DESCRIPTION

The GSOT04C~GSOT15C are dual monolithic voltage suppressor designed to protect components which are connected to data and transmission lines against ESD. It clamps the voltage just above the logic level supply for positive transients and to a diode drop below ground for negative transients. It can also work as bidirectional suppressor by connecting only pin1 and 2.

The GSOT04C~GSOT15C are available in SOT-23 Package.

FEATURES

- 2 Unidirectional transil functions
- Low leakage current: I_R max< 20μA at V_{RM}
- 300W peak pulse power(8/20μs)
- Transient protection for data lines as per IEC61000-4-2(ESD) 15KV(air) 8KV(contact) IEC61000-4-5(Lightning) see I_{PPM} below
- Available in SOT-23 Package

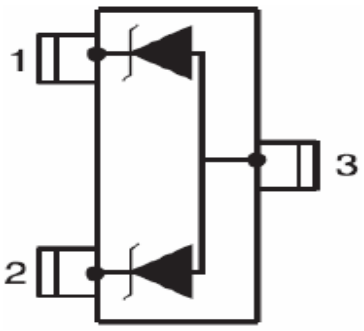
ORDERING INFORMATION

Package Type	Part Number
SOT-23	GSOT04C
	GSOT05C
	GSOT08C
	GSOT12C
	GSOT15C
Note	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

APPLICATIONS

- Computers
- Printers
- Communication systems

PIN DESCRIPTION



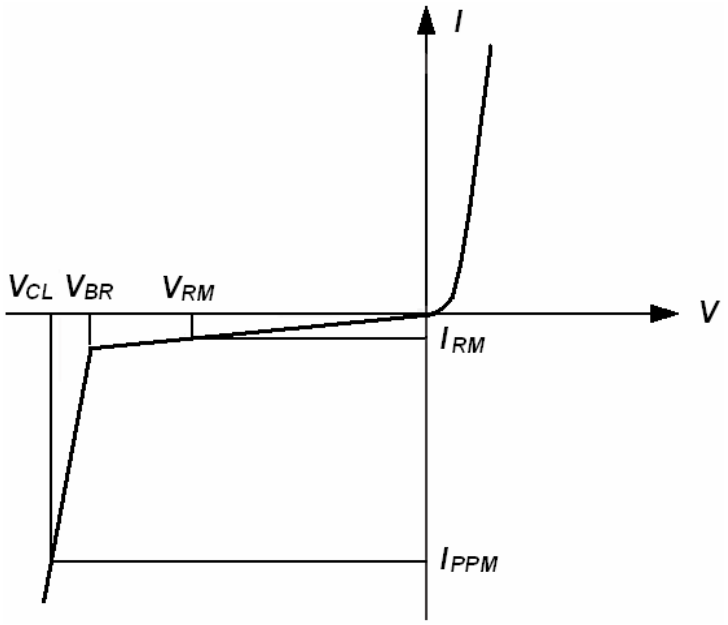
ABSOLUTE MAXIMUM RATINGS

T_{AMB} = 25°C

P_{PP}, Peak Pulse Power (tp = 8/20μs)	300W
T_L, Maximum lead temperature for soldering during 10s	260°C
T_{STG} , Storage Temperature Range	-55°C to +150°C
T_{OP}, Operating Temperature Range	-40°C to +125°C
T_J, Maximum junction temperature	150°C
V_{PP}, Electrostatic discharge	
IEC61000-4-2 air discharge	15kv
IEC61000-4-2 contact discharge	8kv

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL PARAMETER



Symbol	Parameter
V_{RM}	Stand-off voltage
V_{BR}	Breakdown voltage
V_{CL}	Clamping voltage
I_{RM}	Leakage current
I_{PPM}	Peak pulse current

ELECTRICAL CHARACTERISTICS

Part Number	Rated Stand-off Voltage	Maximum Leakage Current	Minimum Breakdown Voltage	Maximum Clamping Voltage		Maximum Pulse Peak Current	Maximum Capacitance
		@ V_{RM}	1mA	1A Note1	5A Note1	tp=8/20us	0v, 1MHz
	V_{RM}	I_{RM}	V_{BR}	V_{CL}		I_{PPM}	C
	V	μA	V	V	V	A	pF
GSOT04C	4.0	20.0	5.0	8.5	10.5	17	300
GSOT05C	5.0	20.0	6.0	9.8	12.5	17	220
GSOT08C	8.0	5.0	8.5	13.4	15.0	15	190
GSOT12C	12.0	1.0	13.3	19.0	28.0	12	90
GSOT15C	15.0	1.0	16.7	24	39.0	10	60

NOTE1: 8/20us waveform used. (see fig2.)

