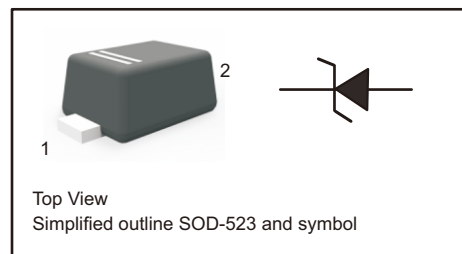


Transient Voltage Suppressors for ESD Protection

General Description

The ESD5V0D5 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.



Features

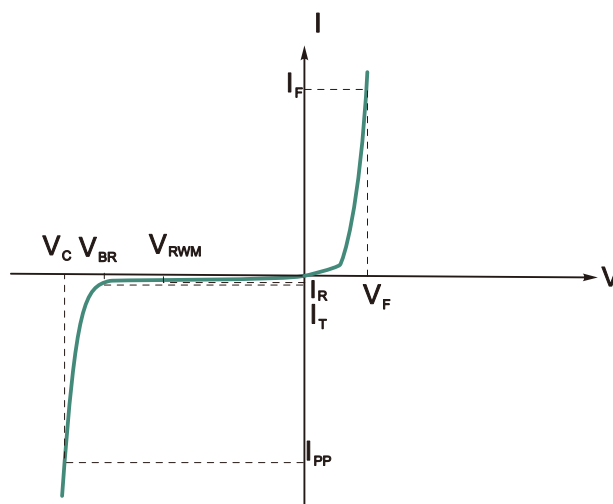
- 174 Watts peak pulse power ($t_p = 8/20\mu s$)
- Uni-directional ESD protection of one line
- IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- Suitable replacement for MLV's in ESD protection applications
- Working voltages: 5.0V
- Low leakage current
- Low clamping voltage

APPLICATIONS

- Computers and peripherals
- Audio and video equipment
- Cellular handsets and accessories
- Portable electronics
- Other electronics equipments communication systems

Electronics Parameter

Parameter	Symbol
Maximum Reverse Peak Pulse Current	I_{PP}
Clamping Voltage @ I_{PP}	V_C
Peak Reverse Working Voltage	V_{RWM}
Reverse Leakage Current @ V_{RWM}	I_R
Breakdown Voltage @ I_T	V_{BR}
Test Current	I_T
Forward Current	I_F
Forward Voltage @ I_F	V_F





Absolute Ratings

(Tamb=25°C)

Parameter	Symbol	Value	Unit
IEC 61000-4-2 ESD Voltage Air Model	V _{ESD}	±30	KV
IEC 61000-4-2 ESD Voltage Contact Model		±30	
Peak Pulse Power(tp=8/20us)	P _{PK}	174	W
Peak Pulse Current(tp=8/20us)	I _{PP}	9.4	A
Maximum junction temperature	T _J	-55 to +150	°C
Storage Temperature	T _{STG}	-55 to +150	°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse stand-off voltage	VRWM				5.0	V
Reverse Breakdown Voltage	VBR	IT=1mA	6.2			V
Reverse Leakage Current	IR	VR=VRWM			0.05	uA
Clamping Voltage	VC	I _{PP} =5A, tp=8/20us			11.6	V
Clamping Voltage	VC	I _{PP} =9.4A, tp=8/20us			18.6	V
Junction Capacitance	Cj	VR=0V, f=1MHz		80		pF



Fig.1 8 X 20us Pulse Waveform

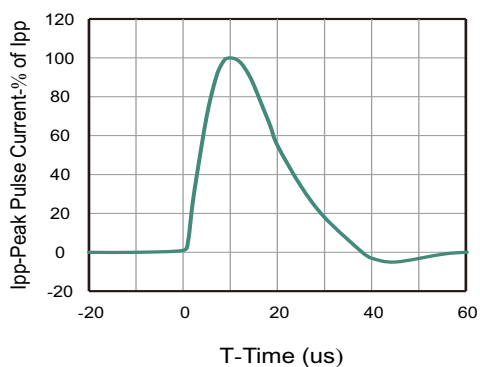


Fig.2 Power Derating Curve

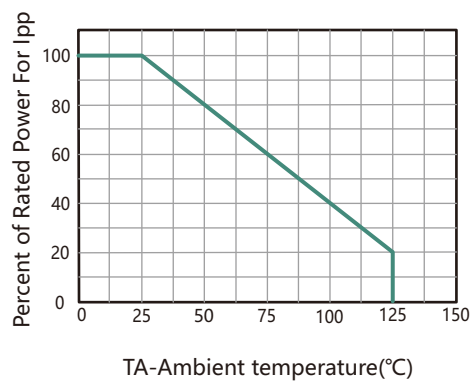
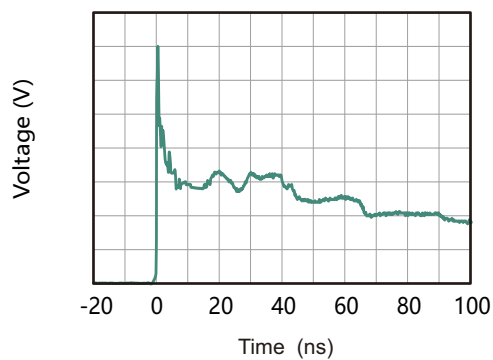


