

Transient Voltage Suppression Diode

General Description

The GG0501SG is a transient voltage suppressing diode to protect one power line, or one control line, or one low speed data line from overvoltage hazard of Electrostatic Discharge (ESD), Electrical Fast Transients (EFT) and Lightning.

The GG0501SG's typical applications are mobile phone Protection, MP3 and digital cameras Protection, Control Signal Lines Protection etc.



Features

- Provides ESD protection to IEC61000-4-2 level 4
 - $\pm 20\text{kV}$ air discharge
 - $\pm 15\text{kV}$ contact discharge
- Ultra-small body with SOD-523 package
- Fast response speed $< 1\text{ ns}$
- Low clamping voltage
- Low operating voltage

Applications

- Mobile phone Protection
- MP3 Protection
- Digital cameras Protection
- Control Signal Lines Protection
- Power line Protection

Pin Configuration



Ordering Information

Part No	Package	Marking	Material	Packing
GG0501SGTR	SOD-523	51	Halogen free	Tape&Reel

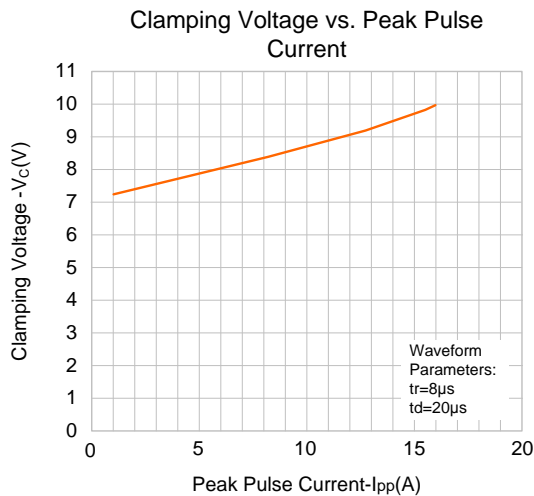
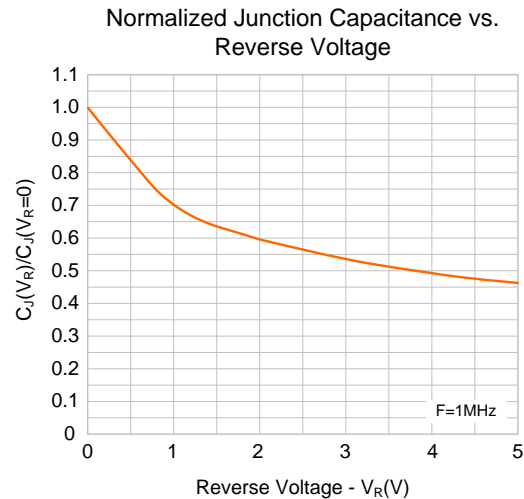
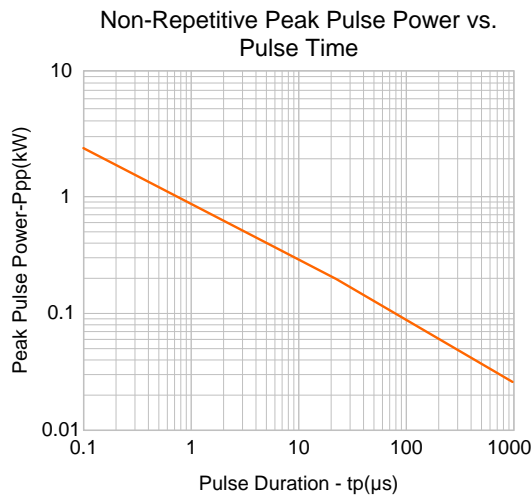
Absolute Maximum Ratings

Characteristics	Symbol	Rating	Unit
Peak Pulse Power ($t_p=8/20\mu s$)	P_{Pk}	200	W
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	16	A
ESD per IEC61000-4-2(Air)	V_{ESD-1}	± 20	kV
ESD per IEC61000-4-2(Contact)		± 15	
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	$^{\circ}C$

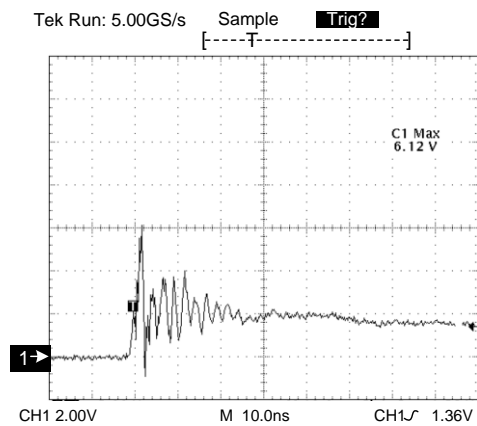
Electrical Characteristics ($T_{amb}=25^{\circ}C$)

Characteristics	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V_{RWM}	$T=25^{\circ}C$	--	--	5	V
Reverse Leakage Current	I_{Leak}	$V_{RWM}=5V, T=25^{\circ}C$	--	--	5	μA
Reverse Breakdown Voltage	V_{BV}	$I_{BV}=1mA, T=25^{\circ}C$	6.0	--	9.0	V
Clamping Voltage	V_{CL}	$I_{PP}=5A, t_p=8/20\mu s, T=25^{\circ}C$	--	--	9.8	V
Clamping Voltage	V_{CL}	$I_{PP}=16A, t_p=8/20\mu s, T=25^{\circ}C$	--	--	12.5	V
Channel Input Capacitance	C_N	$V_R=0V, f=1MHz, T=25^{\circ}C$	--	--	160	pF

Typical Electrical Characteristics Curve



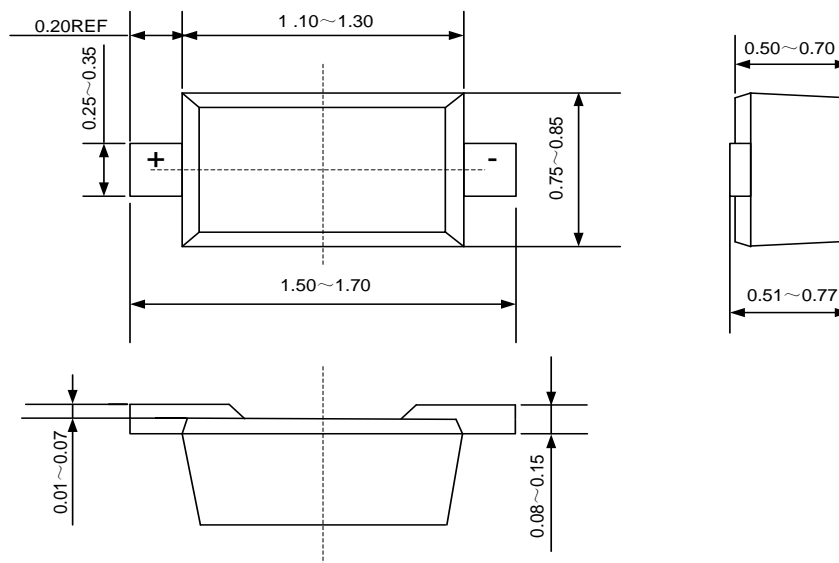
ESD Clamping (8KV contact per IEC61000-4-2)



Package Outline

SOD-523

UNIT: mm



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