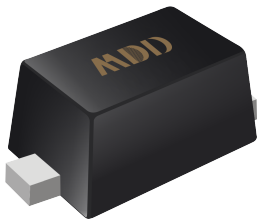


ME3V3Z1BBC

Bi-directional TVS Diode for ESD Protection

1. Protection Solution To Meet

- IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 10A (8/20μs)

2. Features

- Protects one bi-directional I/O line
- Low clamping voltage
- Working voltage: 3.3V
- Low leakage current
- RoHS compliant

3. Main Application

- Cell phone handsets and accessories
- Microprocessor based equipment
- Personal digital assistants (PDA’ s)
- Notebooks, desktops, and servers
- Portable instrumentation
- Peripherals
- Digital cameras

4. Mechanical Characteristics

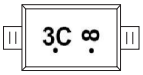
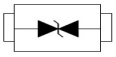
- SOD-523 package
- Molding compound flammability rating: UL 94V-0
- Weight 0.5 milligrams (approximate)
- Lead finish: lead free

5. Absolute Maximum Ratings(T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Contact)	$V_{ESD-Contact}$	±30	KV
ESD per IEC 61000-4-2 (Air)	$V_{ESD-Air}$	±30	KV
Peak Pilse Power(8/20us)	P_{pp}	100	W
Operating Temperature	T_{OPT}	-55~+150	°C
Storage Temperature Range	T_{stg}	-55~+150	°C

Microdiode Semiconductor

6. Pinning information

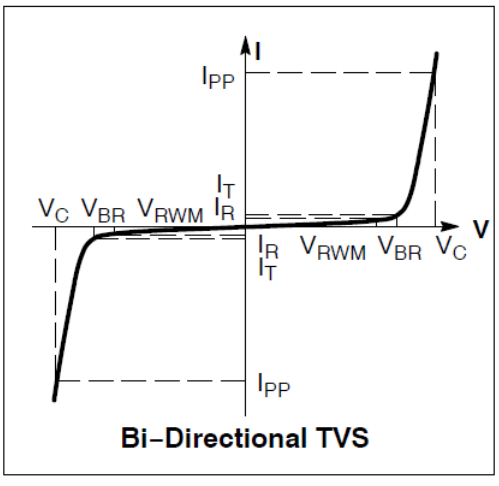
Pin	Symbol	Description	Simplified outline	Equivalent Circuit	Marking	Package
2	Bi	Nonpolar			3C ∞	SOD-523

7.Electrical Characteristics(Tamb=25°C)

Parameter	Symbols	Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	I_T =1mA	3.6	—	—	V
Reverse Leakage Current	I_R	V_{RWM}=3.3V	—	—	0.5	uA
Clamping Voltage	V_C	I_{pp}=1A , t_p=8/20us	—	—	6.5	V
		I_{pp}=10A , t_p=8/20us	—	—	10	V
Junction Capacitance	C_J	V_R =0V ,f=1MHz	—	15	—	pF

8.Electrical Parameters

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current@V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @I_T
P_{PK}	Peak Power Dissipation
C_J	Capacitance @ V_R =0 and f=1MHz



