GBLC05CM

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) 20A (8/20μs)

2. Features

- Protects one bi-directional I/O line
- Low clamping voltage
- Working voltage: 5V
- Low leakage current
- RoHS compliant

3. Main Application

- XDSL
- Microprocessor based equipment
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- USB interface

4. Mechanical Characteristics

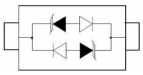
- SOD-323 package
- Molding compound flammability rating: UL 94V-0
- Weight 4.7 milligrams (approximate)
- Lead finish: lead free
- Marking code: AC

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 Pulse Power(8/20us)	P_{pp}	400	W
Operating Temperature	T_{OPT}	-55~+150	°C
Storage Temperature Range	T_{stg}	-55~+150	°C

Microdiode Semiconductor

6. Pinning information

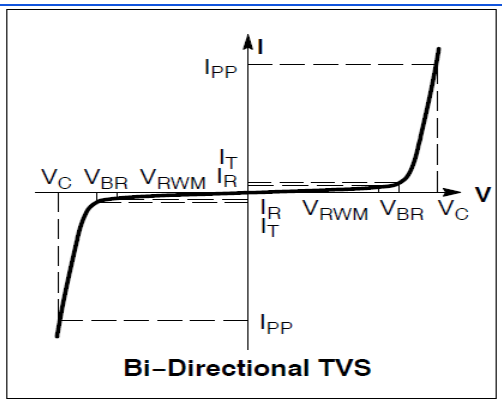
Pin	Symbol	Description	Simplified outline	Equivalent Circuit	Marking	Package
1	A	Anode			AC	SOD-323
2	A	Anode				

7.Electrical Characteristics(Tamb=25°C)

Parameter	Symbols	Condition	Min	Typ	Max	Unit
Reverse Working Voltage	VRWM				5	V
Breakdown Voltage	V_{BR}	I_T =1mA	6.0			V
Reverse Leakage Current	I_R	V_{RWM}=±5V			1	uA
Clamping Voltage	V_C	I_{pp}=1A , t_p=8/20us			9.5	V
		I_{pp}=20A , t_p=8/20us			20	V
Junction Capacitance	C_J	V_R =0V ,f=1MHz		1.5	2	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



