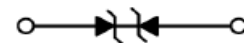
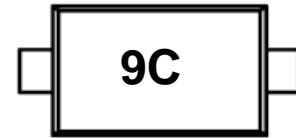


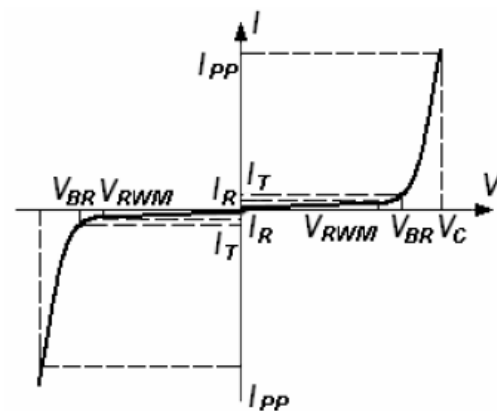
## Description

The ESD9D5.0CT5G ESD protector is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computers, and PDA's. They feature large cross-sectional area junctions for conducting high transient currents, offer desirable electrical characteristics for board level protection, such as fast response time, lower operating voltage, lower clamping voltage and no device degradation when compared to MLVs. The ESD9D5.0CT5G protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. The ESD9D5.0CT5G is available in a SOD-923 package with working voltages of 5 volt. It gives designer the flexibility to protect one bidirectional line in applications where arrays are not practical. Additionally, it may be "sprinkled" around the board in applications where board space is at a premium. It may be used to meet the ESD immunity requirements of IEC 61000-4-2, Level 4 ( $\pm 15$ kV air,  $\pm 8$ kV contact discharge)



## Feature

- 100 Watts peak pulse power ( $t_p = 8/20 \mu s$ )
- Transient protection for data lines to
  - IEC 61000-4-2 (ESD)  $\pm 25$ kV (air),  $\pm 10$ kV (contact)
  - IEC 61000-4-4 (EFT) 40A (5/50ns)
  - IEC 61000-4-5 (Lightning) 24A (8/20  $\mu s$ )
- Small package for use in portable electronics
- Suitable replacement for MLV's in ESD protection applications
- Protect one I/O or power line
- Low clamping voltage
- Stand off voltages: 5V
- Low leakage current
- Solid-state silicon-avalanche technology
- Small Body Outline Dimensions: 1.0mm  $\times$  0.6mm  $\times$  0.5mm
- Equivalent to 0402 package



## Applications

- Cell Phone Handsets and Accessories
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Cordless Phones
- Digital Cameras
- Peripherals
- MP3 Players



Electrical characteristics @25°C (unless otherwise specified)

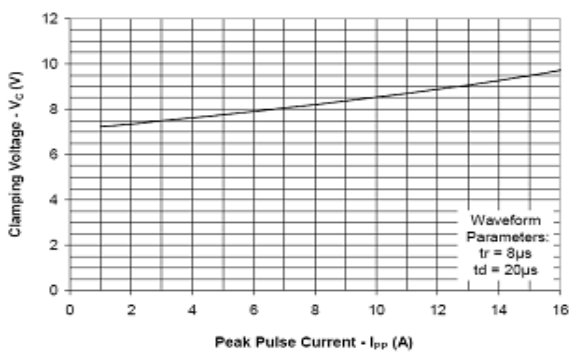
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Working Voltage	$V_{RWM}$				5	V
Breakdown voltage	$V_{BR}$	$I_t = 1mA$	5.6	6.7	7.8	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5V$ $T = 25^\circ C$			1	$\mu A$
Clamping Voltage	$V_C$	$I_{PP} = 5A$ $t_P = 8/20\mu S$			9.8	V
Junction Capacitance	$C_j$	$V_R = 0V$ $f = 1MHz$		8	15	pF

Absolute maximum rating @25°C

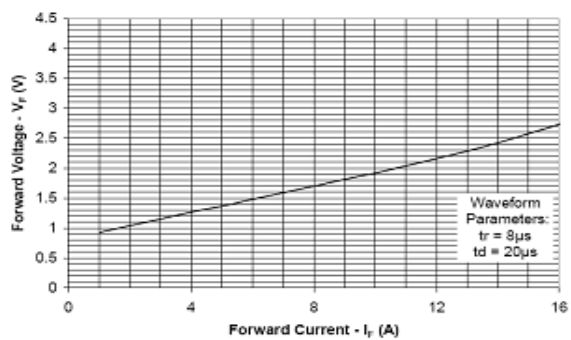
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_P = 8/20\mu S$ )	$P_{pk}$	100	W
Maximum Peak Pulse Current ( $t_P = 8/20\mu S$ )	$I_{pp}$	16	A
Lead Soldering Temperature	$T_L$	260 (10 sec)	$^\circ C$
Operating Temperature	$T_J$	-55 to +125	$^\circ C$
Storage Temperature	$T_{STG}$	-55 to +150	$^\circ C$

