

Features

- ◆ Ultra low capacitance: 3 pF typical (I/O to I/O)
- ◆ Ultra low leakage: nA level
- ◆ Low operating voltage: 5V
- ◆ Low clamping voltage
- ◆ Up to 4 data lines and one power line protects
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: ±30kV
 - Contact discharge: ±30kV
 - IEC61000-4-5 (Lightning) 25A (8/20us)
 - IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ ROHS Compliant

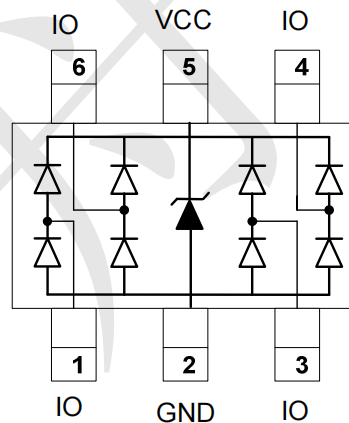
Mechanical Characteristics

- ◆ Package: SOT23-6
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: “Green” Molding Compound.
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Moisture Sensitivity: Level 3 per J-STD-020
- ◆ Shipping Qty :3000pcs/7Inch Tape & Reel

Applications

- ◆ USB 2.0 and USB 3.0 Ports
- ◆ USB OTG
- ◆ Digital video interface(DVI)
- ◆ Monitor and Flat Panel Displays
- ◆ PCI Express and Serial SATA Ports
- ◆ Video Graphics Cards
- ◆ 10/100/1000 Ethernet
- ◆ USB 2.0 Power and Data Line Protection

Dimensions and Pin Configuration



Marking:V54

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)	Ipp	25	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	°C
Storage Temperature Range	Tstg	-55 to +150	°C

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			5	V	
Breakdown Voltage	VBR	6			V	IT = 1mA
Reverse Leakage Current	IR			0.1	μA	VRWM = 5V
Clamping Voltage	VC			10	V	I _{PP} = 1A (8 x 20μs pulse)
				12	V	I _{PP} = 10A (8 x 20μs pulse)
Clamping Voltage	VC			15	V	I _{PP} = 25A (8 x 20us pulse)
Junction Capacitance	CJ			5	pF	VR = 0V, f = 1MHz
Junction Capacitance	CJ		3		pF	VR = 0V, f = 1MHz

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

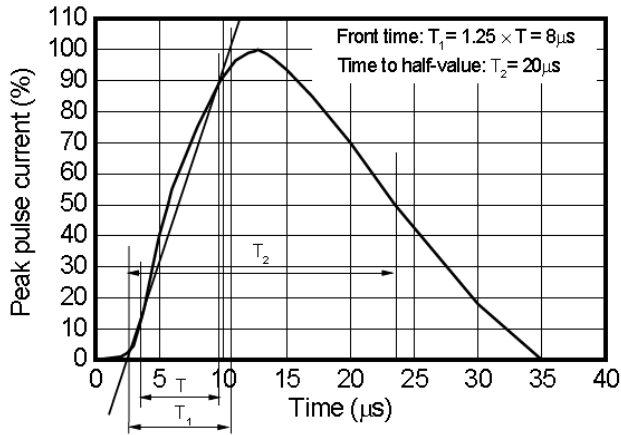


Fig1. 8/20µs waveform per IEC61000-4-5

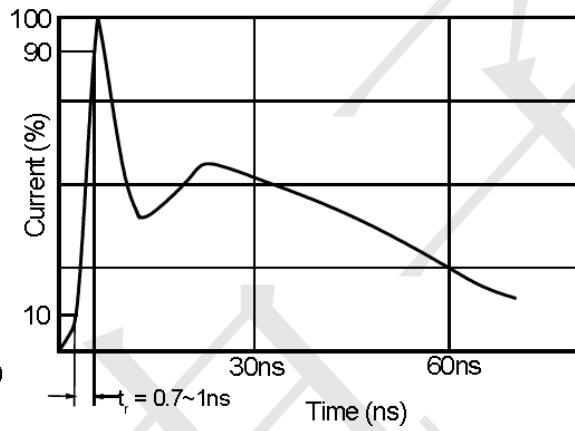


Fig2. ESD pulse waveform according to IEC61000-4-2

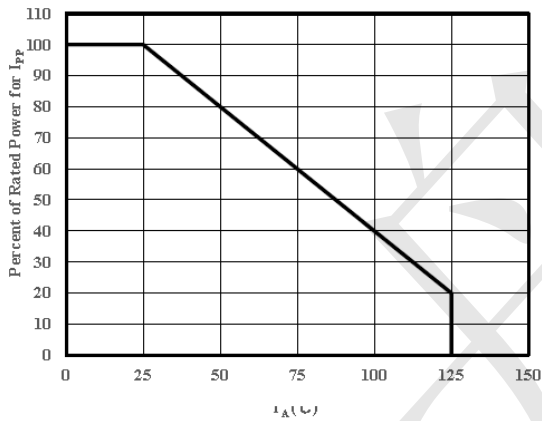
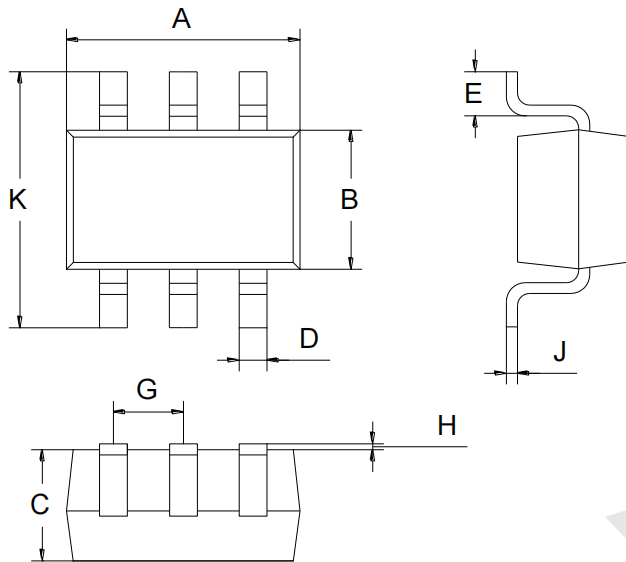


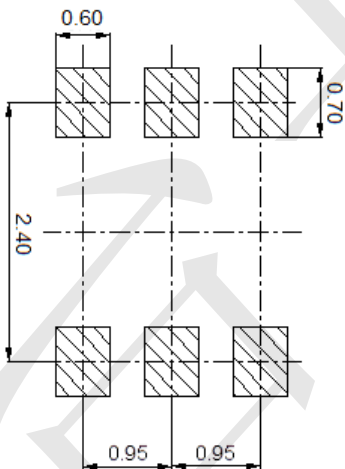
Fig3. Power Derating Curve

SOT23-6 -Package Outline Dimensions (Unit: mm)



Dimension	Min.	Max.
A	2.80	3.00
B	1.50	1.70
C	1.00	1.20
D	0.35	0.45
E	0.35	0.55
G	0.90	1.00
H	0.02	0.10
J	0.10	0.20
K	2.60	3.00

Mouting Pad Layout (Unit: mm)



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