

Features

- ◆ 450W peak pulse power(8/20 μ s)
- ◆ Protects one bi-directional or two uni-directional lines
- ◆ Ultra low leakage: nA level
- ◆ Operating voltage: 12V
- ◆ Low clamping voltage
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: \pm 30kV
Contact discharge: \pm 30kV
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 15A (8/20 μ s)
- ◆ RoHS Compliant

Ordering Information

Part Number	Qty per Reel	Reel Size
PSOT12C	3000	7"

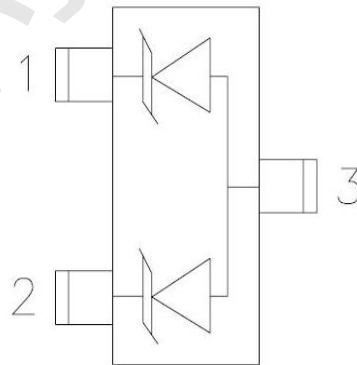
Mechanical Characteristics

- ◆ Package: SOT-23
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: "Green" Molding Compound.
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Moisture Sensitivity: Level 3 per J STD 020

Applications

- ◆ Cellular Handsets and Accessories
- ◆ Notebooks and Handhelds
- ◆ Portable Instrumentation
- ◆ Set Top Box
- ◆ Industrial Controls

Dimensions and Pin Configuration



Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	450	W
Peak Pulse Current (8/20μs)	I _{PP}	15	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			12	V	
Breakdown Voltage	V _{BR}	13	15	17	V	I _T = 1mA
Reverse Leakage Current	I _R			0.1	μA	V _{RWM} = 12V
Forward Voltage	V _F		0.8	1.2	V	I _F = 10mA
Clamping Voltage	V _C		15		V	I _{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V _C			30	V	I _{PP} = 15A (8 x 20μs pulse)
Junction Capacitance	C _J			100	pF	V _R =0, f=1MHz, Pin 1 to Pin 3 or Pin 2 to Pin 3
Junction Capacitance	C _J			40	pF	V _R =0, f=1MHz, Pin 1 to Pin 2

