JSMICRO SEMICONDUCTOR

ESD5B5CM

Bi-dirctional Micro-Packaged Transient Voltage Suppressor

Features

- Small SOD-523 Package
- Bi-directional Configurations
- Peak Power Dissipation 250W @8 x 20 us Pulse
- Low Leakage
- Fast Response Time < 1 ns
- Protects One Power or I/O Port
- ESD Rating of Class 3 (>16KV) per Human Body Model
- ESD Protection to IEC 61000-4-2 Level 4
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- RoHS Compliant in Lead-Free Versions

Applications

- Communication Systems & Cellular Phones
- Personal Digital Assistant (PDA)
- Digital Cameras
- Power Supplies

Absolute Maximum Ratings

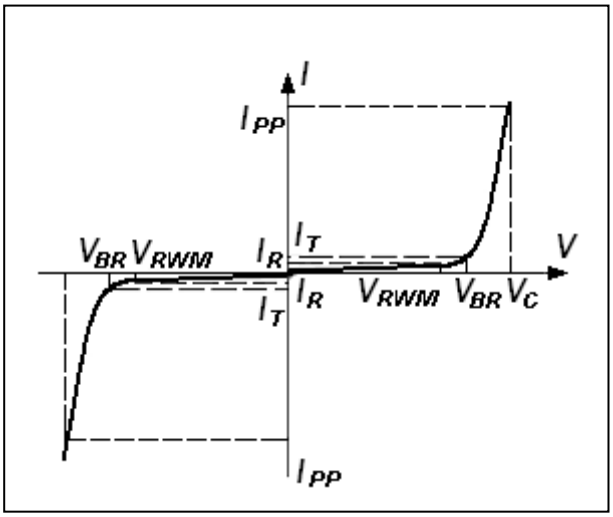
Parameter		Symbol	Value	Units
Peak Power Dissipation (Note 1.) @T_L = 25°C		P_{PK}	250	W
IEC 61000-4-2 (ESD)	Air		±30	KV
	CONTACT		±30	KV
ESD Voltage	Per Human Body Model		16	KV
	Per Machine Model		400	V
Storage Temperature Range		T_{STG}	-55 to 150	°C
Operating Junction Temperature Range		T_J	-55 to 150	°C

1. 8 X 20 us, non–repetitive

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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



Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Device	V_{RWM} (V)	I_R(uA) @ V_{RWM}	V_{BR} (V)@ I_T (Note 1)		I_T	C(pF) @VR=0V F = 1 MHz
	Max	Max	Min	Max	mA	Typ
ESD5B5CM	5.0	1.0	5.8	7.8	50	32

*Surge current waveform per Figure 1.

1. V_{BR} is measured with a pluse test current I_T at an ambient temperature of 25℃.

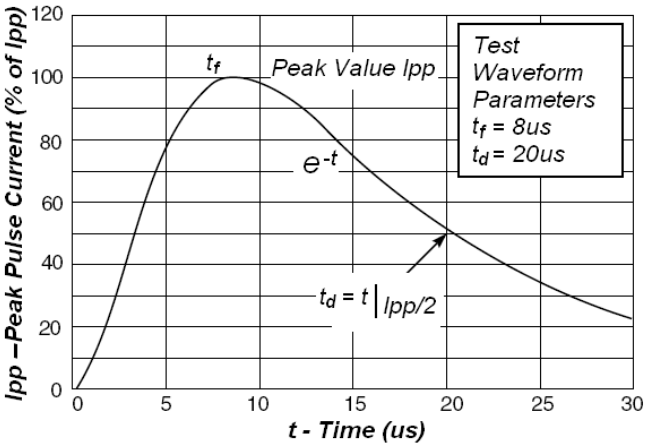


Fig1. Pulse Waveform

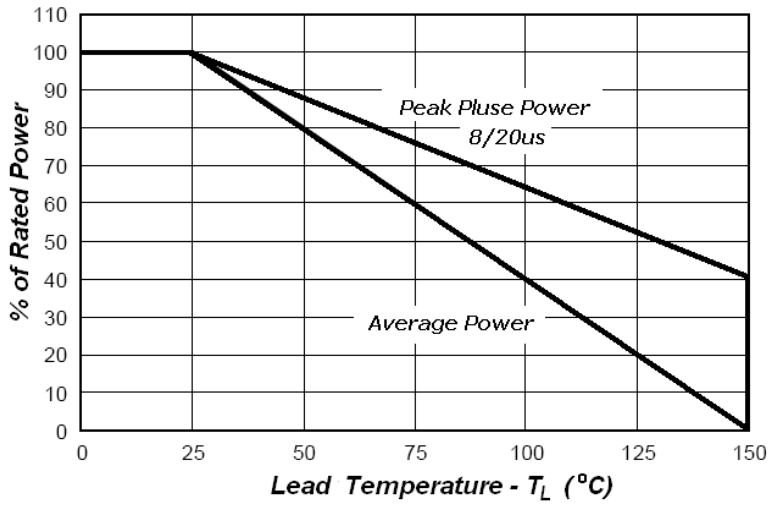
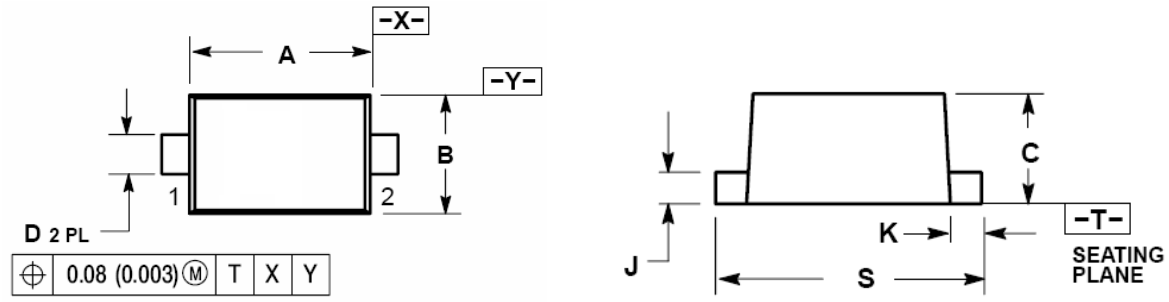


Fig2. Power Derating

Package Dimensions

SOD-523



Dim	Millimeters			Inches		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.10	1.20	1.30	0.043	0.047	0.051
B	0.70	0.80	0.90	0.028	0.032	0.035
C	0.50	0.60	0.70	0.020	0.024	0.028
D	0.25	0.30	0.35	0.010	0.012	0.014
J	0.07	0.14	0.20	0.0028	0.0055	0.0079
K	0.15	0.20	0.25	0.006	0.008	0.010
S	1.50	1.60	1.70	0.059	0.063	0.067