TYPICAL CHARACTERISTICS

Fig. 1 Peak Pulse Power VS Pulse Time

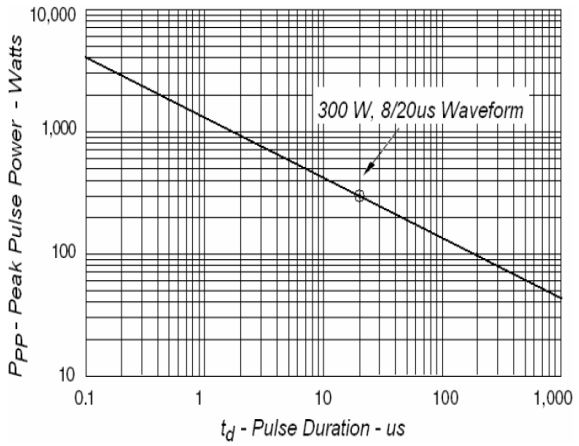


Fig. 2 Pulse Waveform

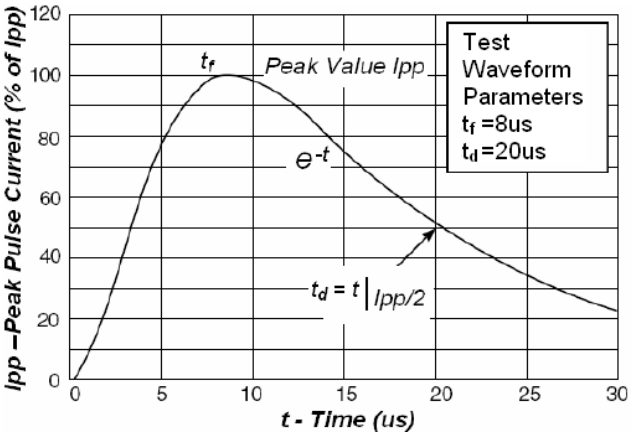
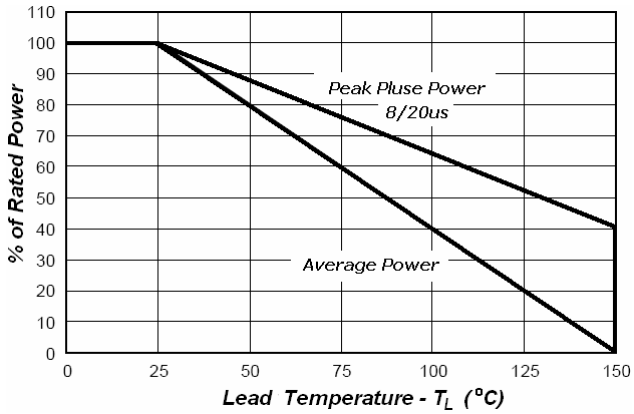


