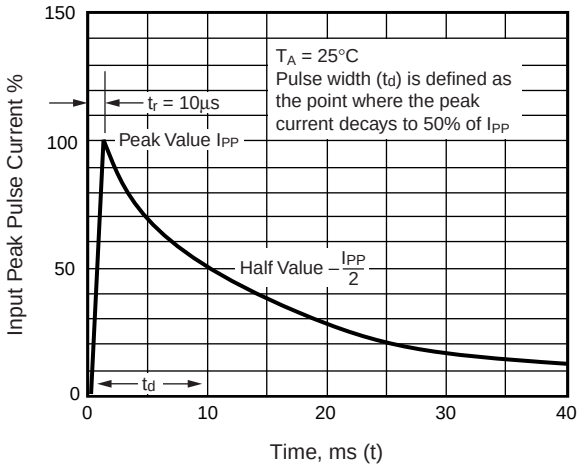
Power Derating Curve



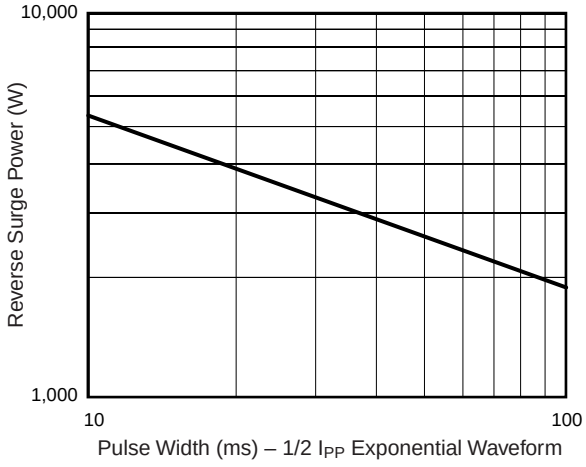
Load Dump Power Characteristics (10ms Exponential Waveform)



Pulse Waveform

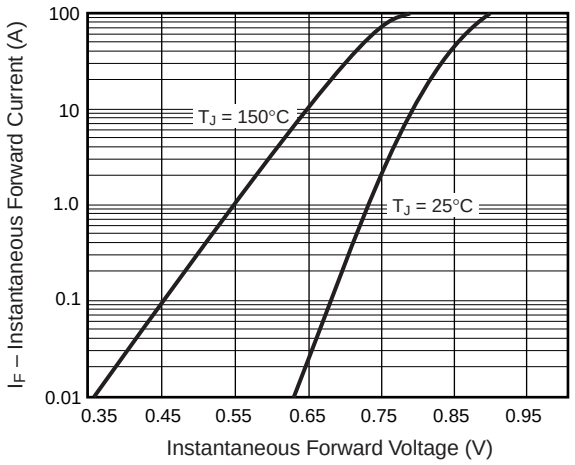


Reverse Power Capability

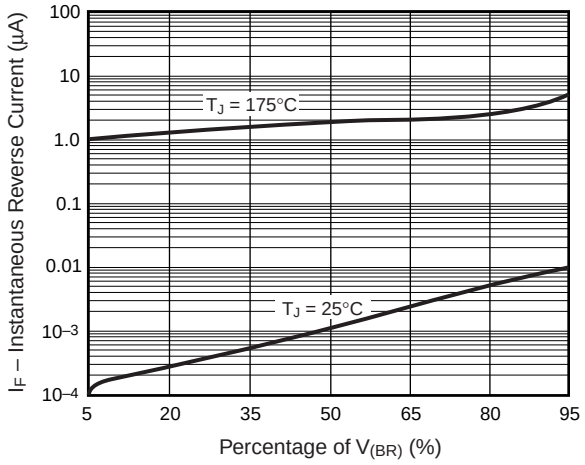


Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Typical Instantaneous Forward Characteristics



Typical Reverse Characteristics



Typical Transient Thermal Impedance