Bi-Directional TVS

9.Typical Characterisitics

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

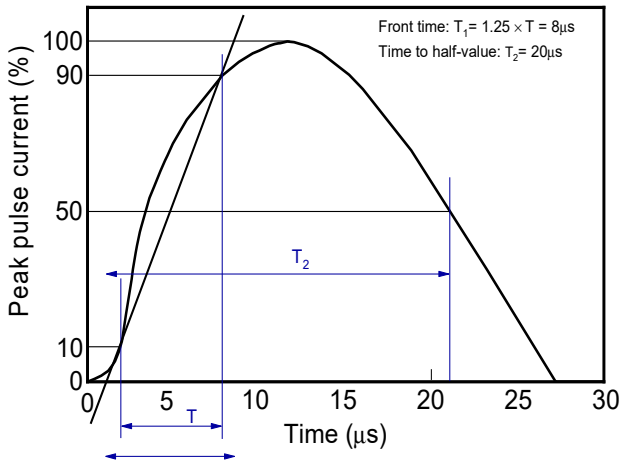


Fig.2 Contact Discharge Current Waveform per IEC61000-4-2

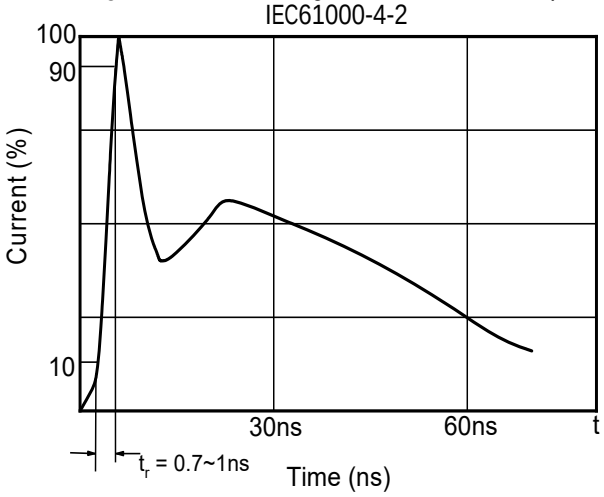


Fig.3 Clamping Voltage Vs. Peak Pulse Current

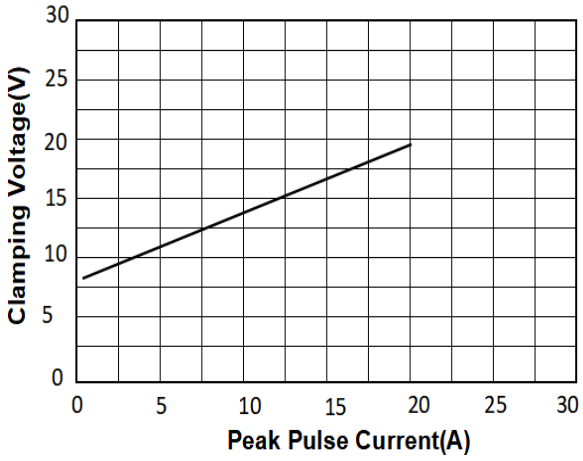
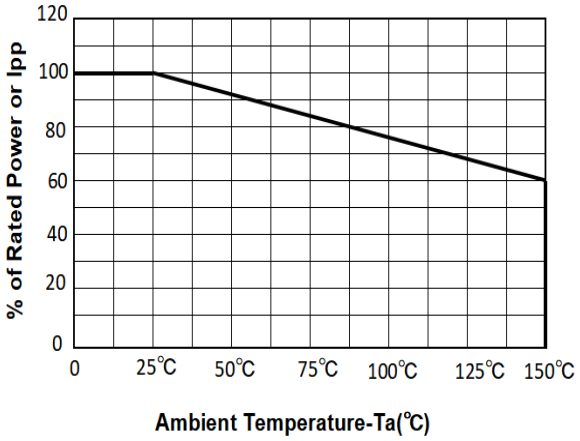


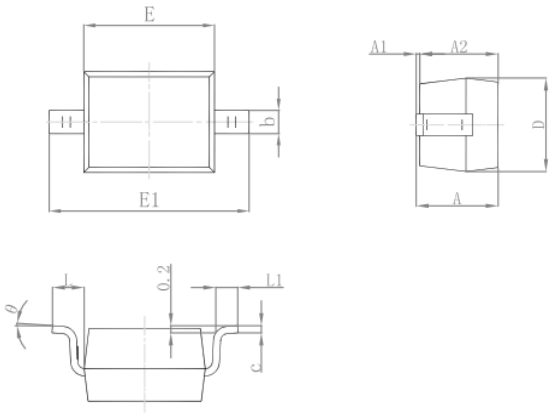
Fig.4 Power Derating



The curve above is for reference only.

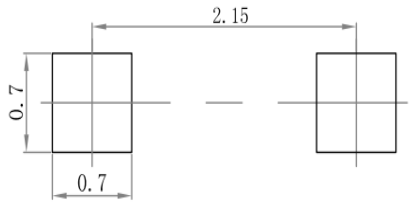
10. Outline Drawing

SOD-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.80	1.10	0.032	0.043
A1	0.00	0.20	0.000	0.008
A2	0.70	1.05	0.028	0.042
b	0.20	0.40	0.007	0.016
C	0.05	0.20	0.0019	0.0079
D	1.10	1.45	0.043	0.057
E	1.40	1.80	0.063	0.070
E1	2.50	2.80	0.098	0.110
L	0.35	0.60	0.014	0.024
L1	0.15	0.45	0.006	0.016
θ	0°	9°	0°	9°

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-323	7'	178	3000	190×190×190	45,000	400×400×220	180,000

13.Important Notice and Disclaimer

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