

Features

- ◆ Transient protection for data lines to
IEC 61000-4-2 (ESD) $\pm 20\text{kV}$ (air), $\pm 20\text{kV}$ (contact)
IEC 61000-4-4 (EFT) 40A ($t_p = 5/50\text{ns}$)
Cable Discharge Event (CDE)
- ◆ Protects one data or I/O line
- ◆ Low capacitance: **0.3pF**
- ◆ Low clamping voltage
- ◆ Low operating voltage: 5.0V
- ◆ Solid-state silicon-avalanche technology

Mechanical Characteristics

- ◆ Package: SOD-323
- ◆ Lead Finish: Matte Tin
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Pb-Free, Halogen Free, RoHS/WEEE Compliant

RoHS



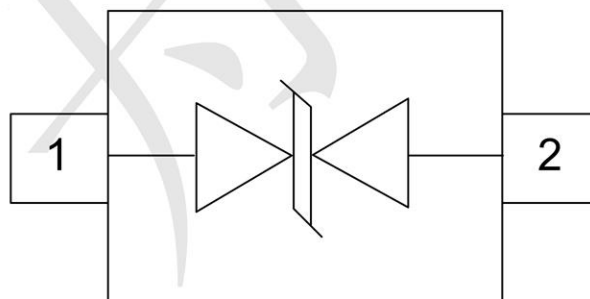
Applications

- ◆ Cellular Handsets & Accessories
- ◆ Digital Visual Interface (DVI)
- ◆ Display Port
- ◆ MDDI Ports
- ◆ USB Ports
- ◆ PCI Express
- ◆ Serial ATA

Ordering Information

Part Number	Qty per Reel	Reel Size
ESD5V0B03-323	3000	7"

Dimensions and Pin Configuration



Marking: * C

C = Device code

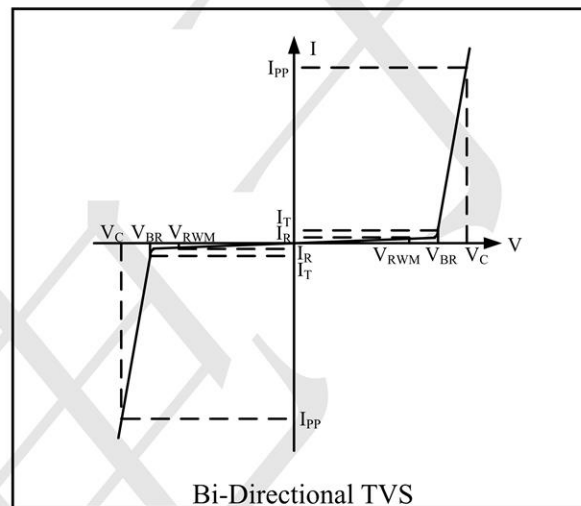
* = Wafer tracking no (3 Or 5)

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Limits	unit
IEC61000-4-2(ESD) Air Contact	V_{ESD}	± 20 ± 20	KV
Peak Pulse Power (8/20us)	P_{pk}	120	W
Peak Pulse Current (8/20us)	I_{pp}	4	A

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_{R}	Reverse Leakage Current @ V_{RWM}
V_{BR}	Reverse Breakdown Voltage @ I_{T}
I_{T}	Test Current for Reverse Breakdown
V_{C}	Clamping Voltage @ I_{PP}
I_{PP}	Maximum Peak Pulse Current
C_{ESD}	Parasitic Capacitance
V_{R}	Reverse Voltage
f	Small Signal Frequency



Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	
Breakdown Voltage	V_{BR}	6			V	$I_{\text{T}} = 1\text{mA}$
Reverse Leakage Current	I_{R}			1	μA	$V_{\text{RWM}} = 3.3\text{V}$
Clamping Voltage	V_{C}			10	V	$I_{\text{PP}} = 1\text{A}$ (8 x 20 μs pulse)
Clamping Voltage	V_{C}			25	V	$I_{\text{PP}} = 4\text{A}$ (8 x 20 μs pulse)
Junction Capacitance	C_{J}		0.3	0.5	pF	$V_{\text{R}} = 0\text{V}$, $f = 1\text{MHz}$

