

Features

- Low operating voltage: 3.3V
- Ultra low capacitance: 2pF typical (I/O to I/O)
- 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):30A(8/20 μs)
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

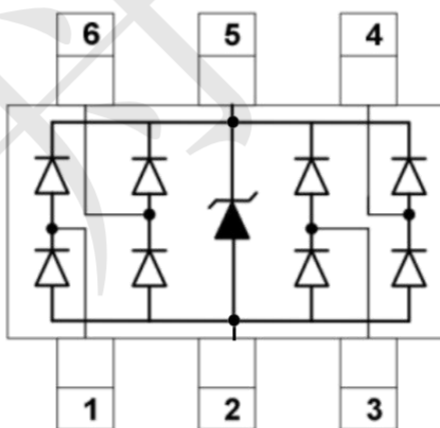
Mechanical Characteristics

- 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

- T1/E1 Line Cards
- T3/E3 and DS3 Interfaces
- Low Voltage Interfaces
- ISDN Interfaces

Dimensions and Pin Configuration



Circuit and Pin Schematic

Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	500	W
Peak Pulse Current (8/20μs)Any I/O pin to ground	Ipp	30	A
Peak Pulse Current (8/20μs)VCC pin to ground	Ipp	60	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	±30 ±30	KV
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

Electrical Characteristics (TA=25°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	4.2	--	--	V	IT= 1mA,Any I/O pin to ground
Reverse Leakage Current	IR	--	--	0.1	uA	VRWM=3.3V,Any I/O pin to ground
Forward voltage	VF	--	0.7	1.2	V	IF=10mA
Clamping Voltage	VC	--	--	10	V	Ipp=1A(8x 20us pulse), Any I/O pin to ground
Clamping Voltage	VC	--	--	12	V	Ipp=10A(8x 20us pulse), Any I/O pin to ground
Clamping Voltage	VC	--	--	16	V	Ipp=30A(8x 20us pulse), Any I/O pin to ground
Clamping Voltage	VC	--	20	--	V	Ipp=60A(8x 20us pulse), VCC pin to ground
Junction Capacitance	Cvo-GND	--	--	5	pF	VR=0V,f=1MHz, Any I/O to GND
	Ci/o- I/O	--	2	--	pF	VR=0V,f=1MHz, between I/O pins

