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ESDULC5V0D5B

Description

The ESDULC5V0D5B is designed to protect voltage sensitive components that require ultra−low capacitance from ESD and transient voltage events. Excellent clamping capability , low capacitance , 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 low capacitance, it is suited for use in high frequency designs such as USB 2.0 high speed and antenna line applications.

Features

- Ultra Low Capacitance 0.5 pF
- Low Clamping Voltage
- Small Body Outline Dimensions
- Stand−off Voltage: 5 V
- Low Leakage
- Response Time is Typically < 1.0 ns
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±15kV
    Contact discharge: ±8kV
  - IEC61000-4-4 (EFT) 40A (5/50ηs)

Functional Diagram
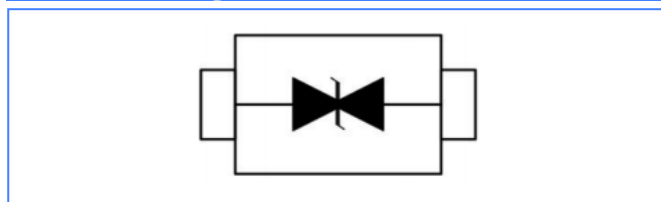
Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Peripherals
- Pagers

Absolute Maximum Ratings(Tamb=25 ℃ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20µs)	P_{PP}	100	Watts
ESD per IEC 61000−4−2 (Air)	V_{ESD}	±15	KV
ESD per IEC 61000−4−2 (Contact)		±8	KV
Lead Soldering Temperature	TL	260 (10 sec)	°C
Operating Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{STJ}	-55 to +150	°C

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Electrical Characteristics (TA = 25 ℃ unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	VRWM				5	V
Reverse Breakdown Voltage	VBR	It = 1mA	5.4			V
Reverse Leakage Current	IR	VR =VRWM			1	μA
Clamping Voltage	VC	IPP=1A, tP = 8/20μs			12.9	V
Junction Capacitance	CJ	VR=0V, f = 1MHz		0.5	0.9	pF

Characteristics Curves
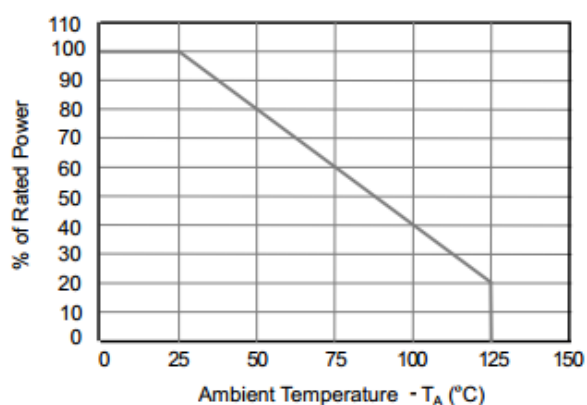

Figure 1- Power Derating Curve

Figure 2- ESD Pulse Waveform
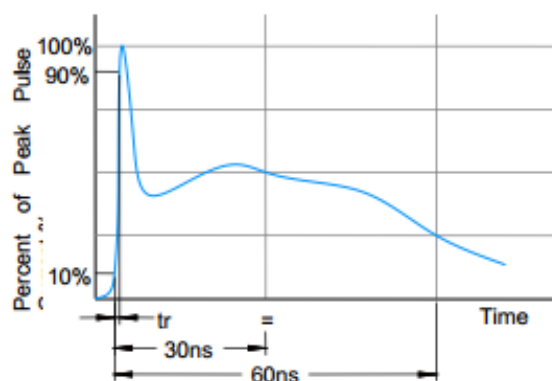(according to IEC 61000-4-2)

