

**SOD-523 Plastic-Encapsulate ESD Protection Diodes****DESCRIPTION**

- ◆ Peak power dissipation: 40W (8/20μs)
- ◆ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ Protects one directional I/O line
- ◆ Low clamping voltage
- ◆ Low leakage current
- ◆ Low capacitance
- ◆ Working voltages : 5.0V
- ◆ Meets MSL 1 Requirements

Circuit Diagram**Applications**

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Air)	VESD	± 15	KV
ESD per IEC 61000-4-2 (Contact)		± 8	
Peak Pulse Power(8/20us)	PPP	40	W
Operating Temperature	T _{OPT}	-55 to +150	°C
Storage Temperature	T _{STG}	-55 to +150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260(10 sec.)	°C

The above data are for reference only.

**Electrical Characteristics** ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_{\text{T}} = 1\text{mA}$	5.2		8.0	V
I_{R}	Reverse Leakage Current	$V_{\text{RWM}} = 5\text{V}$			2.0	μA
V_{C}	Clamping Voltage	$I_{\text{PP}} = 1\text{A}$, $t_{\text{p}} = 8/20\mu\text{s}$			9	V
C_{J}	Junction Capacitance	$V_{\text{R}} = 0\text{V}$, $f = 1\text{MHz}$		4.5	6	pF

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ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20 μ s Waveform per IEC61000-4-5

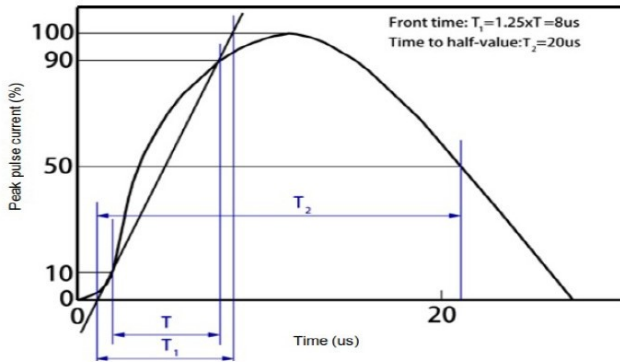


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

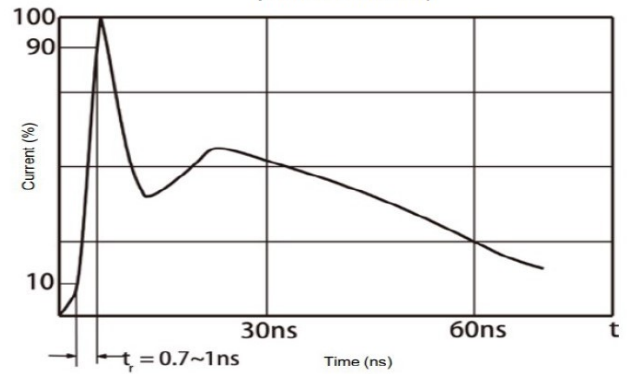


Fig 3 Power Derating Curve

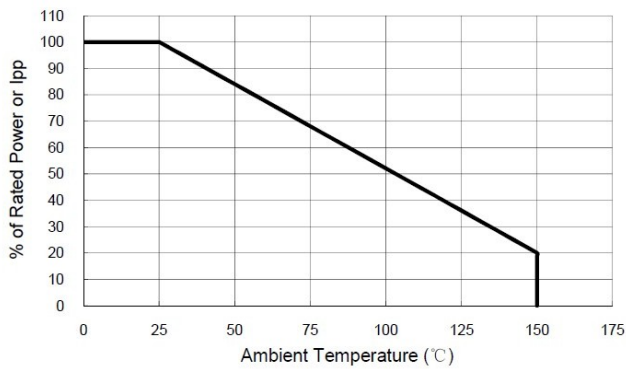


Fig 4 Voltage Sweeping

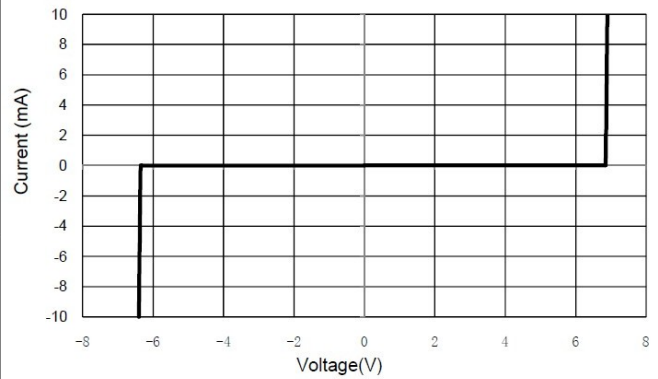


Fig 5 Voltage vs Capacitance

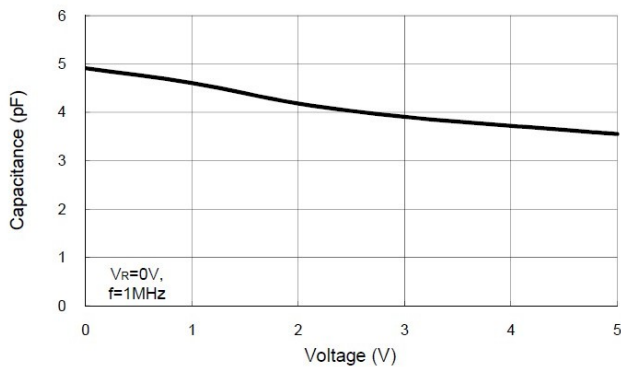
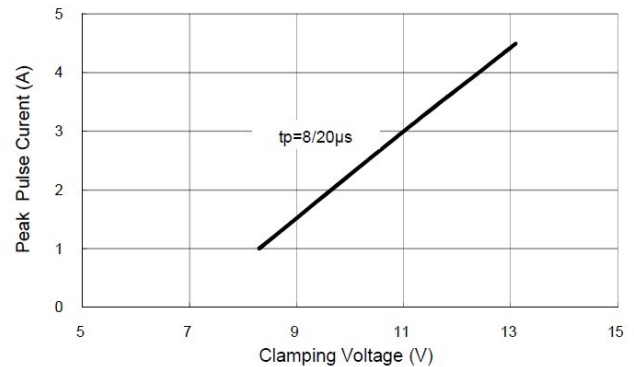


Fig 6 Clamping Voltage vs Peak Pulse Current



The curve above is for reference only.