CAN CIRCLE SEMI

ESDBVD5V0D5

Transient Voltage Suppressors for ESD protection

DESCRIPTION

The ESDBVD5V0D5 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

This device has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

FEATURES

- ✧IEC61000-4-2 (ESD) ±8kV (Contact), ±15kV (Air)
- ✧IEC61000-4-4 (EFT) 40A (5/50ηs)
- ✧Peak power dissipation: 45W (8/20μs)
- ✧Protects one I/O line
- ✧Low clamping voltage
- ✧Working voltages : 5V
- ✧Low leakage current

MACHANICAL DATA

- ✧SOD-523 package
- ✧Terminals: Tin plated, solderable per MIL-STD-750, method 2026
- ✧Packaging: Tape and Reel
- ✧Reel size: 7 inch

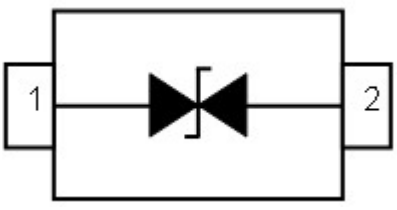
ORDERING INFORMATION

- ✧Material: Halogen free
- ✧Packing: Tape & Reel
- ✧Quantity per reel: 3,000pcs

APPLICATIONS

- ✧High Speed Line :USB1.0/2.0, VGA, DVI, SDI,
- ✧Serial and Parallel Ports
- ✧Notebooks, Desktops, Servers
- ✧Projection TV
- ✧Cellular handsets and accessories
- ✧Portable instrumentation
- ✧Peripherals

PIN CONFIGURATION



PACKAGE OUTLINE

ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	±8 ±15	kV
P_{PP}	Peak Pulse Power (8/20μs)	45	W
T_{OPT}	Operating Temperature	-40~150	°C
T_{STG}	Storage Temperature	-40~150	°C

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	5.6			V
I_R	Reverse Leakage Current	V_{RWM} = 5V			1.0	μA
V_C	Clamping Voltage	I_{PP} = 1A, t_p = 8/20μs			10.0	V
V_C	Clamping Voltage	I_{PPmax} = 3A , t_p = 8/20μs			15.0	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz			12	pF

ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20μs Waveform per IEC61000-4-5

