

Features

- Low operating voltage: 3.3V
- Ultra low capacitance: 200pF
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test
 Air discharge: $\pm 30\text{kV}$
 Contact discharge: $\pm 30\text{kV}$
- -IEC61000-4-4 (EFT) 40A (5/50ns)
- -IEC61000-4-5(Lightning):20A(8/20 μs)
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

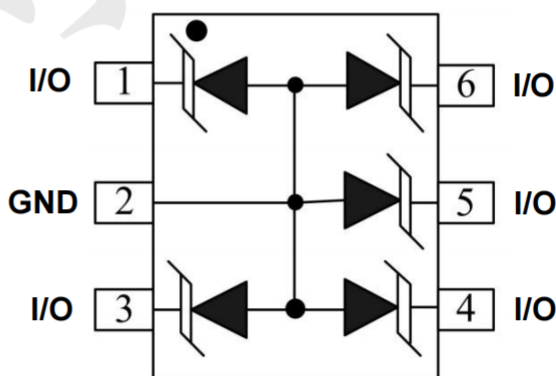
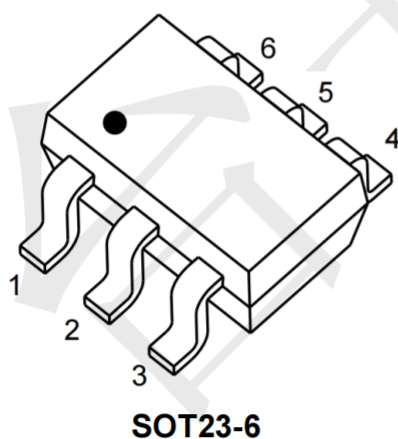
Mechanical Characteristics

- Package: SOT23-6
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below
- - IEC 61000-4-2 (ESD) immunity test

Applications

- Cellular Handsets and Accessories
- Notebooks and Handhelds
- Portable Instrumentation
- Industrial Controls

Dimensions and Pin Configuration



Circuit and Pin Schematic

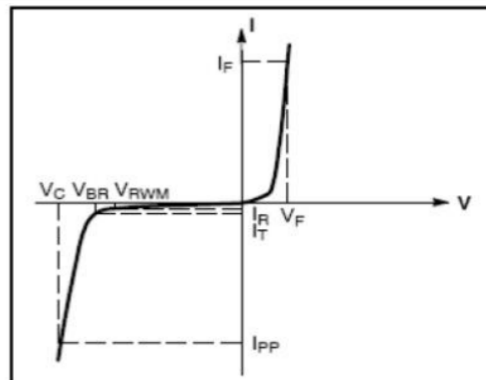
Absolute Maximum Ratings($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppp	300	W
Peak Pulse Current (8/20 μs)	Ipp	20	A
ESD per IEC 61000-4-2 (Air)	VESD	± 30	KV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM	--	--	3.3	V	Any I/O pin to ground
Breakdown Voltage	VBR	4.0	--	7.0	V	$I_T=1\text{mA}$, Any I/O pin to ground
Reverse Leakage Current	IR	--	--	0.5	μA	$VRWM=3.3\text{V}$, Any I/O pin to ground
Forward Voltage	VF	--	0.8	1.1	V	$I_F=10\text{mA}$, ground to Any I/O pin
Clamping Voltage	VC	--	--	7	V	$I_{pp}=1\text{A}$ (8x 20 μs pulse), I/O pin to ground
Clamping Voltage	VC	--	--	15	V	$I_{pp}=20\text{A}$ (8x 20 μs pulse), I/O pin to ground
Junction Capacitance	Cvo-GND	--	--	200	pF	$VR=0\text{V}$, $f=1\text{MHz}$, Any I/O to GND