PROTECTION PRODUCTS
Typical characteristics

Fig1. 8/20 μ s Pulse Waveform

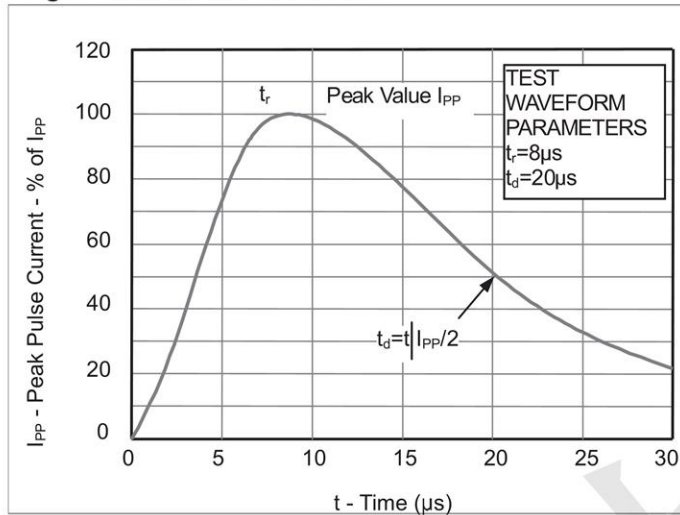


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

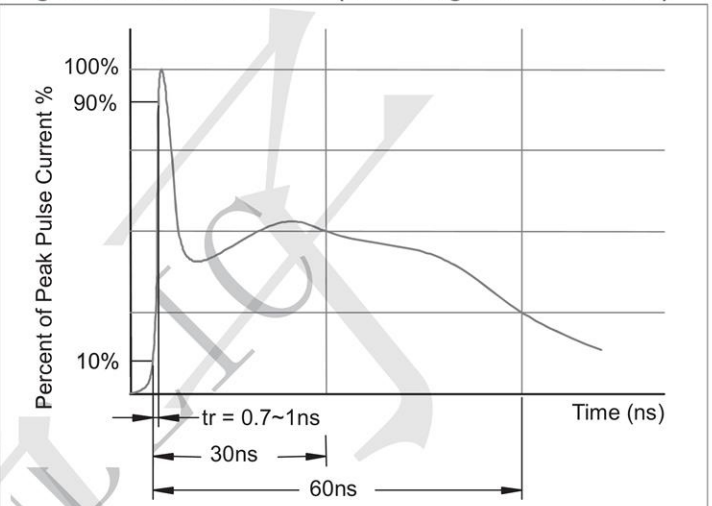
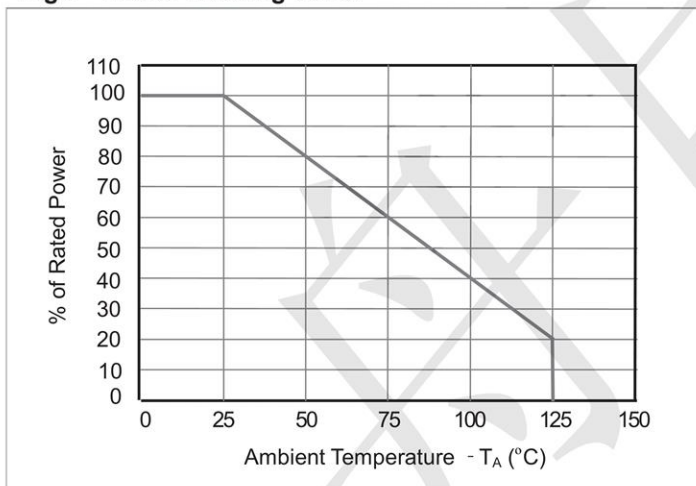
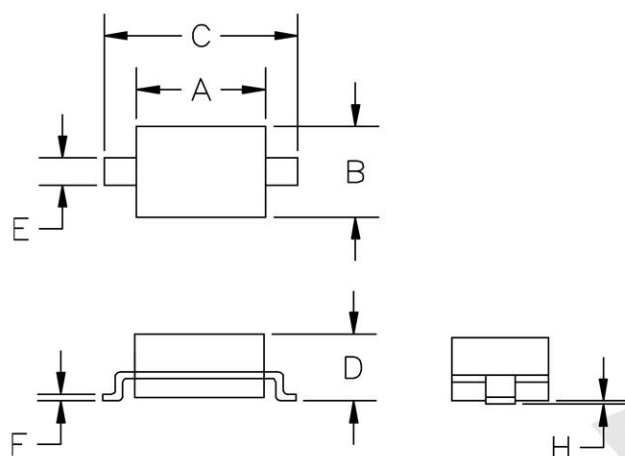


Fig3. Power Derating Curve



Outline Drawing - SOD-323



SYM	DIMENSIONS			
	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.80	0.060	0.071
B	1.20	1.40	0.045	0.054
C	2.30	2.70	0.090	0.107
D	-	1.10	-	0.043
E	0.30	0.40	0.012	0.016
F	0.10	0.25	0.004	0.010
H	-	0.10	-	0.004

Land Pattern - SOD-323