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

Fig1. 8/20 μs Pulse Waveform

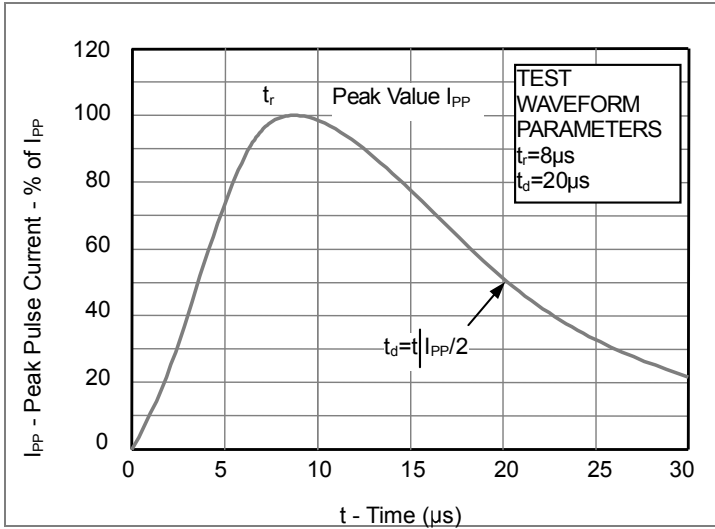


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

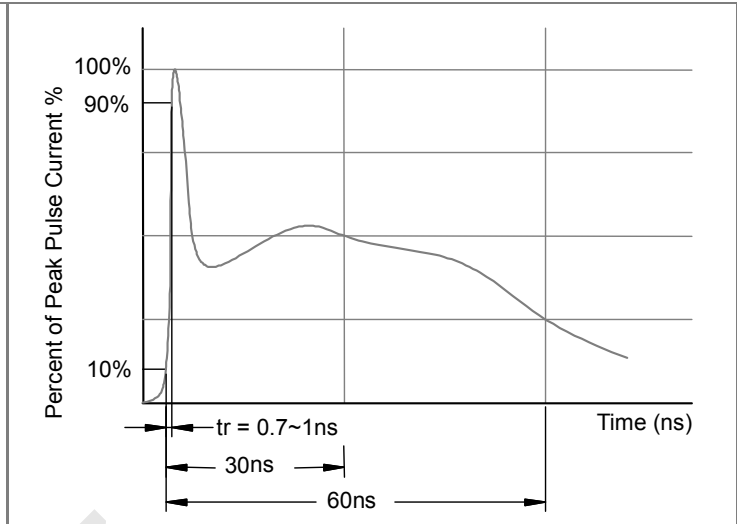
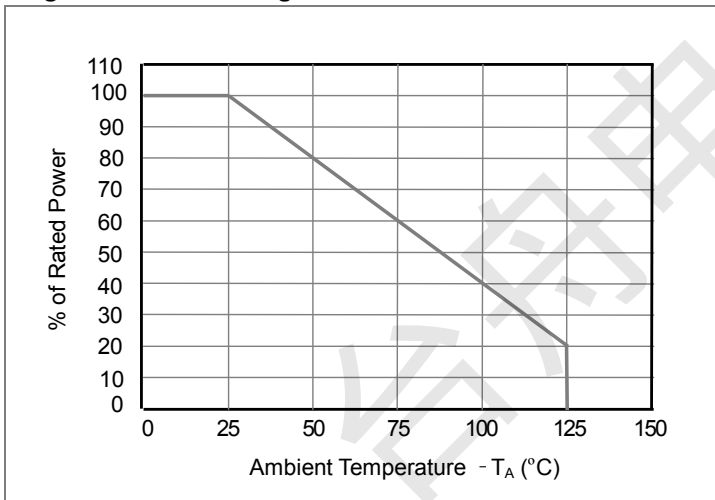
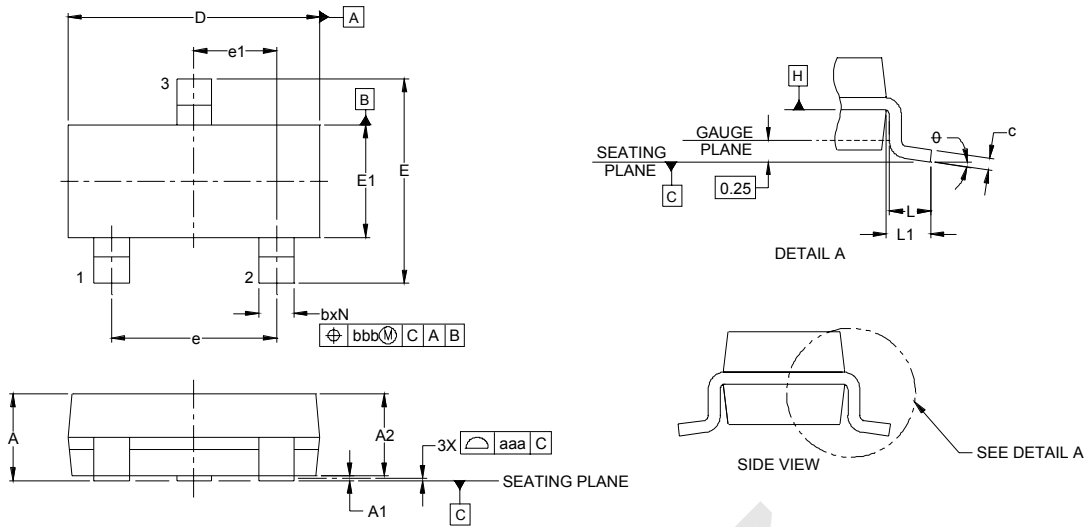


Fig3. Power Derating Curve

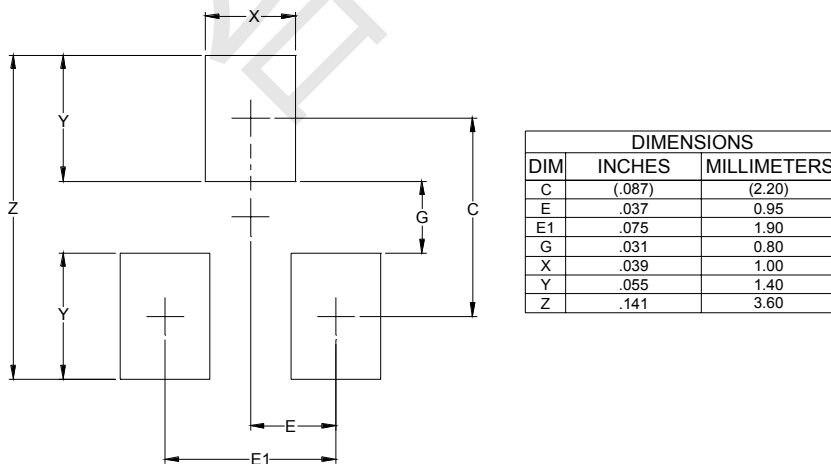


Outline Drawing - SOT23



DIM	INCHES		MILLIMETERS	
	MIN	NOM	MIN	NOM
A	.035	-	.044	0.89
A1	.000	-	.004	0.01
A2	.035	.037	.040	0.88 0.95
b	.012	-	.020	0.30
c	.003	-	.007	0.08
D	.110	.114	.120	2.80 2.90 3.04
E	.082	.093	.104	2.10 2.37 2.64
E1	.047	.051	.055	1.20 1.30 1.40
e	.075	-	1.90	BSC
e1	.037	-	0.95	BSC
L	.015	.020	.024	0.40 0.50 0.60
L1	.022	-	(0.55)	
N	3	-	3	
θ	0°	-	8°	0° - 8°
aaa	.004	-	0.10	
bbb	.008	-	0.20	

Land Pattern - SOT23



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