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



V-I characteristics for a uni-directional TVS

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

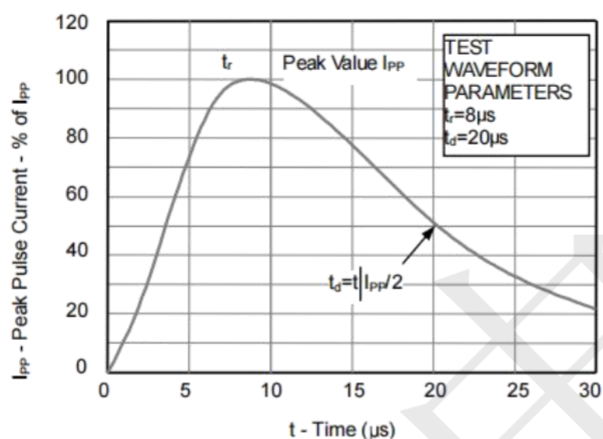


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

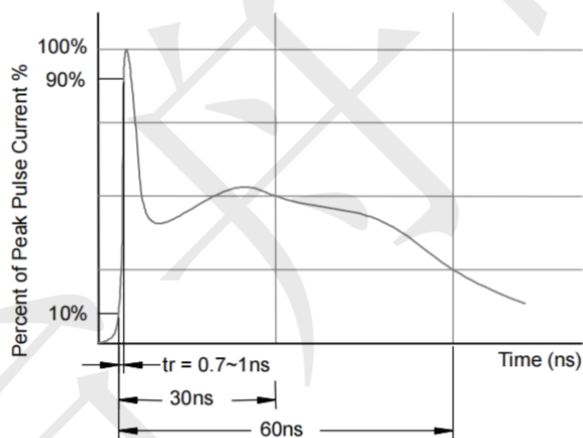
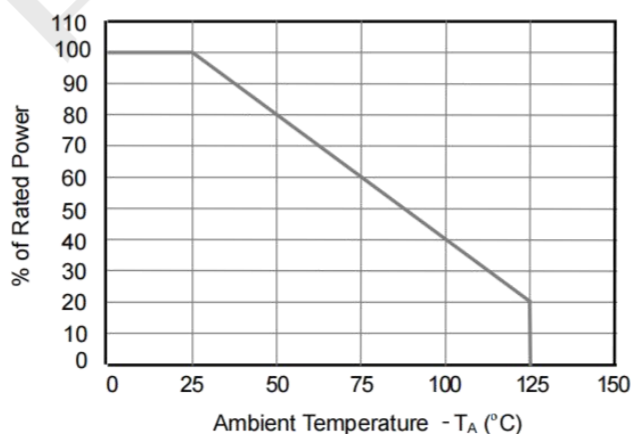
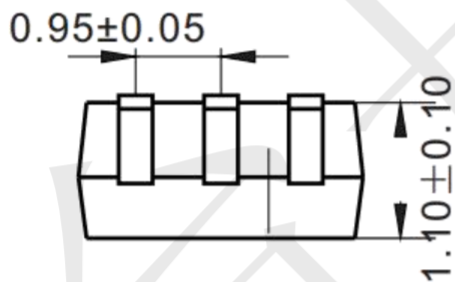
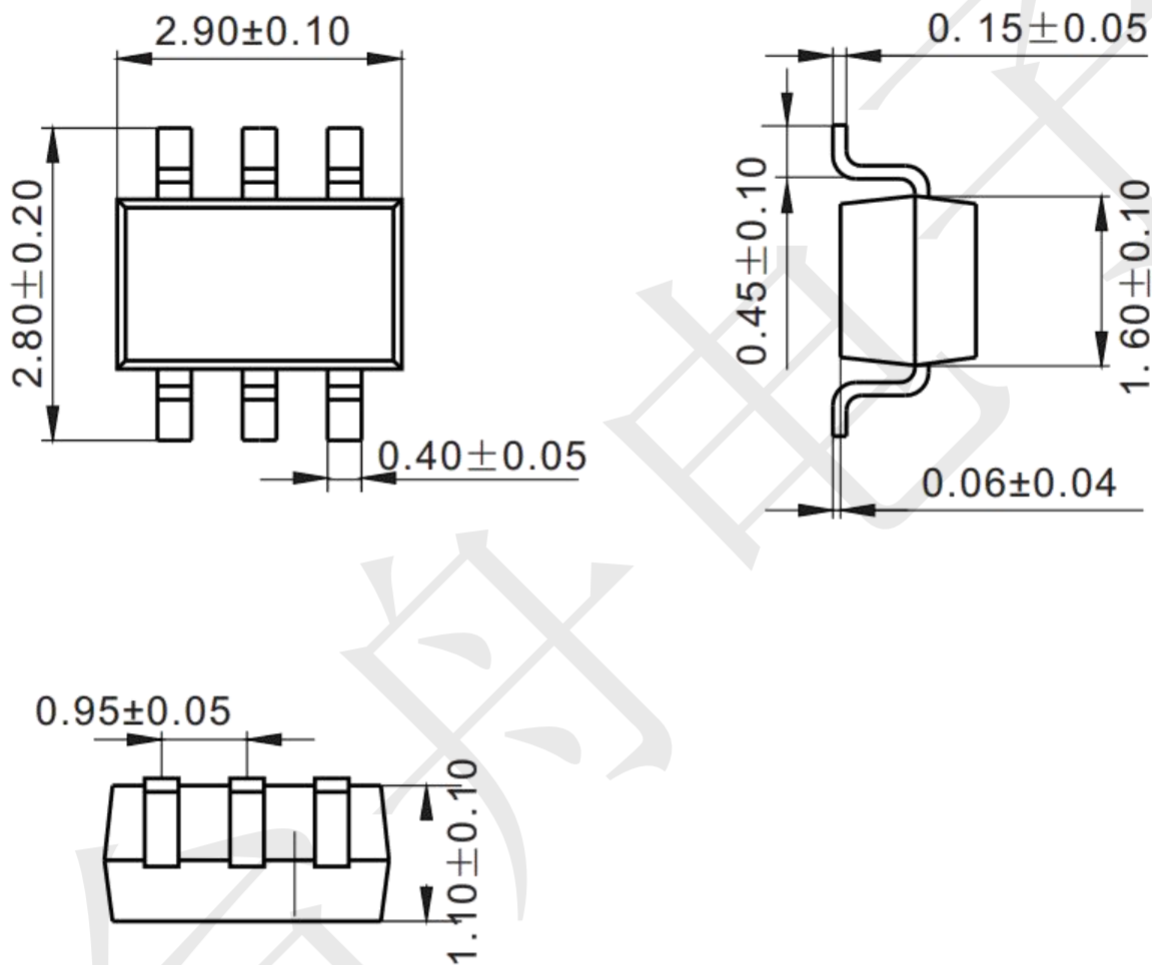


Fig3. Power Derating Curve



Package information

SOT23-6 (Unit: mm)



Mounting Pad Layout (unit: mm)

