GSL05

Ultra Low Capacitance ESD Protection Diode

DESCRIPTION

The GSL05 is an ultra low capacitance ESD protection diode, designed to protect sensitive electronics such as communications systems, computers, and computer peripherals against damage due to ESD conditions or transient voltage conditions. Because of its ultra low capacitance value (less than 1 pF), It can be used in high speed I/O data lines. It is rated at 350 Watts for an 8/20μs wave shape.

The GSL05 meets IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. It offers ultra low capacitance and low leakage current in a miniature SOT-23 package.

FEATURES

- ✧IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ✧IEC61000-4-4 (EFT) 40A
- ✧350 Watts Peak Pulse Power per (tp=8/20μs)
- ✧Protects on unidirectional line.
- ✧Low clamping voltage
- ✧Working voltages :5V
- ✧Low leakage current

MACHANICAL DATA

- ✧SOT-23 package
- ✧Flammability Rating: UL 94V-0
- ✧Packaging: Tape and Reel
- ✧High temperature soldering guaranteed: 260℃/10s
- ✧Reel size: 7 inch
- ✧MSL 1

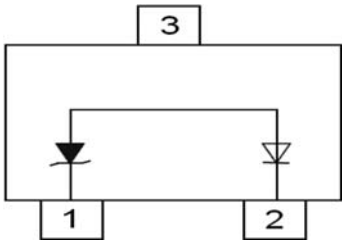
ORDERING INFORMATION

- ✧Device: GSL05
- ✧Package: SOT-23
- ✧Material: Halogen free
- ✧Packing: Tape & Reel
- ✧Quantity per reel: 3,000pcs

APPLICATIONS

- ✧Communications systems
- ✧Microprocessor based equipment
- ✧Personal Digital Assistants (PDA's)
- ✧Notebooks, Desktops, and Servers
- ✧Portable Instrumentation
- ✧Serial and Parallel Ports.
- ✧Computer Peripherals

PIN CONFIGURATION



PACKAGE OUTLINE

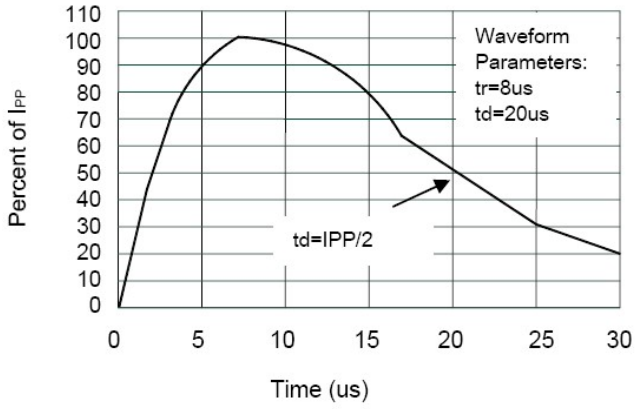
ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	±15 ±8	kV
P_{PP}	Peak Pulse Power (8/20μs)	350	W
T_{OPT}	Operating Temperature	-55/+150	°C
T_{STG}	Storage Temperature	-55/+150	°C
T_L	Lead Soldering Temperature	260 (10 sec.)	°C

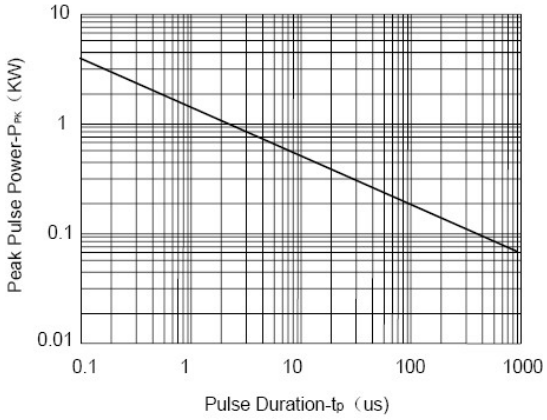
ELECTRICAL CHARACTERISTICS (Tamb=25°C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	6.0		8.0	V
I_R	Reverse Leakage Current	V_{RWM} = 5.0V			1.0	μA
V_C	Clamping Voltage	I_{PP} = 1A, t_p = 8/20μs			9.8	V
		I_{PP} = 5A, t_p = 8/20μs			11.0	V
		I_{PP} = 18A, t_p = 8/20μs			20.0	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz		0.4	1.0	pF

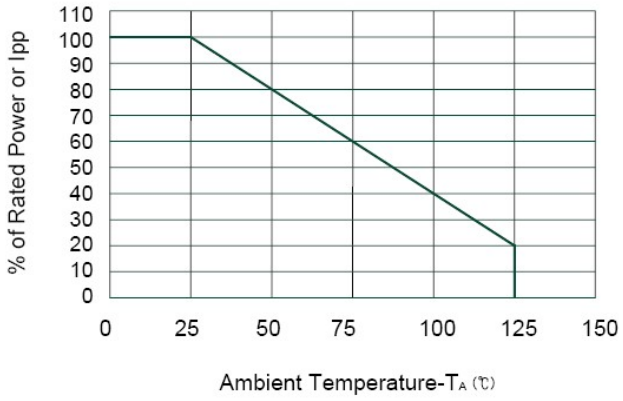
ELECTRICAL CHARACTERISTICS CURVE



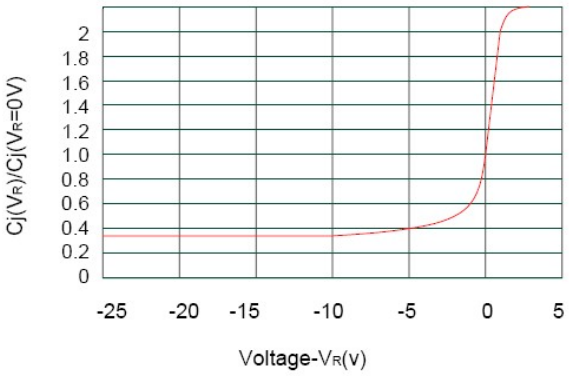
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time

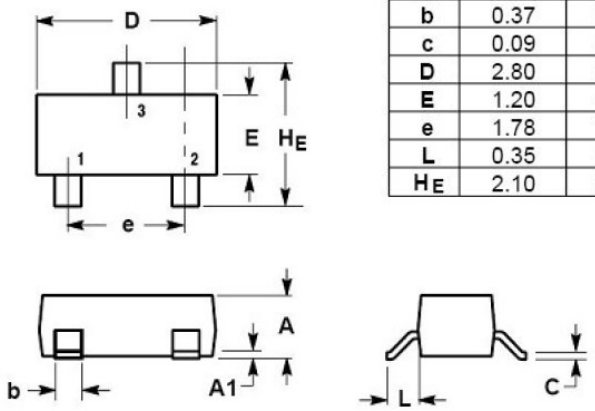


Power Derating Curve



Junction Capacitance vs. Reverse Voltage

SOT-23 PACKAGE OUTLINE DIMENSIONS



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104