

Bi-Directional Transient Voltage Suppressing Diodes

General Description

The GG2025SG is a Bi-directional transient voltage suppressing diode device designed to protect one power line, one control line, or one low speed data line from overvoltage hazards of Electrostatic Discharge (ESD), Electrical Fast Transients (EFT), and Lightning.

The GG2025SG's typical applications are Computer Interface Protection, Microprocessor Protection, Control Signal Line Protection, etc.



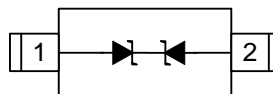
Features

- Bi-directional TVS
- Provides ESD protection to IEC61000-4-2 level 4
 - $\pm 15\text{kV}$ air discharge
 - $\pm 8\text{kV}$ contact discharge
- Ultra-small body with SOD-523 package
- Fast response speed $< 1\text{ ns}$
- Low clamping voltage
- Low operating voltage
- RoHS compliant

Applications

- Computer Interface Protection
- Microprocessor Protection
- Control Signal Line Protection
- Serial and Parallel Port Protection
- PCB Power line Protection
- Latchup Protection

Pin Configuration



Absolute Maximum Ratings

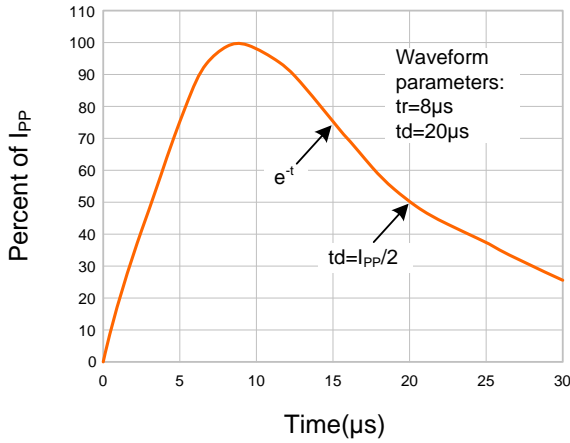
Characteristics	Symbol	Rating	Unit
Peak Pulse Current($t_p=8/20\mu s$)	I_{PP}	8.5	A
Operating Supply Voltage(pin-1,-2 to pin-3)	V_{DC}	6	V
ESD per IEC61000-4-2(Air) ESD per IEC61000-4-2(Contact)	V_{ESD-1}	± 15 ± 8	KV
Lead Soldering Temperature	T_{SOL}	260(10sec.)	$^{\circ}C$
Operating Temperature Range	T_{OP}	-55 ~ +125	$^{\circ}C$
Storage Temperature Range	T_{STO}	-55 ~ +150	$^{\circ}C$

Electrical Characteristics ($T_{amb}=25^{\circ}C$)

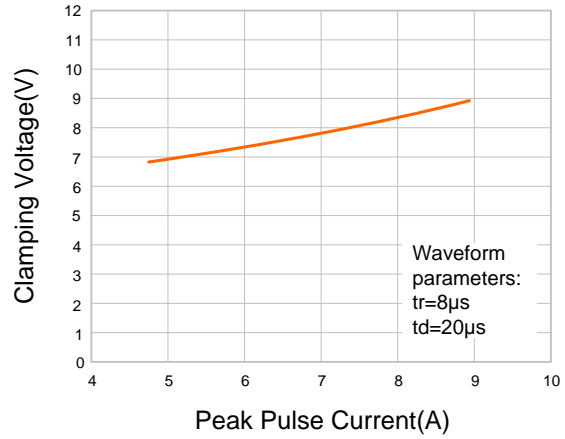
Characteristics	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V_{RWM}	$T=25^{\circ}C$	--	--	5	V
Reverse Leakage Current	I_{Leak}	$V_{RWM}=5V, T=25^{\circ}C$	--	--	2.5	μA
Reverse Breakdown Voltage	V_{BV}	$I_{BV}=1mA, T=25^{\circ}C$	6.1	--	9	V
Clamping Voltage	V_{CL}	$I_{PP}=5A, t_p=8/20\mu s, T=25^{\circ}C$	--	7	8	V
Clamping Voltage	V_{CL}	$I_{PP}=9.4A, t_p=8/20\mu s, T=25^{\circ}C$	--	17	18.6	V
ESD Holding Voltage	V_{hold}	IEC 61000-4-2 6KV, $T=25^{\circ}C$, Contact mode	--	10.5	--	V
Channel Input Capacitance	C_N	$V_R=0V, f=1MHz, T=25^{\circ}C$	--	13.5	15	pF

