

2-Line Uni-directional TVS Diode Array

Features

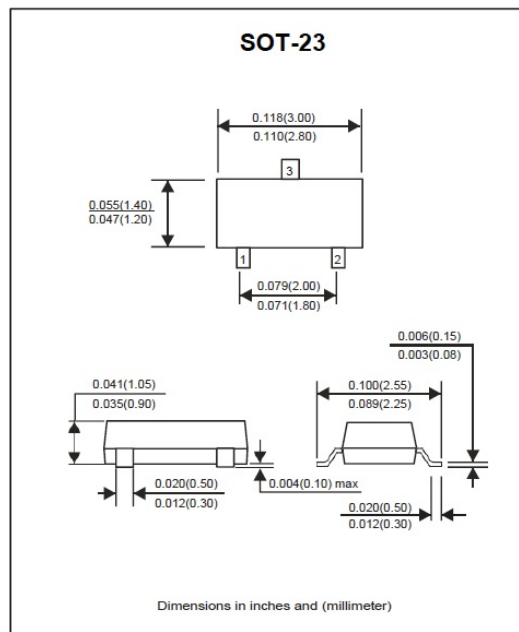
- IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{V}$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 23A (8/20 μs)
- 320W peak pulse power (8/20 μs)
- Low leakage current
- Operating voltage: 5V
- Low clamping voltage
- Protects one bidirectional line or two unidirectional lines

Applications

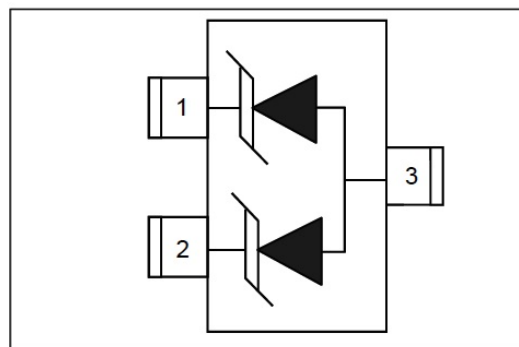
- Cellular Handsets and Accessories
- Control & Monitoring Systems
- Portable Instrumentation
- Set Top Box
- Industrial Controls
- Wireless Bus Protection

Mechanical Characteristics

- Package: SOT-23
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity Level: Level 3
- RoHS Compliant.



Circuit and Pin Schematic



Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	320	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	23	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	KV
ESD per IEC 61000-4-2 (Contact)		± 30	KV
Operating Temperature Range	T_J	-55 ~ 125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ 150	$^\circ\text{C}$

Electrical Parameters (T _A = 25°C)	
Symbol	Parameter
I _{PP}	Reverse Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}
V _{RWM}	Working Peak Reverse Voltage
I _R	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°C unless otherwise specified)						
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	V _{RWM}				5	V
Breakdown Voltage	V _{BR}	I _T = 1mA	6			V
Reverse leakage current	I _R	V _{RWM} = 5V			500	nA
Clamping Voltage	V _C	I _{PP} = 1A ,tp = 8/20μs			7	V
Clamping Voltage	V _C	I _{PP} = 23A, tp = 8/20μs			14	V
Junction capacitance	C _J	V _R = 0V, f = 1MHz, Pin 1 to Pin3 or Pin 2 to Pin 3		160		pF