Typical Characteristics

Clamping Voltage vs. Peak Pulse Current

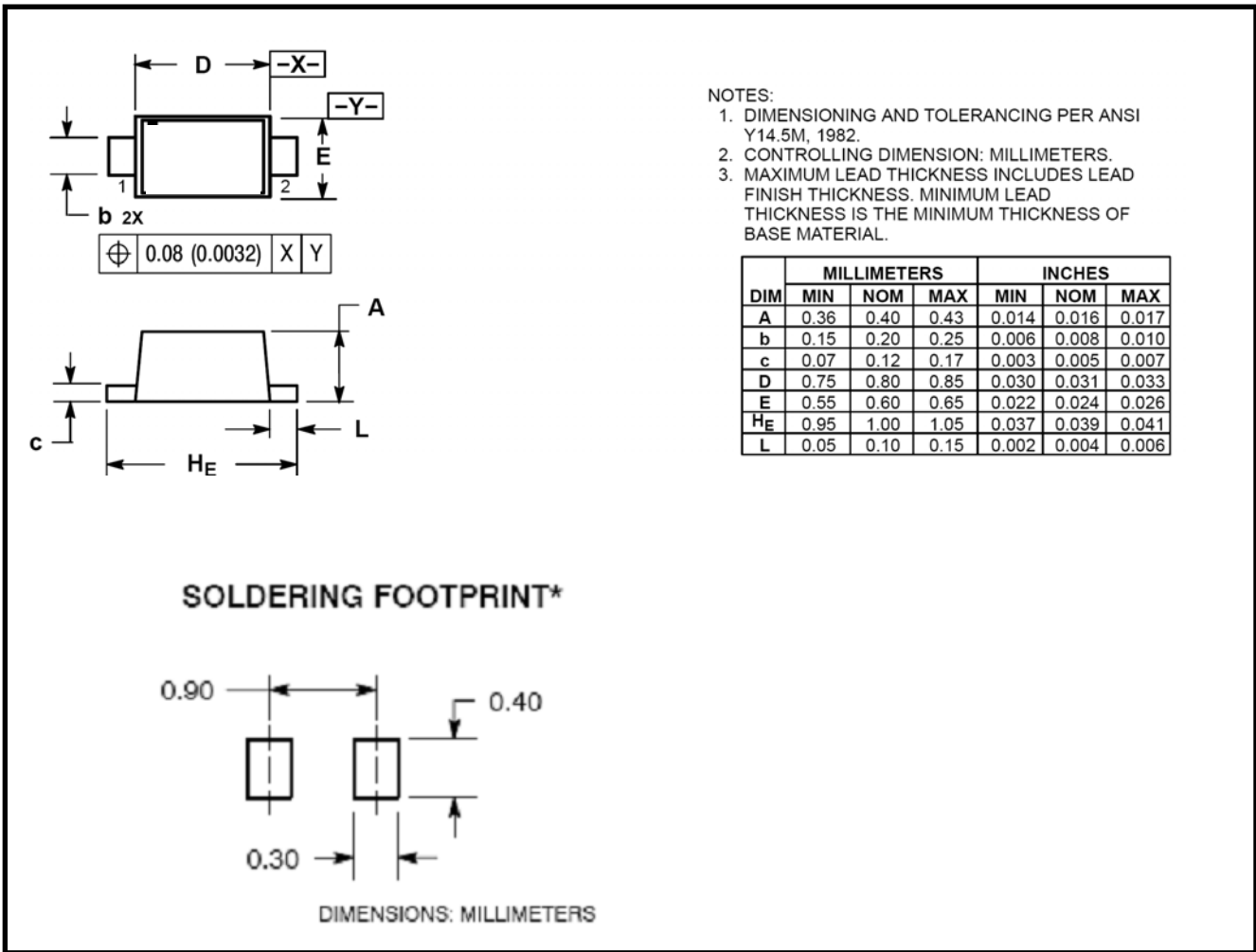


Forward Voltage vs. Forward Current





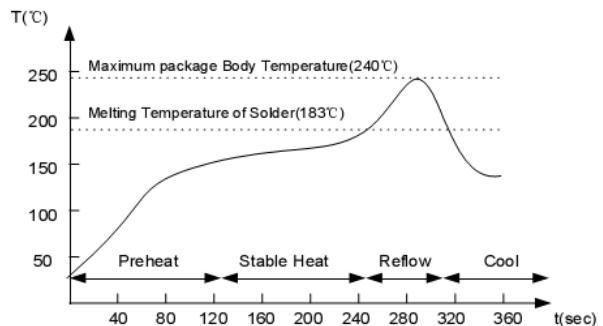
Product dimension



Reflow Soldering and Rework Recommendations

Recommended reflow methods, Recommended reflow methods: IR, Vapor phase oven, hot air oven.

- Devices can be cleaned using standard industry methods and solvents.
- If a device is removed from the board, it should be discarded and replaced with a new device.
- Leaded devices are not designed to be compatible with wave soldering manufacturing operations.
- Lead free reflow curve.



**NOTE** If reflow temperatures exceed recommended profile, devices may not meet the performance requirements, If the reflow curve can not meet your product, please contact SEMITEL.

**How To Order**

Device	Package	Carrier	Marking Code	Standard Quantity
<b>ESD9D5.0CT5G</b>	SOD	Tape	9C	8000pcs

Website: <http://www.dgnjdz.com>

For additional information, please contact your local Sales Representative.



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