Bi-Directional TVS

9.Typical Characterisitics

Fig.1 8/20us Waveform Per iec6100-4-5

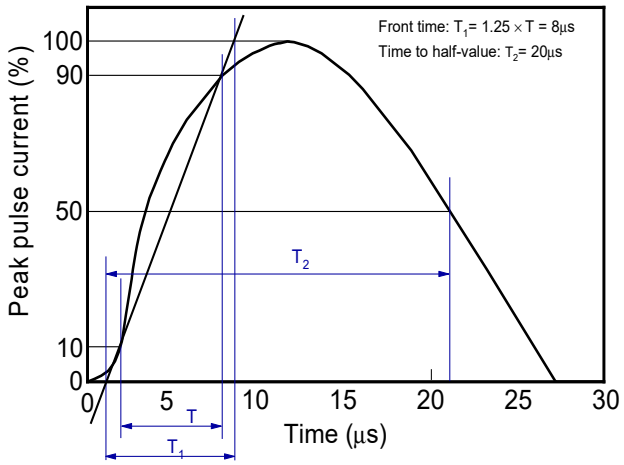


Fig.2 Contact Discharge Current Waveform per IEC61000-4-2

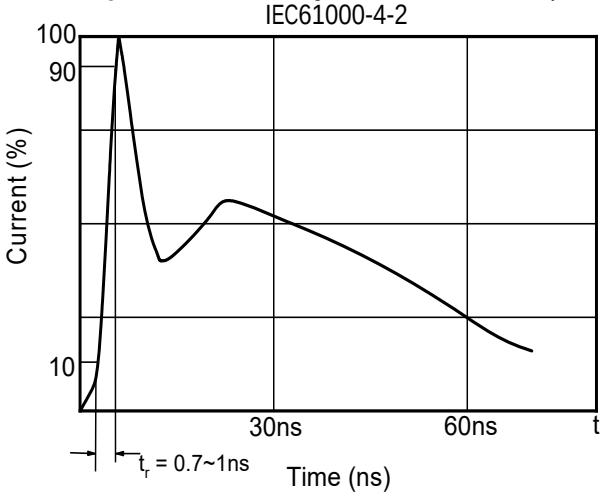


Fig.3 ClampingVoltage VS Peak Pulse Current

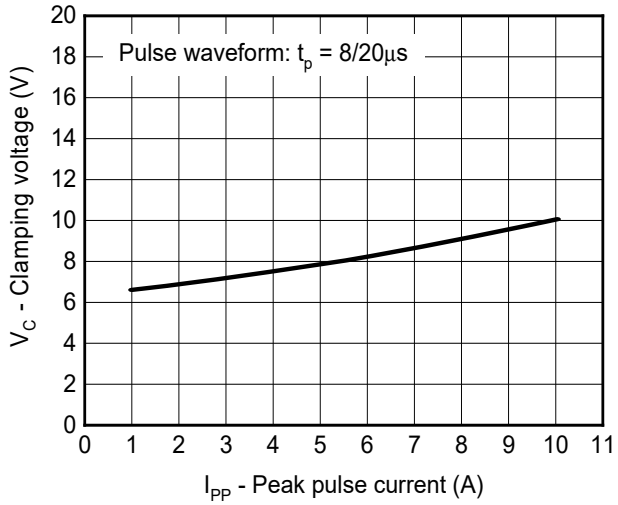


Fig.4 Capacitance VS Bias

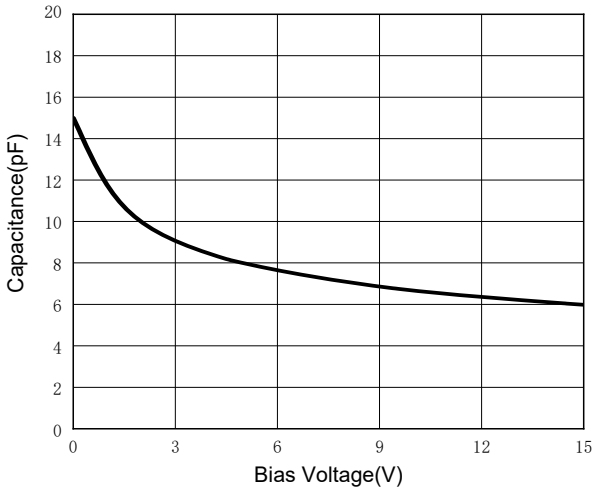


Fig.5 Non-Repetitive Peak Pulse Power vs Pulse Time

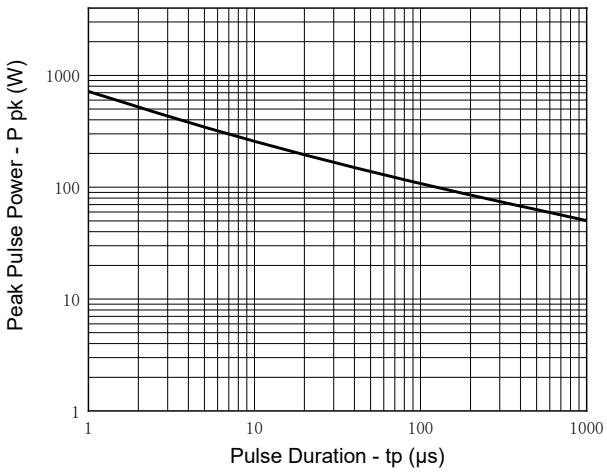
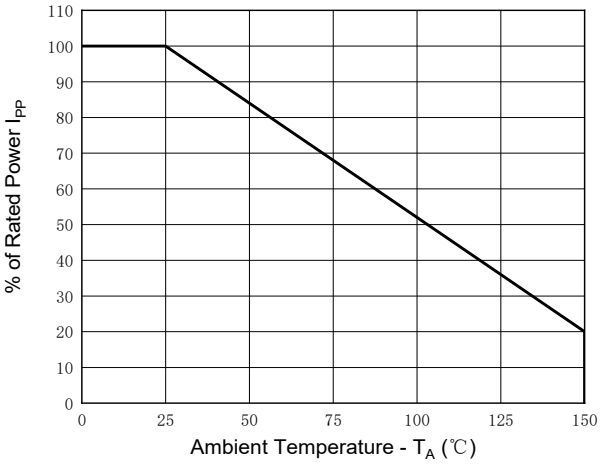


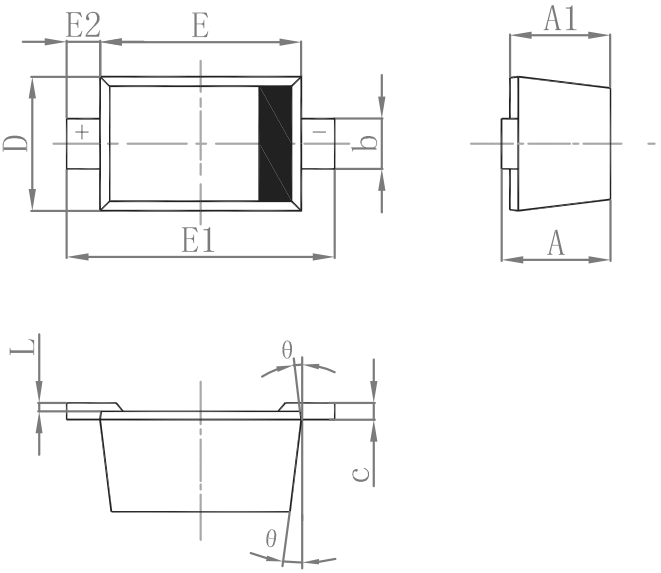
Fig.6 Power Derating Curve



The curve above is for reference only.

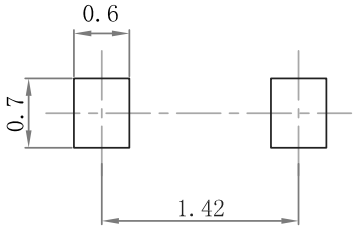
10. Outline Drawing

SOD-523 Package Outline Dimensions



Symbol	imensions In Millimeters		imensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.770	0.020	0.031
b	0.250	0.400	0.010	0.016
c	0.080	0.150	0.003	0.006
D	0.700	1.000	0.028	0.040
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.150	0.250	0.006	0.010
L	0.000	0.070	0.000	0.003
K	0°	8°	0°	8°

11. Suggested Pad Layout



Note:

1.Controlling dimension:in/millimeters.

2.General tolerance: ±0.05mm.

3.The pad layout is for reference purposes only.

12.PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
SOD-523	7'	178	3000	190*190*190	45,000	400*400*220	180,000

13.Important Notice and Disclaimer

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