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

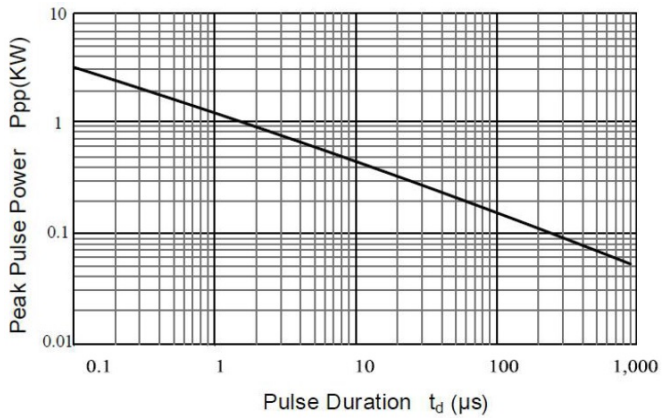


Fig 1. Peak Pulse Power vs. Pulse Time

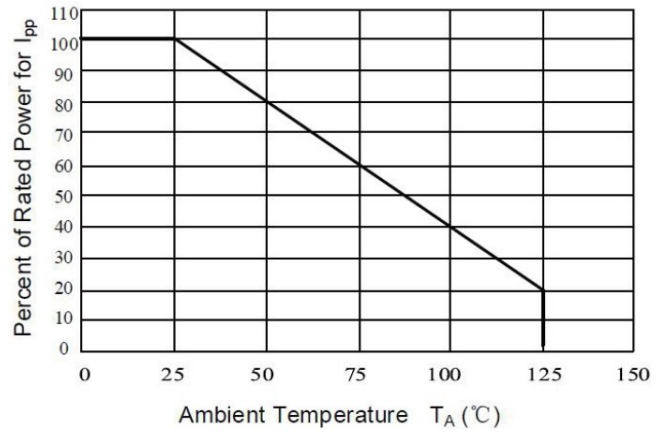


Fig 2. Power Derating Curve

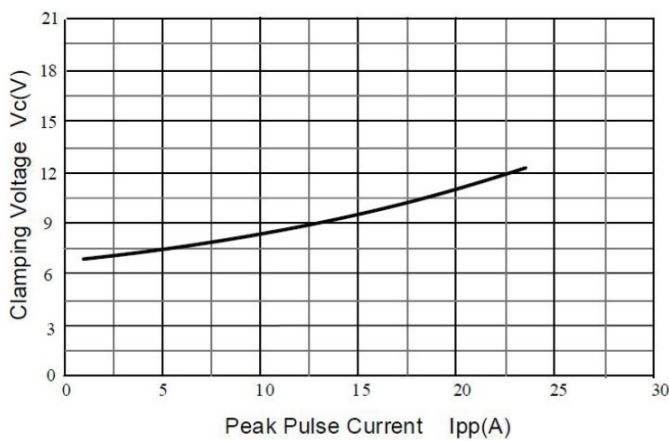


Fig 3. Clamping Voltage vs. Peak Pulse Current

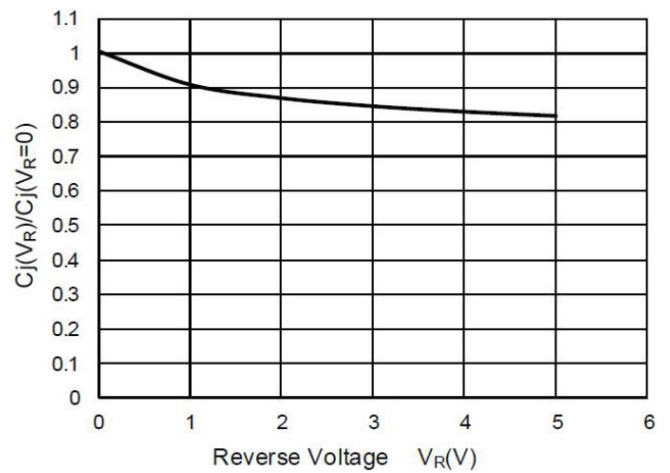


Fig 4. Junction Capacitance vs. Reverse Voltage

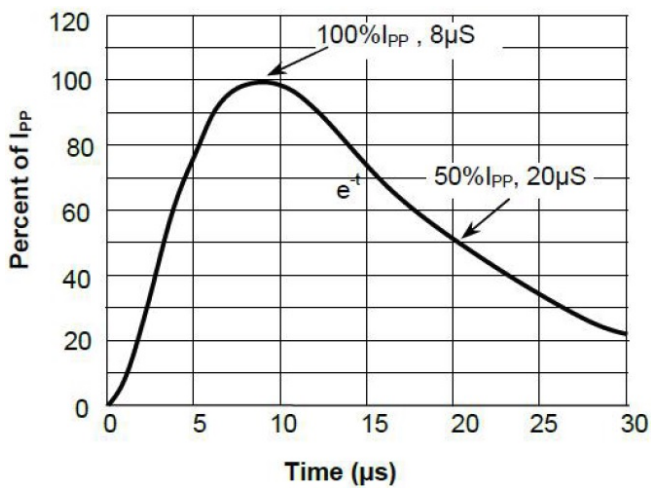


Fig 5. 8/20 μs Pulse Waveform

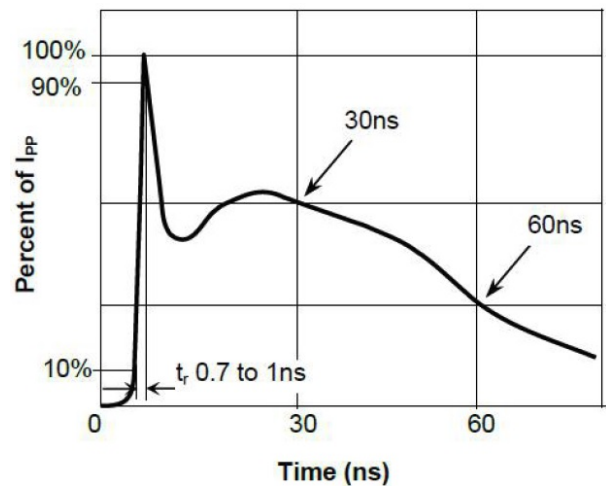


Fig 6. ESD(IEC 61000-4-2) Pulse Waveform

Suggested Land Pattern

Symbol	Dimensions in millimeters	
A	0.60	
B	0.80	
C	1.90	
D	2.02	
E	2.82	

Marking Code



Device Marking Code = S05

Ordering information

Part Number	Package	Base qty	Reel Size	Delivery mode
		(pcs)	(inch)	
SC05H2UTB	SOT-23	3,000	7	Tape and reel