Fig.3 Contact discharge current waveform per IEC6100-4-2

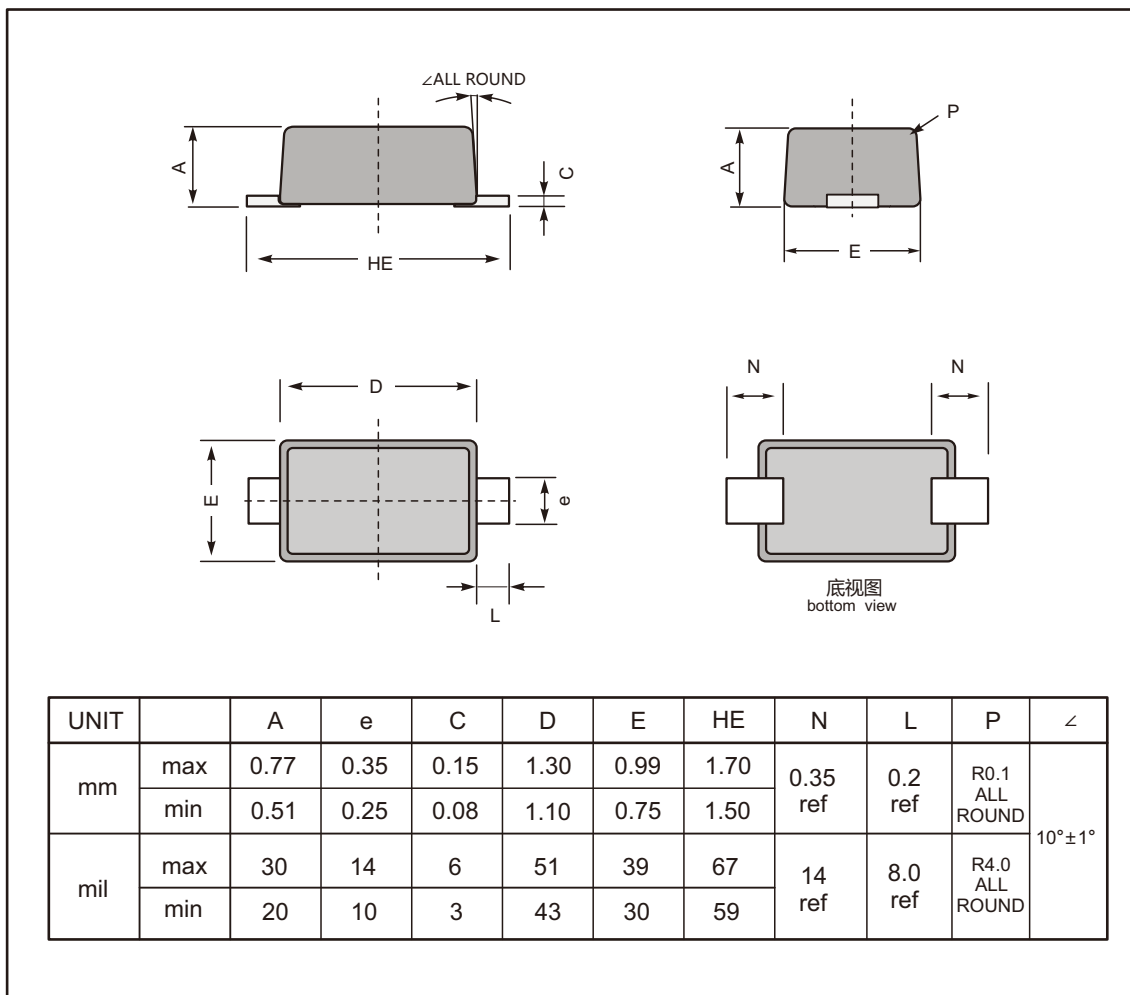




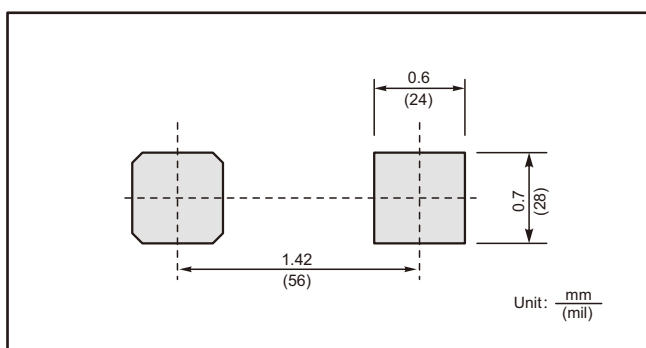
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-523



The recommended mounting pad size



Marking

Type number	Marking code
ESD5V0D5	E0



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