GESD5B5CU

Low Capacitance Bidirectional TVS/ESD Protection Diode

DESCRIPTION

The GESD5B5CU 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. Because of its small size, it is suited for use in cellular phones, portable devices, digital cameras, power supplies and many other portable applications where board space comes at a premium. Also because of its low capacitance, it is suited for use in high frequency designs such as USB 2.0 high speed, VGA, DVI, SDI and other high speed line applications.

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), and EFT (electrical fast transients).

FEATURES

- ✧IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ✧IEC61000-4-4 (EFT) 40A (5/50ηs)
- ✧Peak power dissipation: 35W (8/20μs)
- ✧Protects one directional I/O line
- ✧Low clamping voltage
- ✧Working voltages : 5V
- ✧Low leakage current
- ✧Low capacitance

MACHANICAL DATA

- ✧SOD-523 package
- ✧Terminals: Gold plated, solderable per MIL-STD-750, method 2026
- ✧Packaging: Tape and Reel
- ✧Reel size: 7 inch
- ✧Weight: 0.001 gram (approx.)

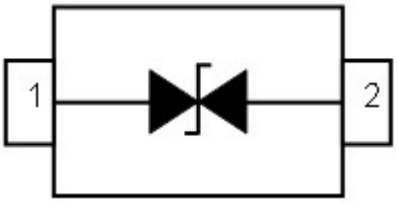
ORDERING INFORMATION

- ✧Device: GESD5B5CU
- ✧Package: SOD-523
- ✧Marking: LB
- ✧Material: Halogen free
- ✧Packing: Tape & Reel
- ✧Quantity per reel: 3,000pcs

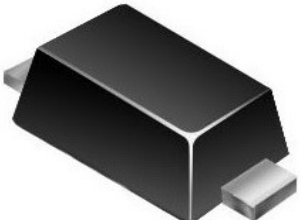
APPLICATIONS

- ✧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



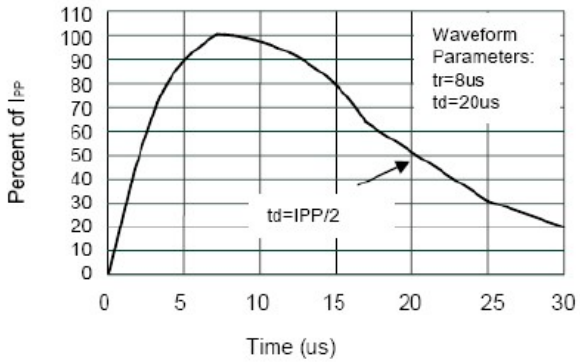
ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	±15 ±8	kV
P_{PP}	Peak Pulse Power (8/20μs)	35	W
T_{OPT}	Operating Temperature	-55~150	°C
T_{STG}	Storage Temperature	-55~150	°C

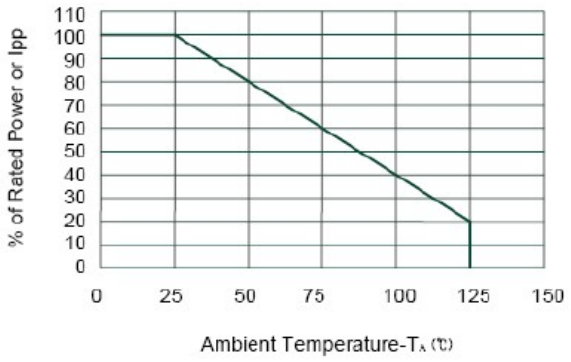
ELECTRICAL CHARACTERISTICS (Tamb=25°C)

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		9.4	V
I_R	Reverse Leakage Current	V_{RWM} = 5V			2.0	μA
V_C	Clamping Voltage	I_{PP} = 1A, t_p = 8/20μs			10.5	V
		I_{PP} = 2A, t_p = 8/20μs			14.0	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz		3.0	3.5	pF

ELECTRICAL CHARACTERISTICS CURVE

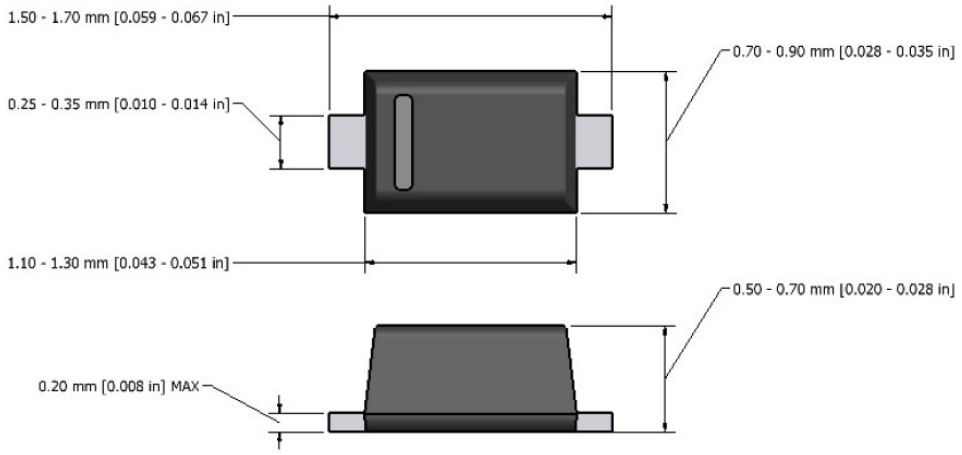


Pulse Waveform



Power Derating Curve

SOD-523 PACKAGE OUTLINE DIMENSIONS



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