Figure3- ESD Clamping Voltage Screenshot Positive 8 kV Contact per IEC61000−4−2
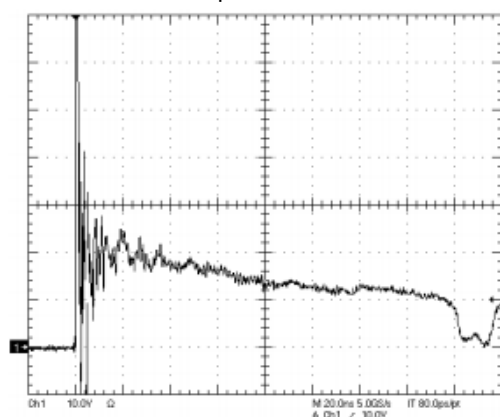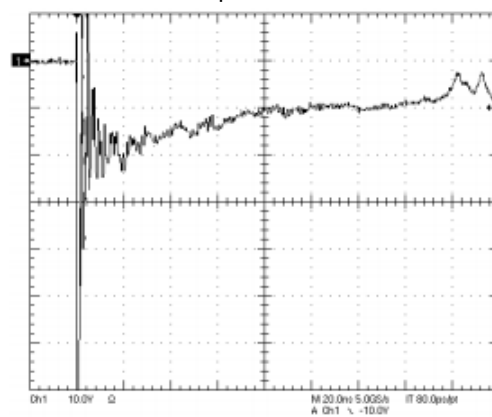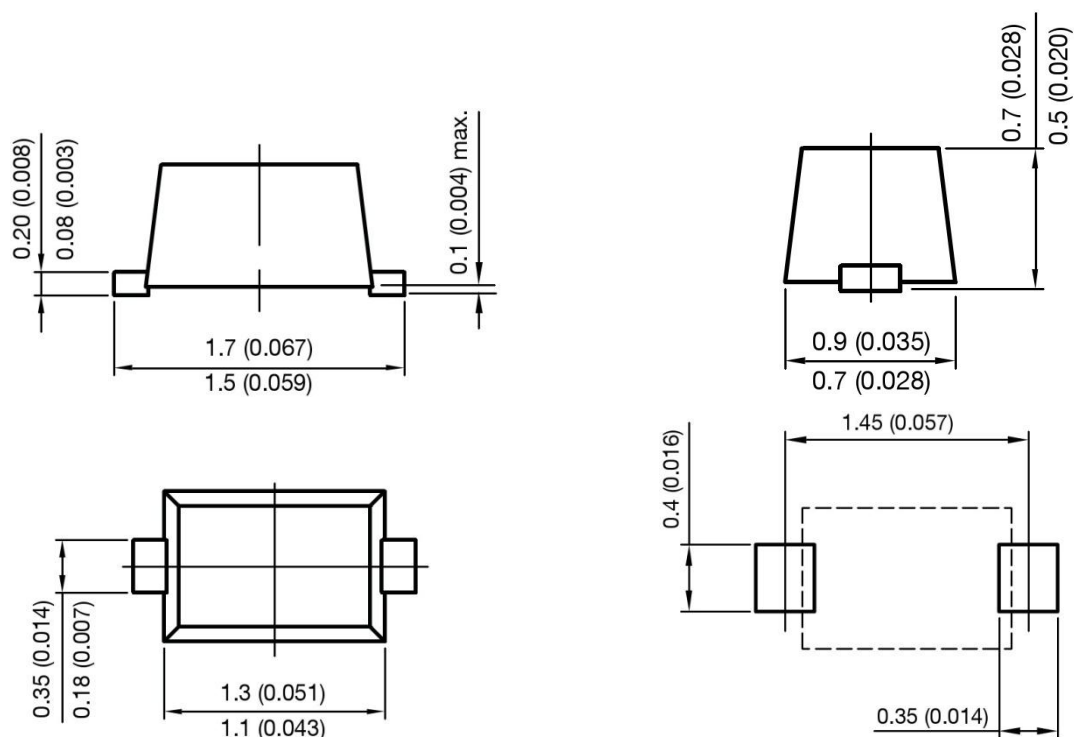

Figure4- ESD Clamping Voltage Screenshot Negative 8 kV Contact per IEC61000−4−2

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ACKAGE OUTLINE DIMENSIONS in millimeters (inches) :SOD523

Mounting Pad Layout

Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.