

SD05X

1. Protection Solution To Meet

- IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 30A (8/20 μs)

2. Features

- Low clamping voltage
- Working voltage: 5.0V
- 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

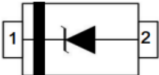
4. Mechanical Characteristics

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

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

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Contact)	$V_{\text{ESD-Contact}}$	± 30	KV
ESD per IEC 61000-4-2 (Air)	$V_{\text{ESD-Air}}$	± 30	KV
Peak Pulse Power(8/20us)	P_{pp}	390	W
Operating Temperature	T_{OPT}	$-55 \sim +150$	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

6. Pinning information

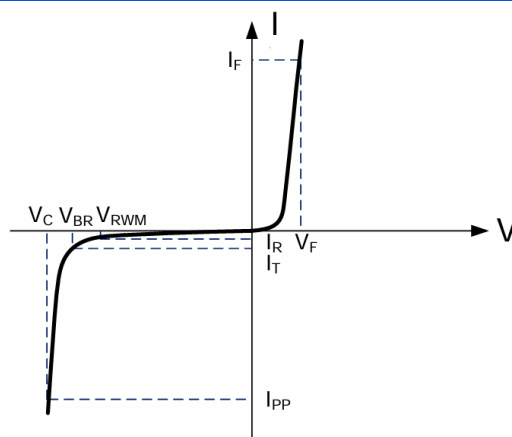
Pin	Description	Simplified outline	Equivalent Circuit	Marking	Package
2	Uni			5U	SOD-523

7. Electrical Characteristics (T_{amb} = 25°C)

Parameter	Symbols	Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}				5	V
Breakdown Voltage	V _{BR}	I _T = 1mA	6			V
Reverse Leakage Current	I _R	V _{RWM} = 5V			1	uA
Clamping Voltage	V _C	I _{pp} = 1A, t _p = 8/20us			7.5	V
		I _{pp} = 30A, t _p = 8/20us			13	V
Junction Capacitance	C _J	V _R = 0V, f = 1MHz		250		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
V _F	Forward Voltage
I _F	Forward Test Current



9. Typical Characteristics

Fig.1 8/20 μ s Waveform Per IEC6100-4-5

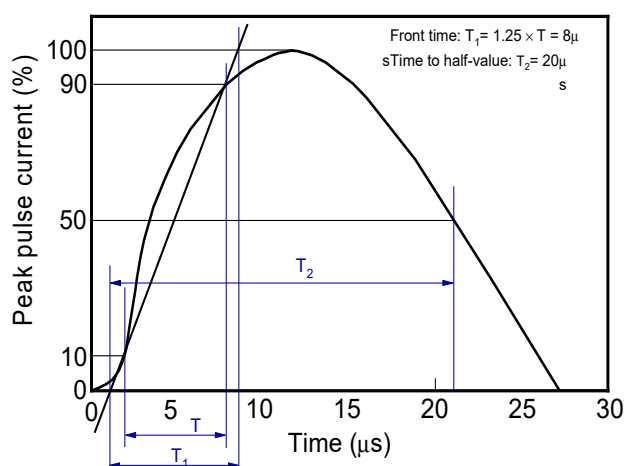


Fig.2 Contact Discharge Current Waveform per IEC61000-4-2

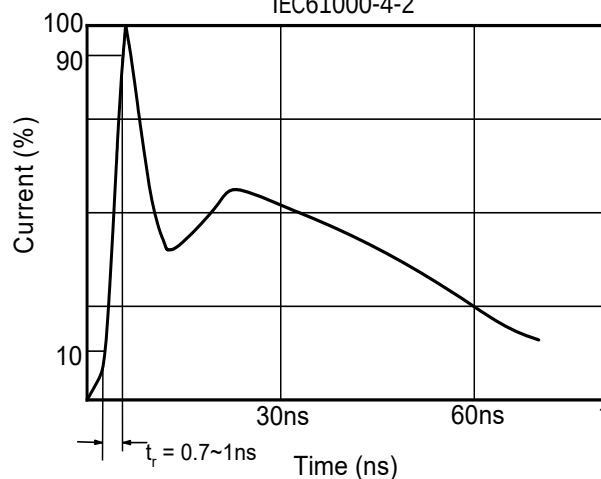
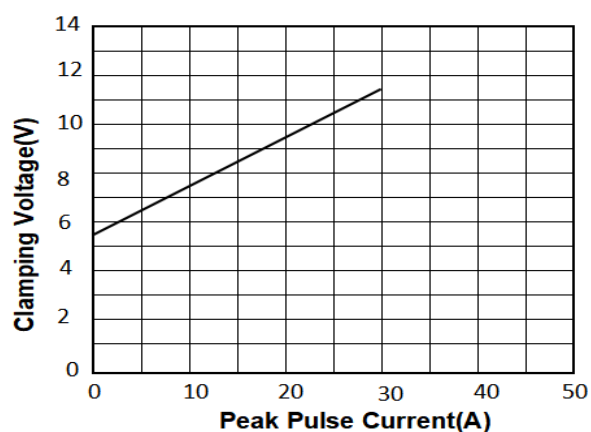


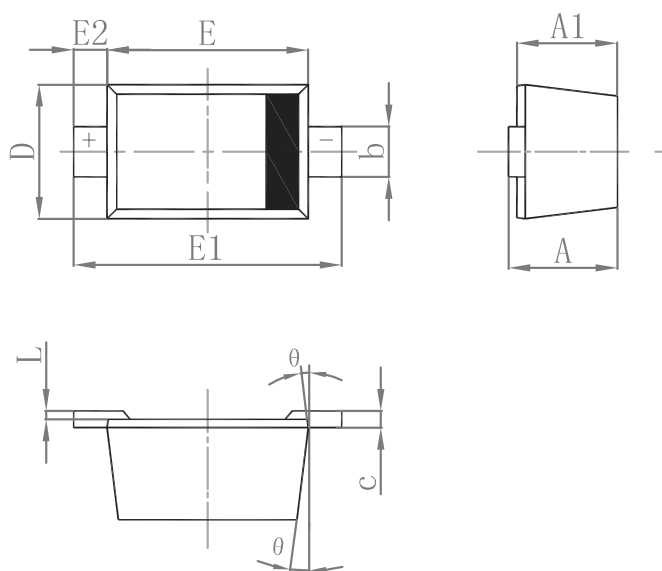
Fig.3 Clamping Voltage Vs Peak Pulse Current



The curve above is for reference only.

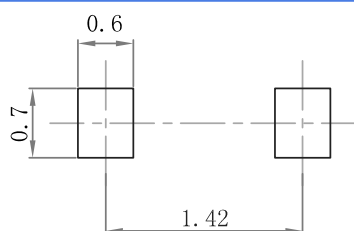
10. Outline Drawing

SOD-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions 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: $\pm 0.05\text{mm}$.
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	5000	190×190×190	75000	400×400×220	300,000

13.Important Notice and Disclaimer

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