



Description

The LGSOT05CLT1G is designed for applications requiring transient over voltage protection capability. They are intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines, communication systems, medical equipment and other applications. These devices are ideal for situations where board space is at a premium.

This series has been specifically designed to protect sensitive components which are connected to power, data and transmission lines from over voltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

Features

- IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (Air)
 $\pm 30\text{kV}$ (Contact)
IEC 61000-4-4 (EFT) 40A (5/50 ns)
- 350 Watts Peak Pulse Power per (tp=8/20us)
- Protects one bidirectional line or two unidirectional lines
- Working voltage: 5.0V
- Low leakage current
- Low clamping voltage

Ordering Information

- Device: LGSOT05CLT1G
- Package: SOT-23
- Material: Halogen free and RoHS compliant
- Packing: Tape & Reel
- Quantity per reel: 3,000pcs

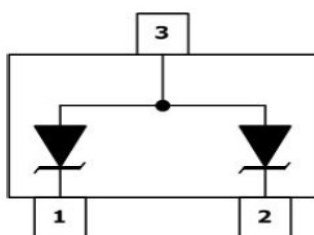
Machanical Data

- SOT-23 package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranteed: $260^{\circ}\text{C}/10\text{ s}$
- Reel size: 7 inch
- MSL 1

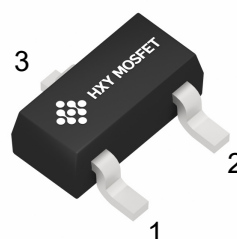
Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Networking and Telecom
- Serial and Parallel Ports
- 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)	±30 ±30	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(10sec)	°C

Electrial Characteristics (T_{amb}=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			V
I _R	Reverse Leakage Current	V _{RWM} = 5V			10	uA
V _C	Clamping Voltage	I _{PP} = 1A, t _p = 8/20μs			9.8	V
		I _{PP} = 17A, t _p = 8/20μs			18	V
C _J	Junction Capacitance	V _R = 0V, f = 1MHz			300	pF



