

ESD5V0D3B

Description

ESD5V0D3B 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, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space is at a premium.

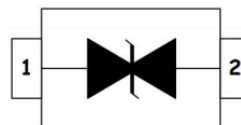
Features

- Package: SOD-323
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- Response Time is Typically < 1 ns
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 30A (8/20 μs)
 - IEC61000-4-4 (EFT) 40A (5/50ns)

Applications

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

Circuit Diagram



Absolute Ratings

Tamb=25°C unless otherwise specified

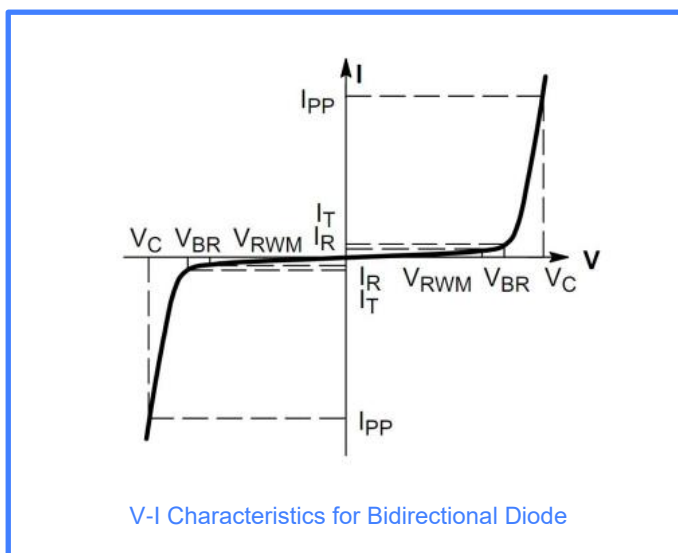
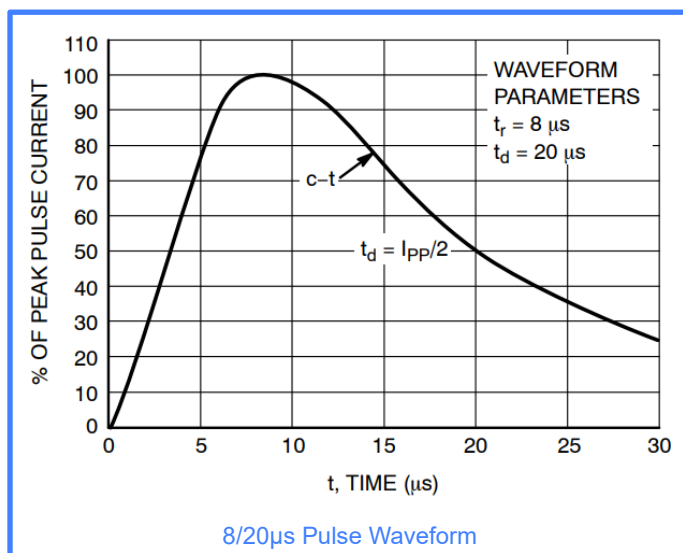
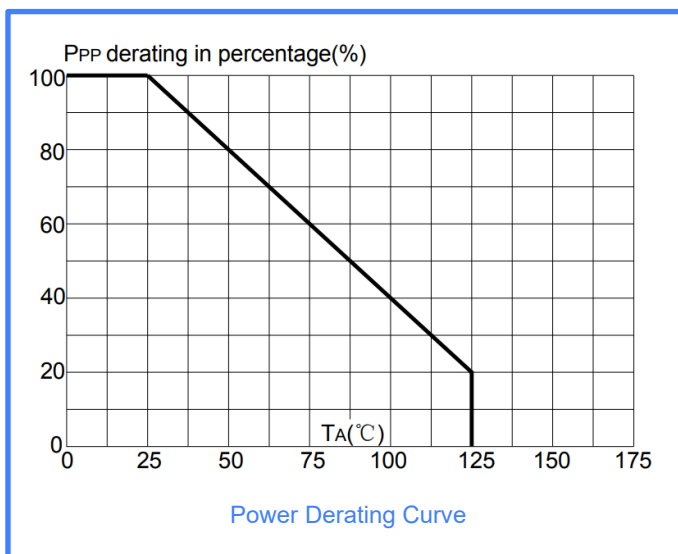
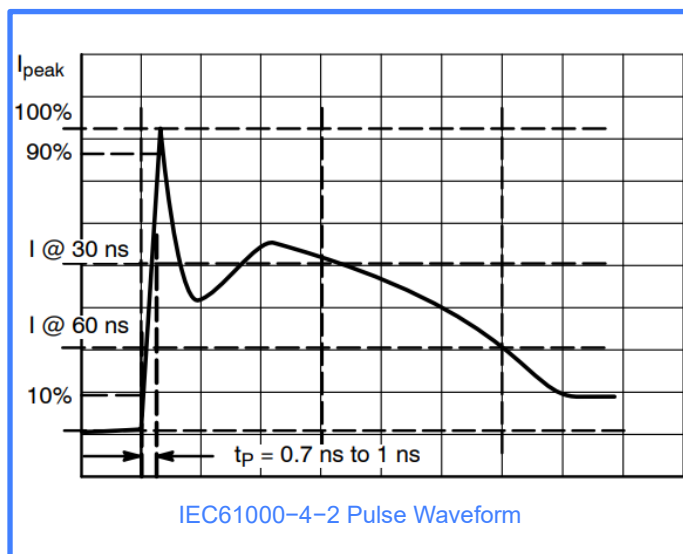
Parameter	Symbol	Value	Unit
Peak pulse power (tp = 8/20 μs)	P _{PK}	360	W
Maximum Reverse Peak Pulse Current(8/20 μs)	I _{PP}	30	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	KV
ESD per IEC 61000-4-2 (Contact)		± 30	
Storage Temperature Range	T _{STJ}	-55 to +150	°C
Operating Temperature Range	T _J	-40 to +125	°C

