

Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 25\text{kV}$
 - Contact discharge: $\pm 20\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 5A (8/20 μs)
- RoHS Compliant

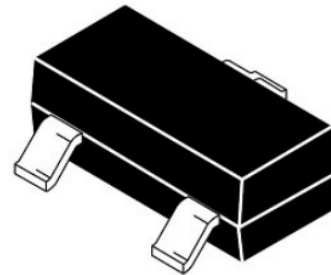
Applications

- USB Ports
- SIM Ports
- Smart Phones
- Wireless Systems
- Set-top box and digital TV
- Digital video interface (DVI)
- Ethernet 10/100/1000 Base T

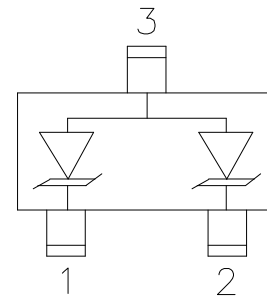
Mechanical Characteristics

- Package: SOT-23
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 3,000pcs
- Reel Size: 7 inch
- Device Marking: 5M

Dimensions SOT-23



Pin Configuration



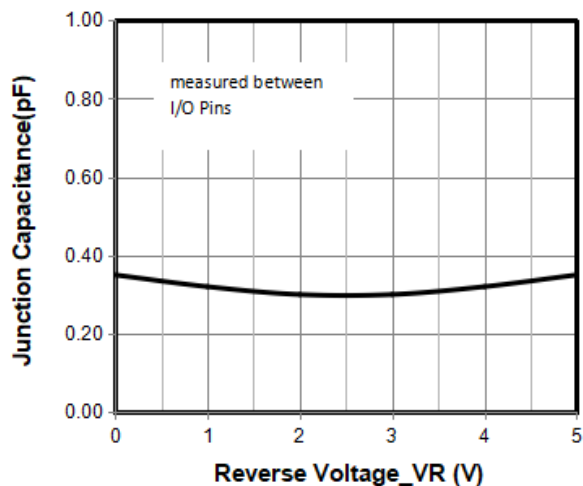
Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	80	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 25	kV
ESD per IEC 61000-4-2 (Contact)		± 20	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STJ}	-55 to +150	°C

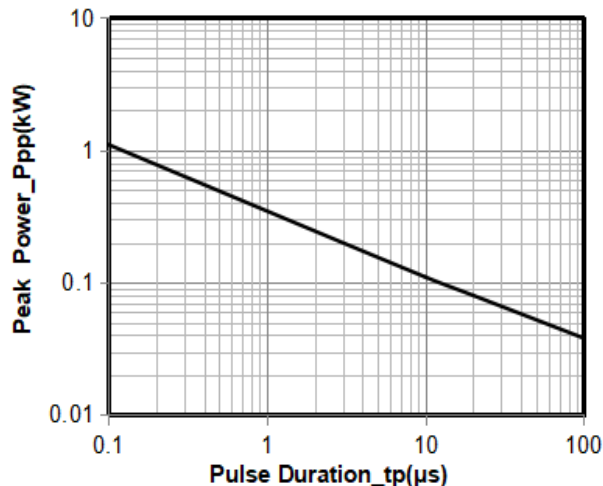
Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	VRWM	Pin 1 or pin 2 to pin 3 and between pin 1 and pin 2			5	V
Breakdown Voltage	VBR	IT = 1mA, pin 1 or pin 2 to pin 3 and between pin 1 and pin 2	6			V
Reverse Leakage Current	IR	VRWM = 5V, Pin 1 or pin 2 to pin 3 and between pin 1 and pin 2		0.01	0.5	μA
Clamping Voltage	VC	I _{PP} = 1A (8 x 20μs pulse), pin 1 or pin 2 to pin 3			9	V
Clamping Voltage	VC	I _{PP} = 5A (8 x 20μs pulse), pin 1 or pin 2 to pin 3			16	V
Junction Capacitance	CJ	VR = 0V, f = 1MHz, between pin 1 and pin 2		0.3	0.4	pF
Junction Capacitance	CJ	VR = 0V, f = 1MHz, pin 1 or pin 2 to pin 3			0.8	pF

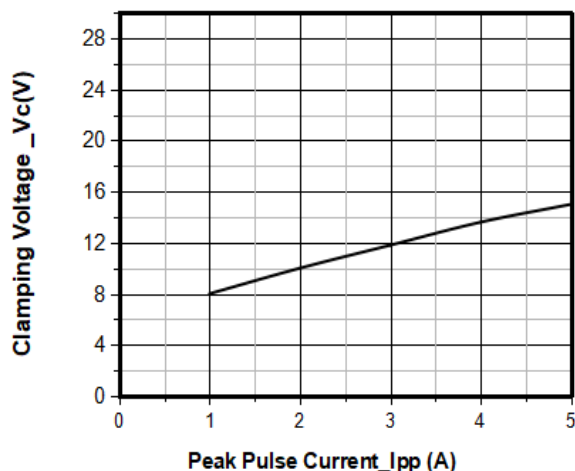
Typical Performance Characteristics (TA=25°C unless otherwise specified)



