

Transient Voltage Suppressors for ESD Protection

SE05T2W12GW

Features

- ◆ Working voltage : 5.0V
- ◆ Low leakage current: 1 μ A @ V_{RWM}
- ◆ Low clamping voltage
- ◆ Response Time is < 1 ns

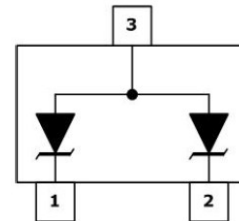
SOT23-3L



Applications

- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Personal Digital Assistants (PDA's)
- ◆ Notebooks, Desktops, and Servers

Pin Configuration



Mechanical Characteristics

- ◆ SOT23-3L Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch

Absolute Maximum Rating

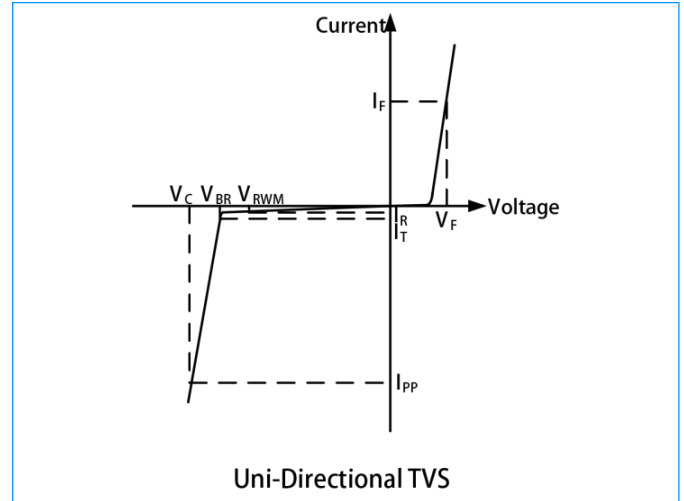
Symbol	Parameter	Value	Units
T_{LST}	Lead Soldering Temperature	260 (10sec)	$^{\circ}$ C
T_{STG}	Storage Temperature Range	-55 to +150	$^{\circ}$ C
T_{OPT}	Operating Temperature Range	-40 to +125	$^{\circ}$ C
V_{ESD}	ESD per IEC 61000-4-2(Air)	± 30	KV
	ESD per IEC 61000-4-2 (Contact)	± 30	

Transient Voltage Suppressors for ESD Protection

SE05T2W12GW

I-V Curve Characteristics

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics (@ $T_A=25^\circ\text{C}$ Unless Otherwise Specified)

Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}	--	--	--	5	V
I_R	$V_{RWM}=5\text{V}$, $T=25^\circ\text{C}$	--	--	1	μA
V_{BR}	$I_T = 1\text{mA}$	6	--	--	V
V_C	$I_{PP}=24\text{A}$, $t_p=8/20\mu\text{s}$	--	13	--	V
C_J	$V_R=0\text{V}$, $f=1\text{MHz}$	--	169	--	pF

Electrical Characteristic Curves

Fig1. Pulse Waveform

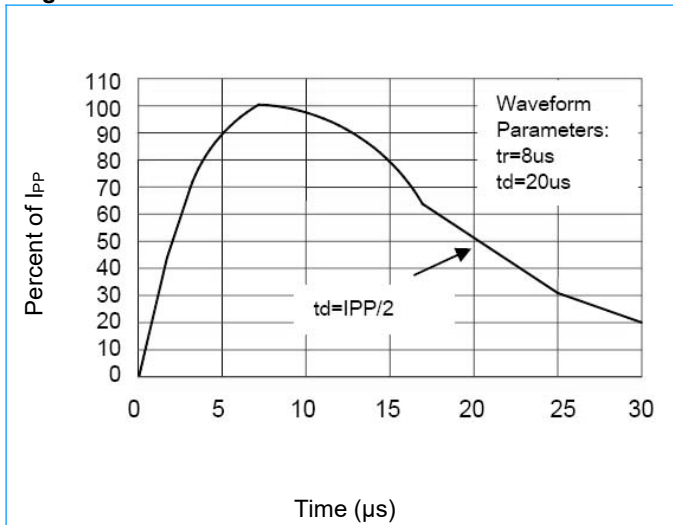
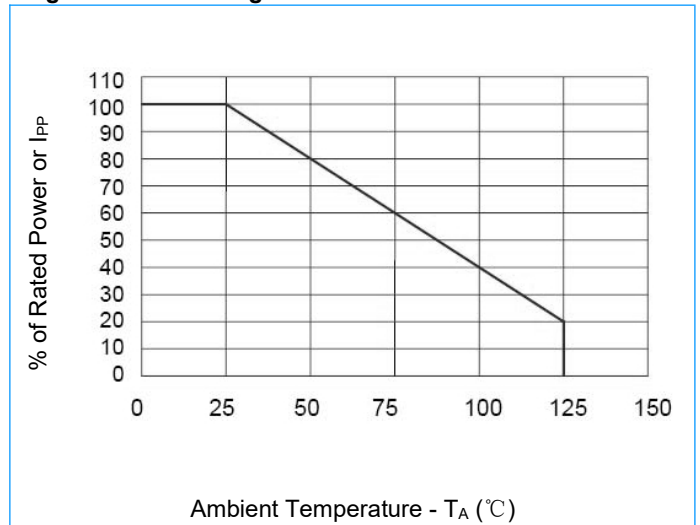


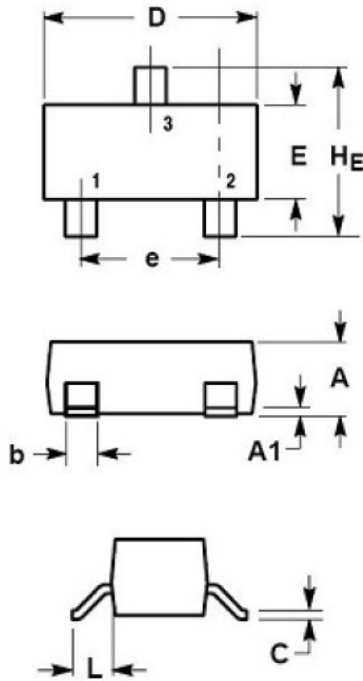
Fig2. Power Derating Curve



Transient Voltage Suppressors for ESD Protection

SE05T2W12GW

SOT23-3L Package Outline & Dimensions



Symbol	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

Warning



- ◆ SOCAY owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property.
- ◆ SOCAY reserves the right to make changes without further notice to any products herein.
- ◆ SOCAY makes no warranties, representations or warranties as to the fitness of its products for any particular purpose, and disclaims any liability.
- ◆ The parameters provided in the SOCAY datasheet specification may vary from application to application, and the actual performance may vary over time. All operating parameters must be verified by the customer's technical expert before application.
- ◆ Any and all responsibilities and liabilities are disclaimed if any item under this notice of warning is not complied with.