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

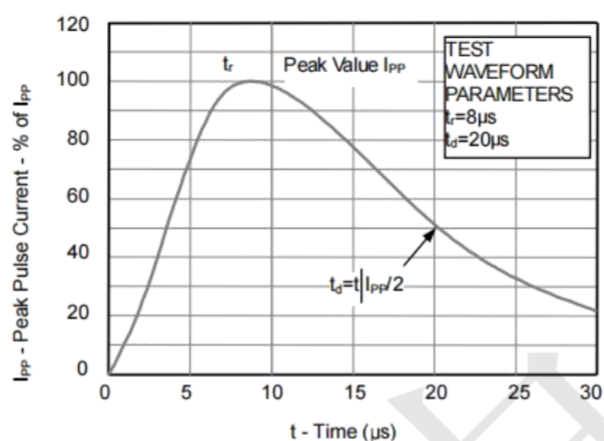


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

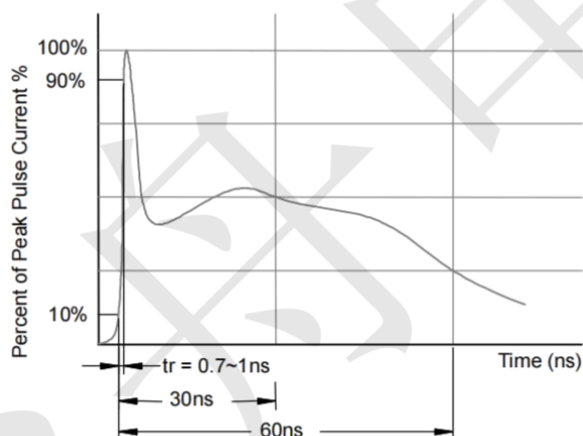
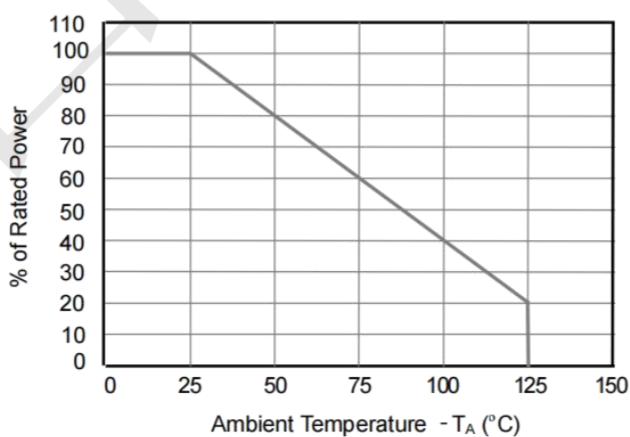
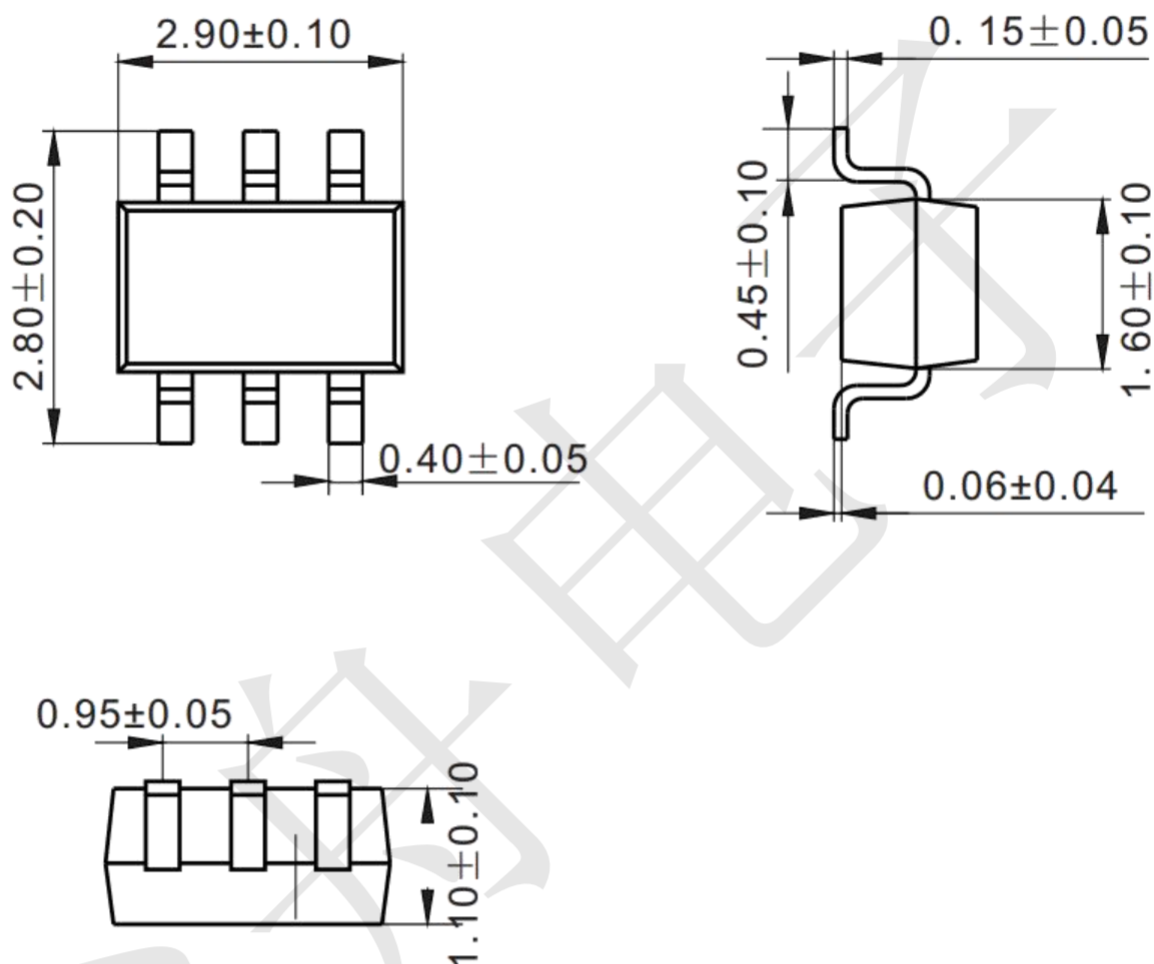


Fig3. Power Derating Curve



Package information (Unit: mm)

SOT23-6



Mounting Pad Layout (unit: mm)