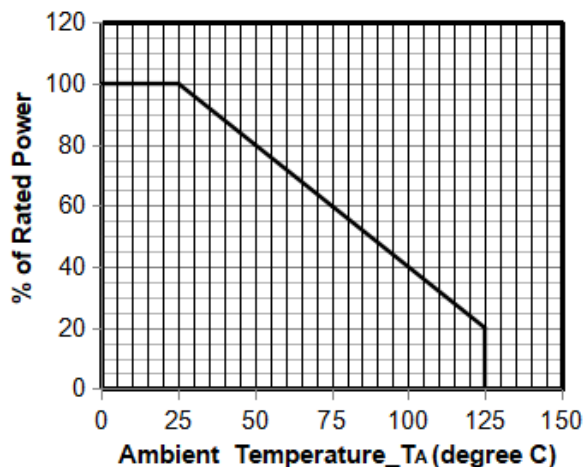
Junction Capacitance vs. Reverse Voltage



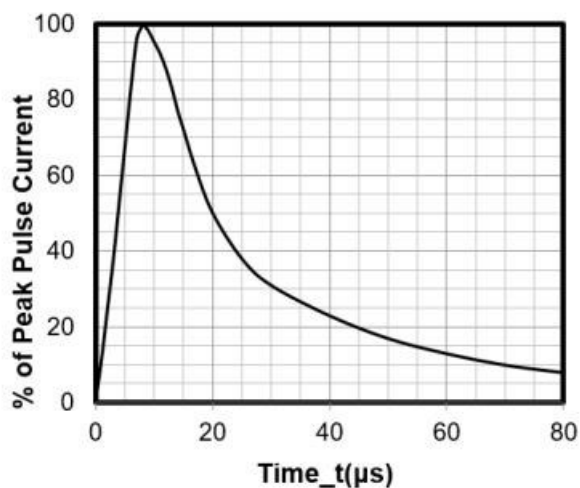
Peak Pulse Power vs. Pulse Time



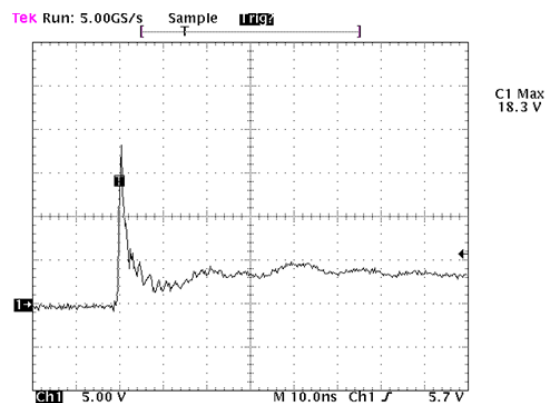
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform

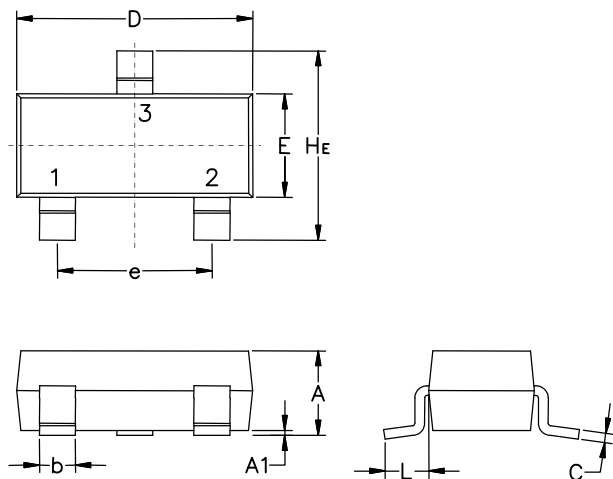


Note: Data is taken with a 10x attenuator

ESD Clamping Voltage

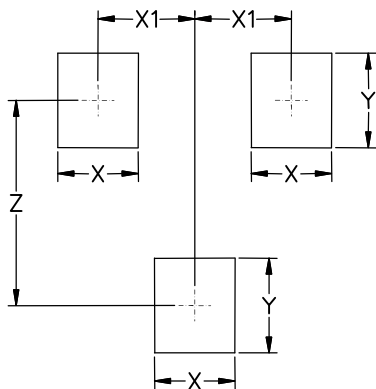
8 kV Contact per IEC61000-4-2

SOT-23 Package Outline Drawing



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	0.15	0.18	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
H _E	2.10	2.40	2.64	0.083	0.094	0.104

Suggested Land Pattern



Symbol	Millimeters	Inches
X	0.80	0.031
X1	0.95	0.037
Y	0.90	0.035
Z	2.00	0.079

NOTICE

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