Typical Characteristics

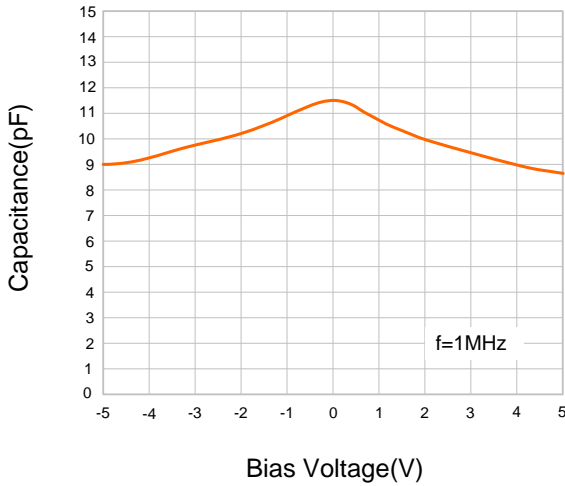
Pulse Waveform



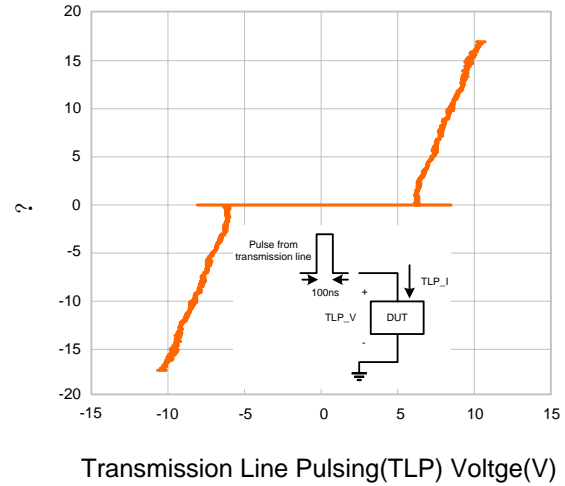
Clamping Voltage vs. Peak Pulse Current



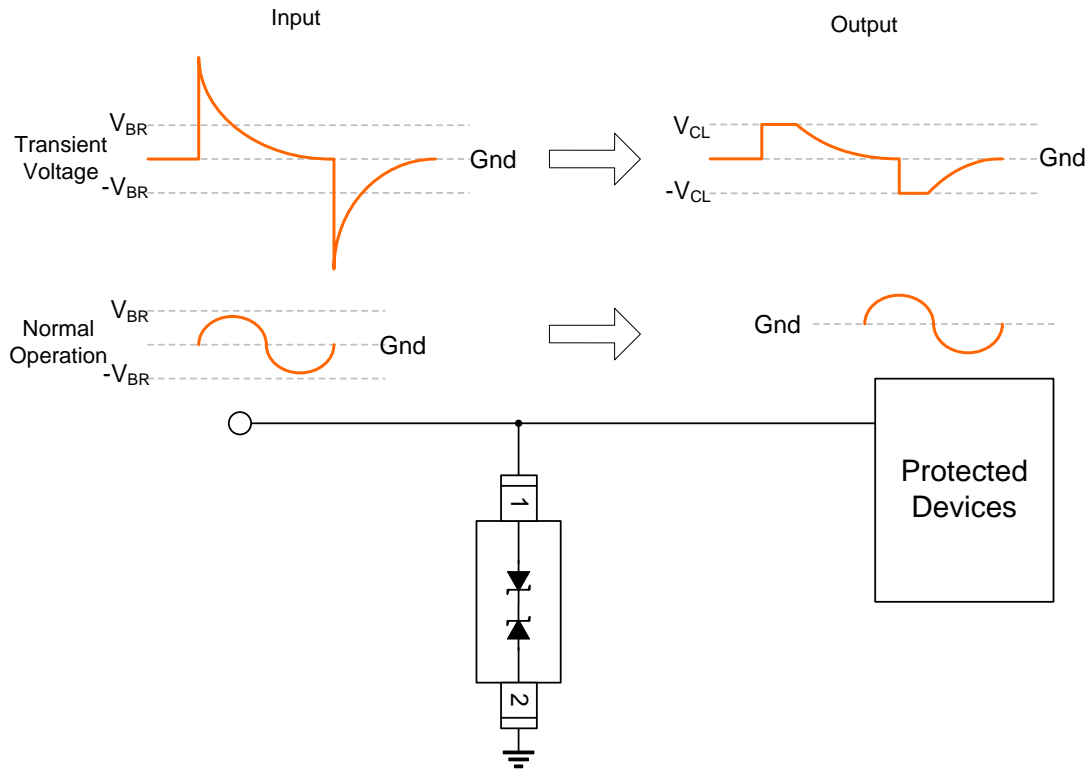
Typical Variation C_{IN} vs. V_{IN}