Fig 3. Power Derating

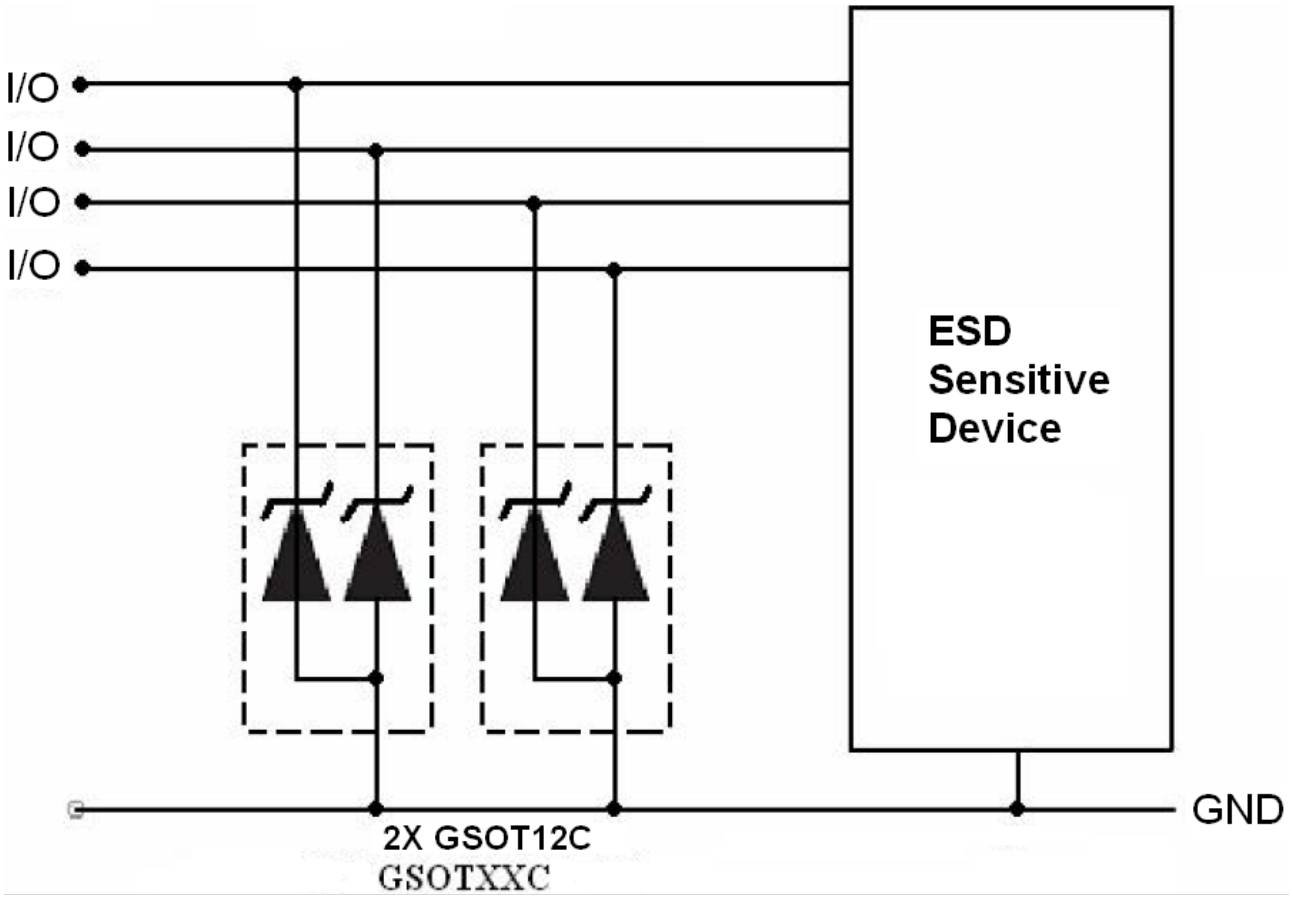


APPLICATION NOTE

Electrostatic discharge (ESD) is a major cause of failure in electronic systems. Transient Voltage Suppressors (TVS) are an ideal choice for ESD protection. They are capable of clamping the incoming transient to a low enough level such that damage to the protected semiconductor is prevented.

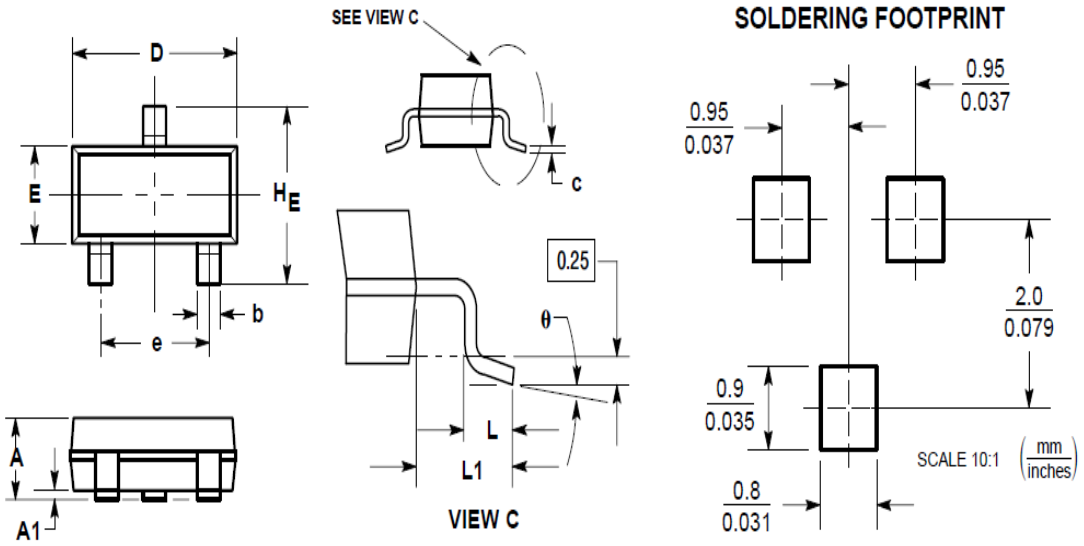
Surface mount TVS arrays offer the best choice for minimal lead inductance. They serve as parallel protection elements, connected between the signal line to ground. As the transient rises above the operating voltage of the device, the TVS array becomes a low impedance path diverting the transient current to ground.
The GSOTXXC array is the ideal board evel protection of ESD sensitive semiconductor components.

The tiny SOT-23 package allows design flexibility in the design of high density boards where the space saving is at a premium. This enables to shorten the routing and contributes to hardening against ESD.



PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.044	0.89	1.11
A1	0.001	0.004	0.01	0.10
b	0.015	0.020	0.37	0.50
c	0.003	0.007	0.09	0.18
D	0.110	0.120	2.80	3.04
E	0.047	0.055	1.20	1.40
e	0.070	0.081	1.78	2.04
L	0.004	0.012	0.10	0.30
L1	0.014	0.029	0.35	0.69
H_E	0.083	0.104	2.10	2.64

IMPORTANT NOTICE

AiT Components (AiT) reserves the right to make changes to any its product, specifications, to discontinue any integrated circuit product or service without notice, and advises its customers to obtain the latest version of relevant information to verify, before placing orders, that the information being relied on is current.

AiT Components' integrated circuit products are not designed, intended, authorized, or warranted to be suitable for use in life support applications, devices or systems or other critical applications. Use of AiT products in such applications is understood to be fully at the risk of the customer. As used herein may involve potential risks of death, personal injury, or server property, or environmental damage. In order to minimize risks associated with the customer's applications, the customer should provide adequate design and operating safeguards.

AiT Components assumes to no liability to customer product design or application support. AiT warrants the performance of its products of the specifications applicable at the time of sale.