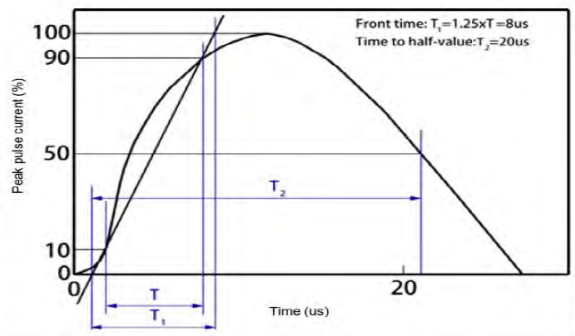


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

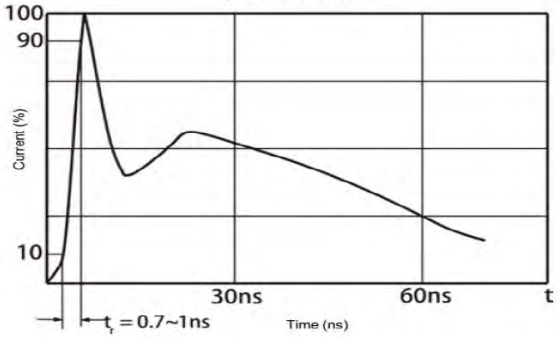


Fig 3 Power Derating Curve

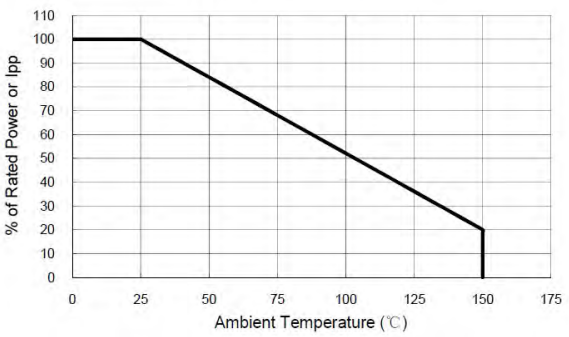


Fig 4 Voltage Sweeping

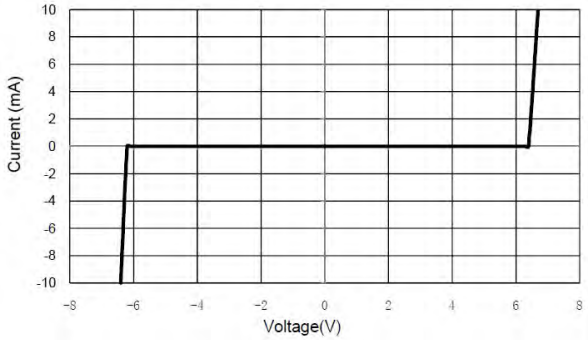


Fig 5 Voltage vs Capacitance

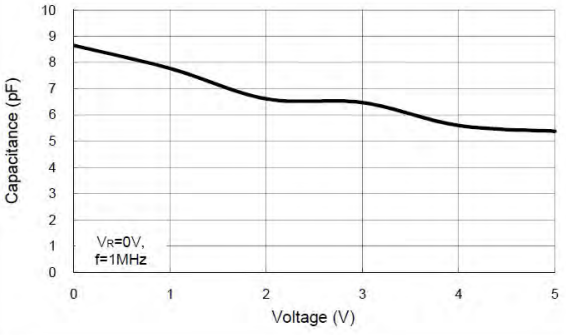
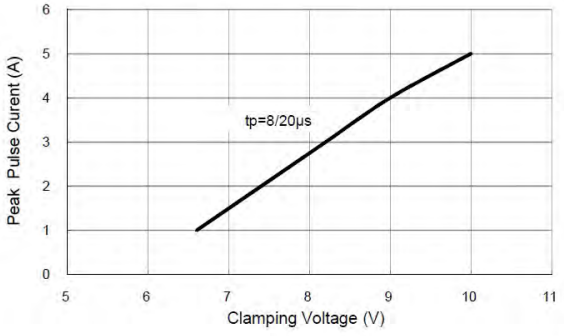
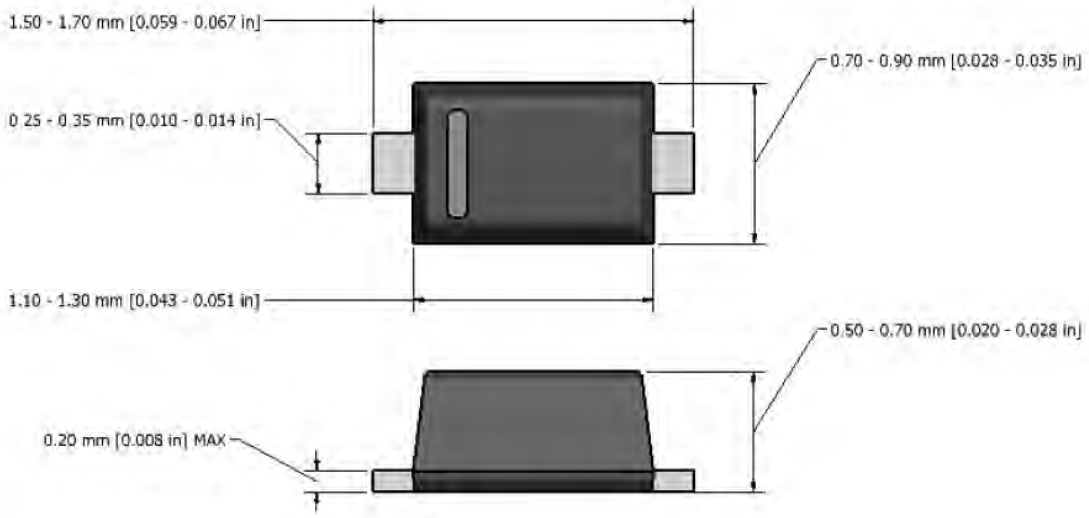


Fig 6 Clamping Voltage vs Peak Pulse Current



SOD-523 PACKAGE OUTLINE DIMENSIONS



Note: Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.