Transmission Line Pulsing(TLP) Measurement



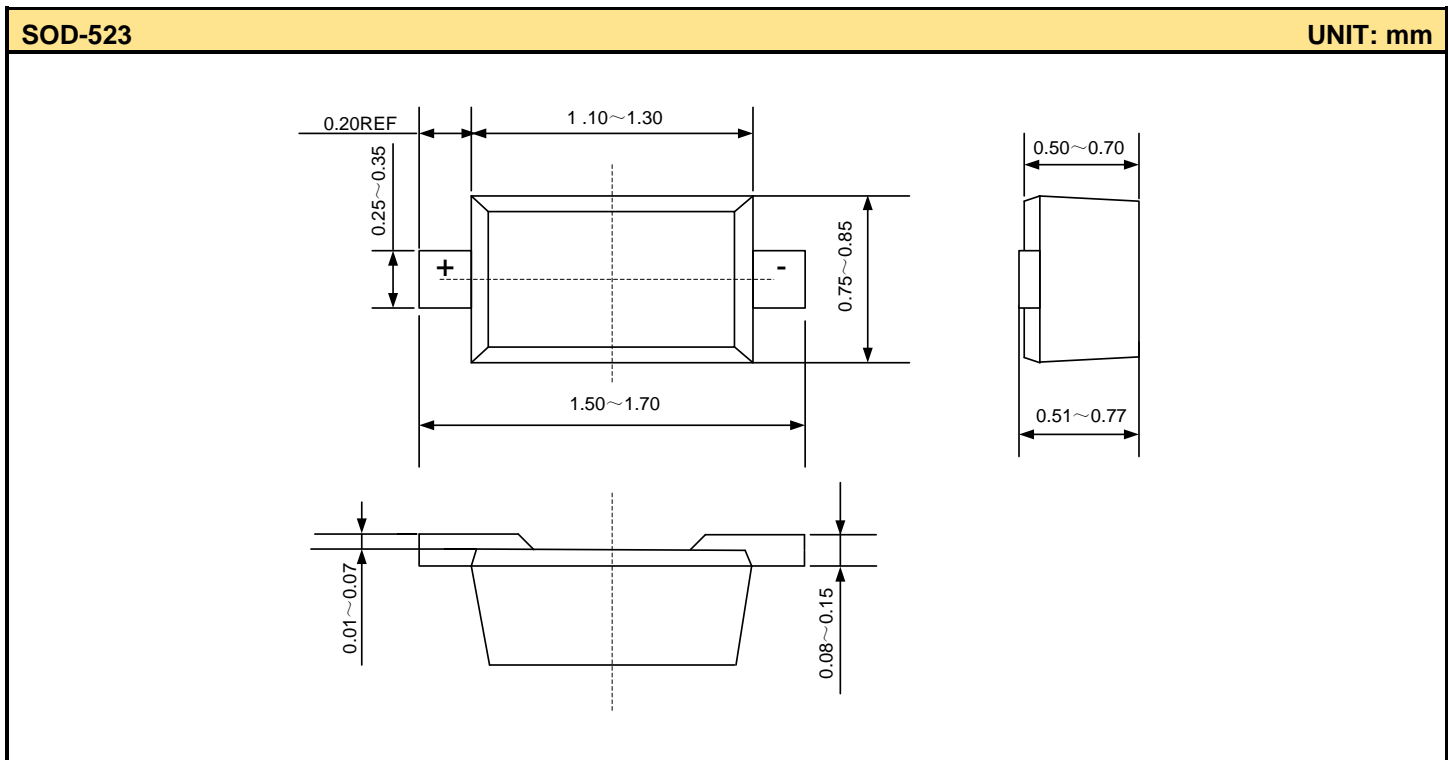
Typical Applications



Ordering Information

Part No.	Package	Marking	Material	Packing
GG2025SGTR	SOD-523	25	Halogen free	Tape&Reel

Package Outline



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