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ESDLC12VD3B

Description

ESDLC12VD3B 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, ultra-low capacitance values , it is very suitable for signal port and board space speed transmission is very small places, such as Ethernet, mobile phones , MP3 players, digital cameras and other portable.

Features

● Ultra low leakage: nA level

● Operating voltage: 12V

● Package: SOD-323

● Protects one I/O line (unidirection)

● Low clamping voltage

● Complies with following standards:

  – IEC 61000-4-2 (ESD) immunity test

     Air discharge: ±15kV

     Contact discharge: ±8kV

  – IEC61000-4-4 (EFT) 40A (5/50ns)

  – IEC61000-4-5 (Lightning) 12A (8/20μs)

Functional Diagram
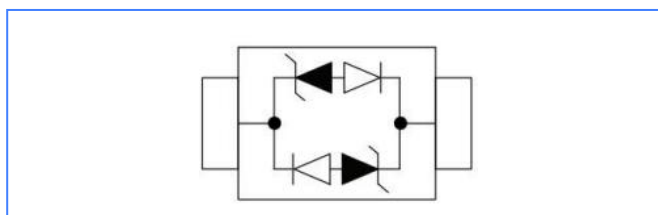
Applications

● Cell Phone Handsets and Accessories

● Microprocessor based equipment

● Personal Digital Assistants (PDA's)

● Notebooks, Desktops, and Servers

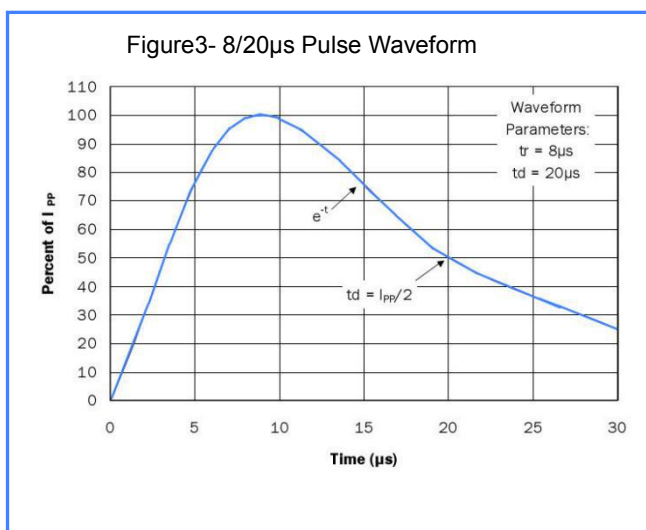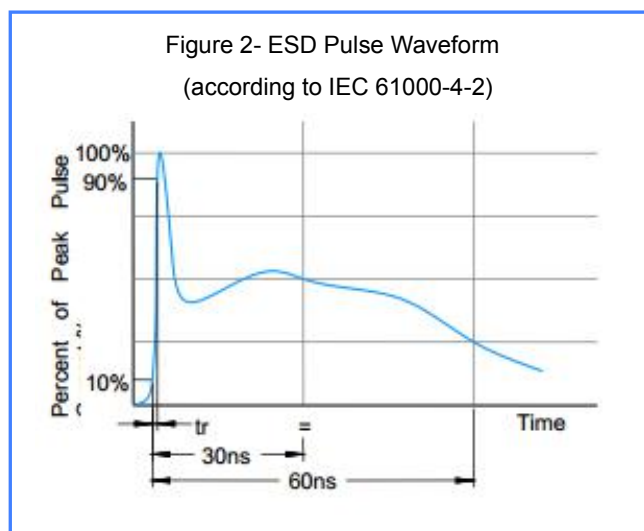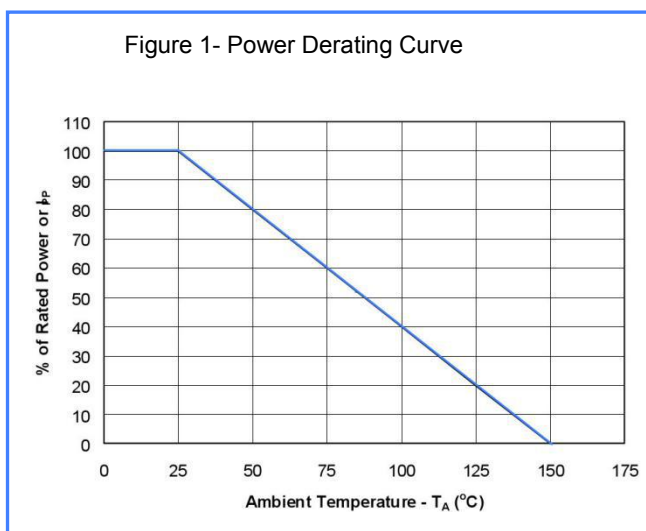● Portable Instrumentation