Electrical Characteristics Curve

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

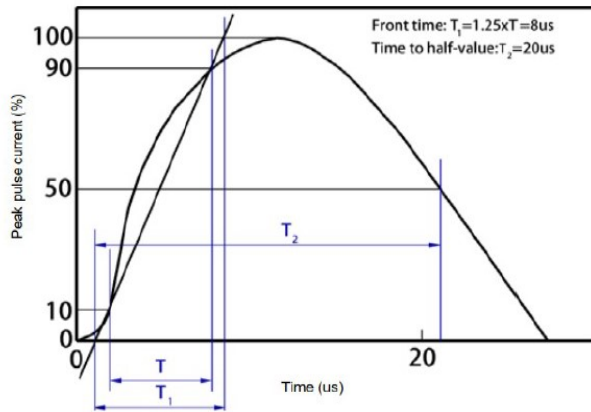


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

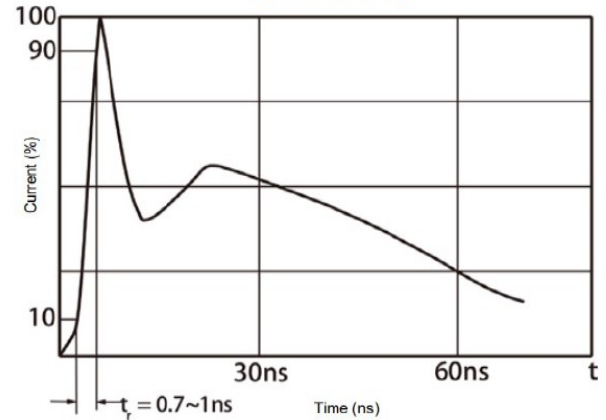


Fig 3 Voltage vs Capacitance

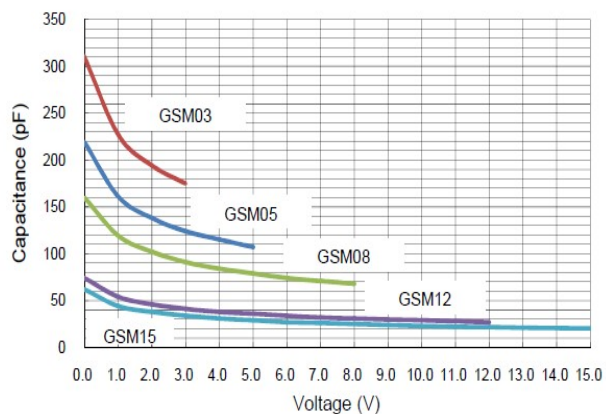


Fig 4 Voltage vs Capacitance

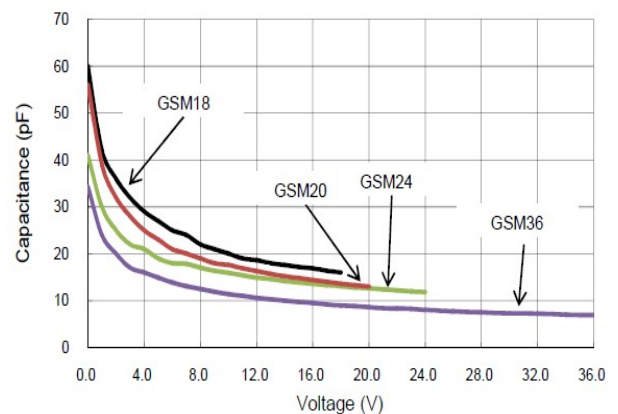


Fig 5 Clamping Voltage vs Peak Pulse Current

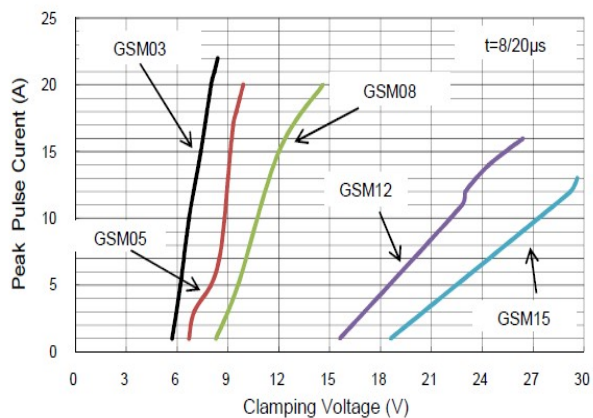
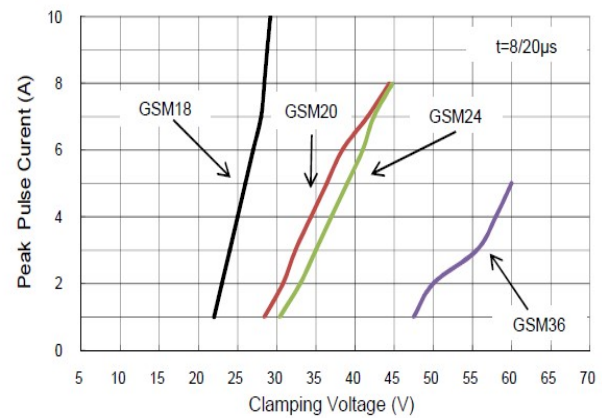
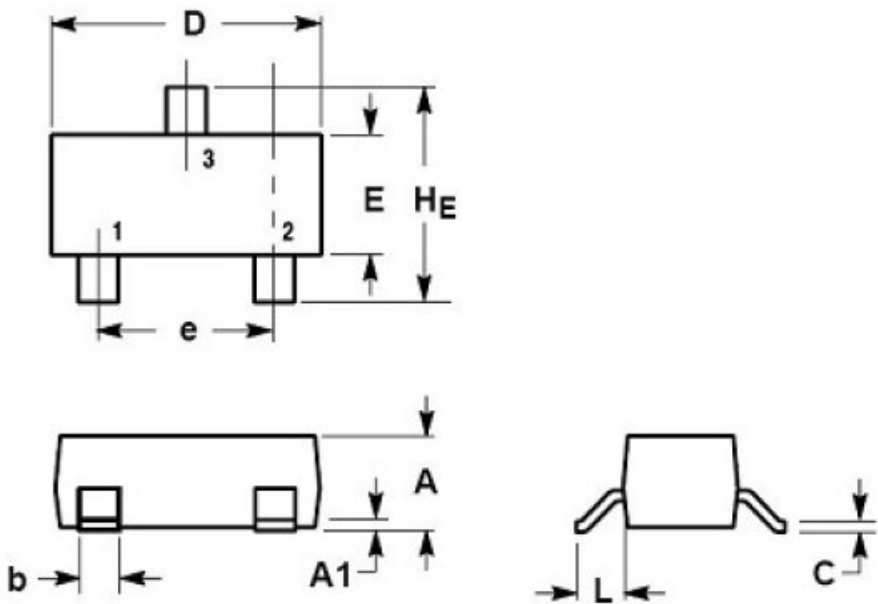


Fig 6 Clamping Voltage vs Peak Pulse Current





Outline And 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



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