



GSDxxC Series

Bidirectional TVS Diodes

DESCRIPTION

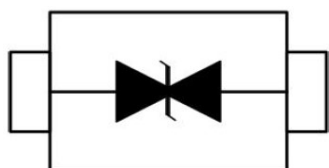
The GSDxxC Series is designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines, communication systems, medical equipment and other applications. These devices are ideal for situations where board space is at a premium.

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

ORDERING INFORMATION

- ◇ Device: GSDxxC
- ◇ Package: SOD-323
- ◇ Material: Halogen free and RoHS compliant
- ◇ Packing: Tape & Reel
- ◇ Quantity per reel: 3,000pcs

PIN CONFIGURATION



FEATURES

- ◇ IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (Contact)
 $\pm 30\text{kV}$ (Air)
- ◇ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◇ 350 Watts Peak Pulse Power per (tp=8/20 μs)
- ◇ Protects one I/O line (bidirectional)
- ◇ Low clamping voltage
- ◇ Working voltages:
3V, 5V, 8V, 12V, 15V, 18V, 20V, 24V, 36V
- ◇ Low leakage current

MACHANICAL DATA

- ◇ SOD-323 package
- ◇ Flammability Rating: UL 94V-0
- ◇ Packaging: Tape and Reel
- ◇ High temperature soldering guaranteed:
260°C/10s
- ◇ Reel size: 7 inch
- ◇ MSL 1

APPLICATIONS

- ◇ Cell Phone Handsets and Accessories
- ◇ Microprocessor based equipment
- ◇ Personal Digital Assistants (PDA's)
- ◇ Notebooks, Desktops, and Servers
- ◇ Portable Instrumentation
- ◇ Networking and Telecom
- ◇ Serial and Parallel Ports.
- ◇ Peripherals

PACKAGE OUTLINE





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| ABSOLUTE MAXIMUM RATING | | | |
|-------------------------|---------------------------------|---------------|--------------|
| Symbol | Parameter | Value | Units |
| V_{ESD} | ESD per IEC 61000-4-2 (Contact) | ± 30 | kV |
| | ESD per IEC 61000-4-2 (Air) | ± 30 | |
| P_{PP} | Peak Pulse Power (8/20 μ s) | 350 | W |
| T_{OPT} | Operating Temperature | -55/+150 | $^{\circ}$ C |
| T_{STG} | Storage Temperature | -55/+150 | $^{\circ}$ C |
| T_L | Lead Soldering Temperature | 260 (10 sec.) | $^{\circ}$ C |

| ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}$ C) | | | | | | | | | |
|--|----------------|---------------|---------------|-------|---------------|---------------|------|----------------------|----------------|
| PART NUMBER | DEVICE MARKING | V_{RWM} | V_B | I_T | $V_C@1A$ | V_C | | I_R | C_T |
| | | (V) (max.) | (V) (min.) | (mA) | (V) (max.) | (V) (max.) | (@A) | (μ A) (max.) | (pF) (max.) |
| GSD03C | 2A | 3.3 | 4.0 | 1 | 7.5 | 16.0 | 20 | 40 | 450 |
| GSD05C | 2B | 5.0 | 6.0 | 1 | 9.8 | 18.0 | 17 | 10 | 200 |
| GSD08C | 2C | 8.0 | 8.5 | 1 | 13.4 | 24.0 | 15 | 2 | 120 |
| GSD12C | 2D | 12.0 | 13.3 | 1 | 19.0 | 32.0 | 11 | 1 | 75 |
| GSD15C | 2J | 15.0 | 16.7 | 1 | 24.0 | 38.0 | 10 | 1 | 68 |
| GSD18C | 2K | 18.0 | 20.0 | 1 | 29.0 | 45.0 | 9 | 1 | 57 |
| GSD20C | 2L | 20.0 | 22.3 | 1 | 35.0 | 50.0 | 8 | 1 | 52 |
| GSD24C | 2H | 24.0 | 26.7 | 1 | 43.0 | 52.0 | 7 | 1 | 50 |
| GSD36C | 2N | 36.0 | 40.0 | 1 | 60.0 | 75.0 | 4.5 | 1 | 35 |