Electrical Characteristics

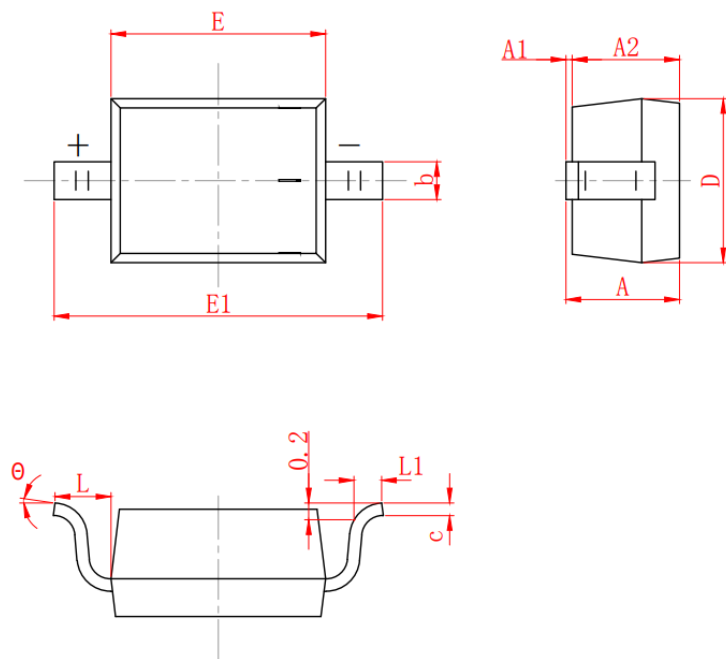
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Symbol	Parameter	Conditions	Min	Typ	Max	Units
V _{RWM}	Reverse Working Peak Voltage	-			5	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA	5.5		8.5	V
I _R	Reverse Current	V _{RWM} = 5V			0.2	μA
V _C	Clamping Voltage	I _{PP} = 20A, t _P = 8/20 μs			9.0	V
V _C	Clamping Voltage	I _{PP} = 30A, t _P = 8/20 μs			12	V
C _D	Diode Capacitance	V _R = 0V, f = 1MHz		60	80	pF

Characteristic Curves



SOD323 Package Outline & Dimensions



Symbol	Dimensions in mm	
	min	max
A		1.000
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.400
c	0.008	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.300	2.700
L	0.475(REF)	
L1	0.250	0.400
θ	0°	8°

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.