● Peripherals

● USB Interface

Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P_{PP}	350	Watts
ESD per IEC 61000−4−2 (Air)	V_{ESD}	±15	KV
ESD per IEC 61000−4−2 (Contact)		±8	KV
Lead Soldering Temperature	T_L	260 (10 sec)	°C
Operating Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STJ}	-55 to +150	°C

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Electrical Characteristics (TA = 25 °C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				12	V
Reverse Breakdown Voltage	V_{BR}	I_t = 1mA	13.3			V
Reverse Leakage Current	I_R	V_R =V_{RWM}			1	µA
Clamping Voltage	V_C	I_{PP}=1A, t_P = 8/20µs			19	V
		I_{PP}=7A, t_P = 8/20µs			30	V
Junction Capacitance	C_J	V_R=0V, f = 1MHz		1		pF

Characteristics Curves

Figure 1- Power Derating Curve

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

Figure3- 8/20µs Pulse Waveform

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AKAGE OUTLINE DIMENSIONS in millimeters (inches) :SOD3B23

1.15 (0.045)
0.8 (0.031)
0.2 (0.008)
0.15 (0.006)
0.10 (0.004)
0.1 (0.004) max.
0.40 (0.016)
0.25 (0.010)
0° - 8°

1.95 (0.077)
1.60 (0.063)

Cathode bar

0.40 (0.016)
0.20 (0.008)
2.85 (0.112)
2.50 (0.098)
1.5 (0.059)
1.1 (0.043)

0.6 (0.024)
0.6 (0.024)
1.6 (0.063)
0.6 (0.024)
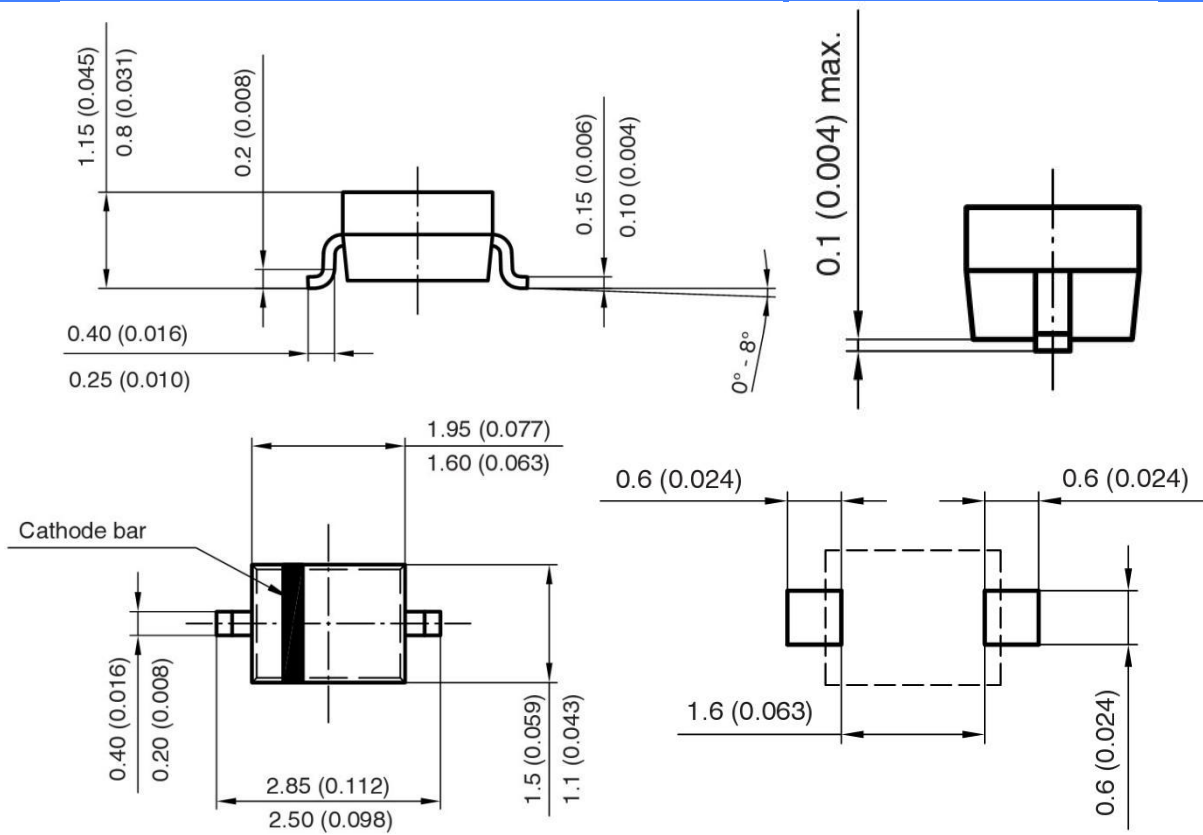
Mounting Pad Layout

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.