ELECTRICAL CHARACTERISTICS CURVE

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

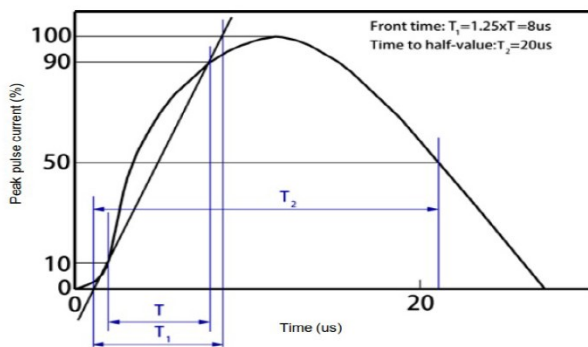


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

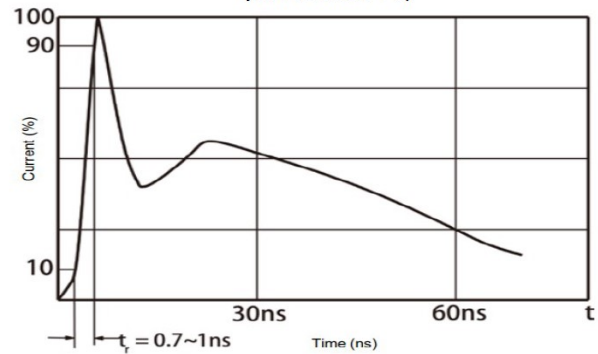


Fig 3 Voltage vs Capacitance

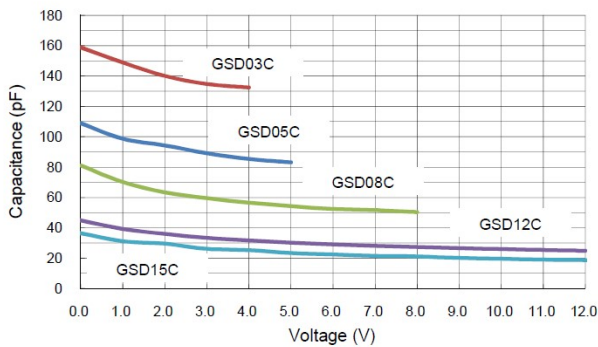


Fig 4 Voltage vs Capacitance

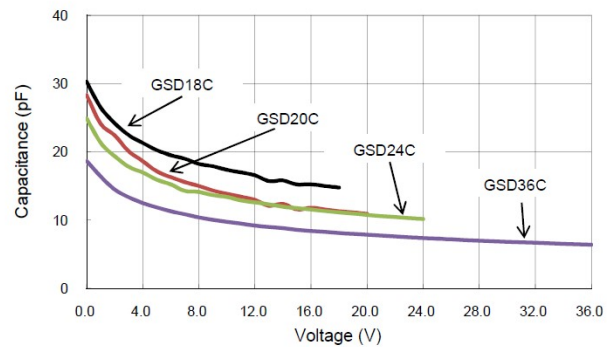


Fig 5 Clamping Voltage vs Peak Pulse Current

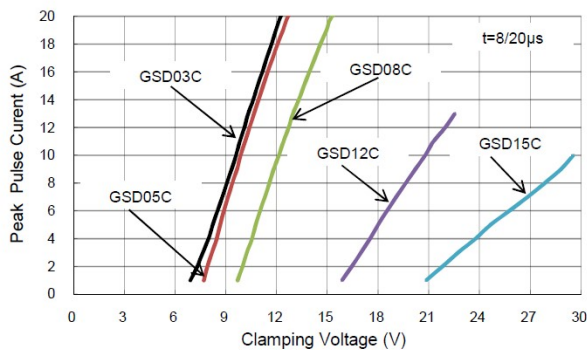
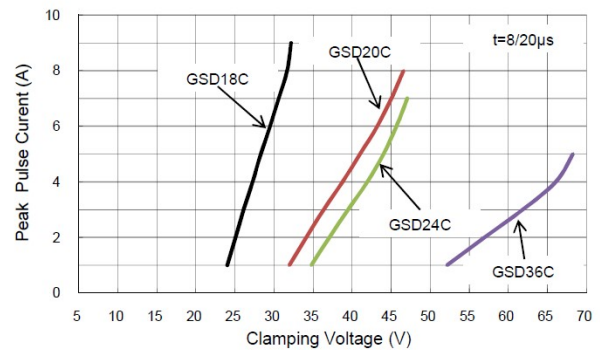


Fig 6 Clamping Voltage vs Peak Pulse Current

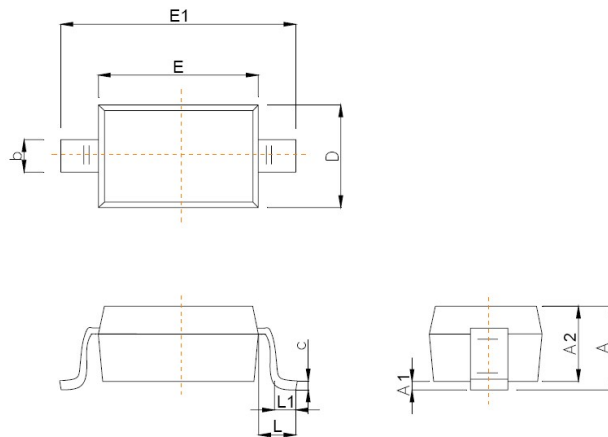




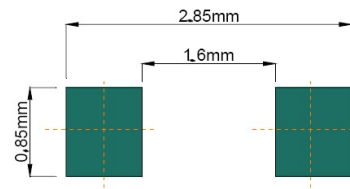
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SOD-323 PACKAGE OUTLINE DIMENSIONS



| Symbol | Dimensions In Millimeters | |
|----------|---------------------------|-------|
| | Min | Max |
| A | | 1.00 |
| A1 | 0.000 | 0.100 |
| A2 | 0.800 | 0.900 |
| b | 0.250 | 0.350 |
| c | 0.080 | 0.150 |
| D | 1.200 | 1.400 |
| E | 1.600 | 1.800 |
| E1 | 2.500 | 2.700 |
| e | 1.800 | 2.040 |
| L | 0.475 REF | |
| L1 | 0.250 | 0.400 |
| θ | 0° | 8° |



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[P6KE13CA](#) [P6KE43CA](#) [P6KE6.8CA](#) [P6KE8.2](#) [P6SMBJ20CA](#) [JANTX1N6072A](#) [SR2835ESKG](#) [SA90CA](#)