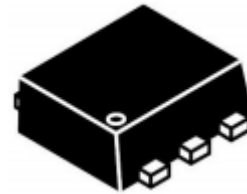


### Features

- 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:  $\pm 15\text{kV}$
  - IEC61000-4-4 (EFT) 40A (5/50ns)
- RoHS Compliant

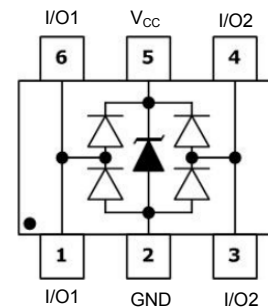
### Dimensions SOT-563



### Applications

- Ethernet Interface
- Switchin Systems
- Access Equipment
- Central Of fice Equipment
- Customer Premise Equipment
- Microcontroller Input Protection

### Pin Configuration



### Mechanical Characteristics

- Package: SOT-563
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3,000pcs
- Reel Size:7inch
- Device Marking: 2A

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	P <sub>pp</sub>	150	W
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	$\pm 30$	Kv
ESD per IEC 61000-4-2 (Contact)		$\pm 30$	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T <sub>STJ</sub>	-55 to +150	$^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$				5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$ , I/O to GND	6	7	10	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$ , $V_{CC}$ to GND	6	7	12	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5\text{V}$ , I/O to GND & $V_{CC}$ to GND			0.1	$\mu\text{A}$
Forward Voltage	$V_F$	$I_F = 15\text{mA}$ , I/O to GND & $V_{CC}$ to GND			1.2	V
Clamping Voltage	$V_C$	$I_{PP} = 1\text{A}$ , $t_P = 8/20\mu\text{s}$ , I/O to GND & $V_{CC}$ to GND			13	V
Clamping Voltage	$V_C$	$I_{PP} = 5\text{A}$ , $t_P = 8/20\mu\text{s}$ , I/O to GND			15	V
Clamping Voltage	$V_C$	$I_{PP} = 10\text{A}$ , $t_P = 8/20\mu\text{s}$ , $V_{CC}$ to GND			15	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}$ , $f = 1\text{MHz}$ , I/O to GND			0.6	$\text{pF}$
Junction Capacitance	$C_J$	$V_R = 0\text{V}$ , $f = 1\text{MHz}$ , I/O to I/O			0.3	$\text{pF}$

## TYPIC CHARACTERISTICS

Fig. 1 - 8 X 20 $\mu$ s Pulse Waveform

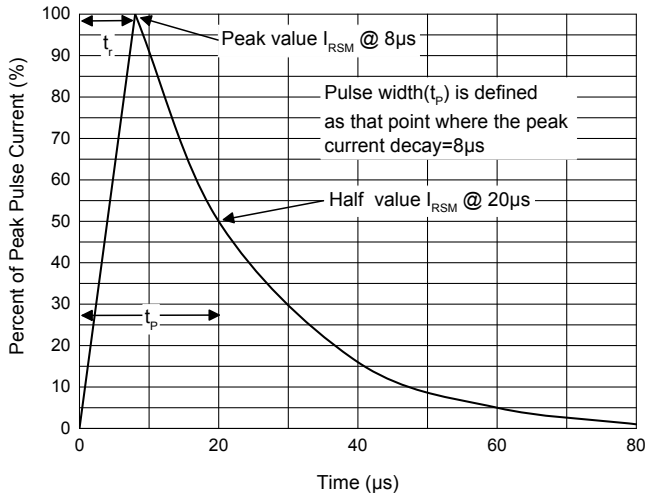


Fig. 2 - Pulse Derating Curve

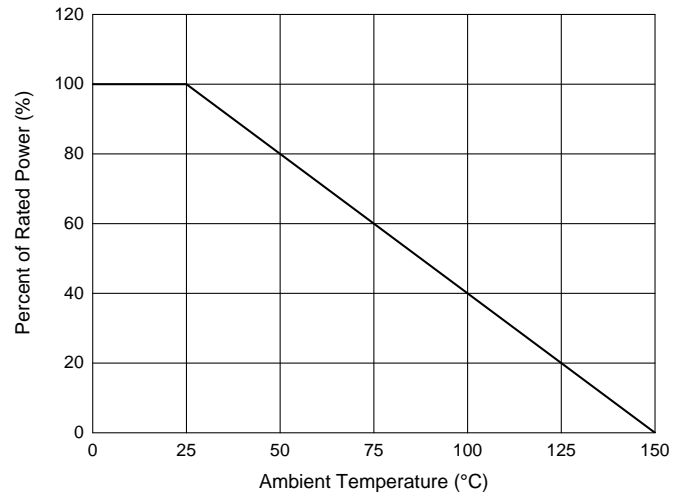


Fig. 3 - Capacitance Characteristics

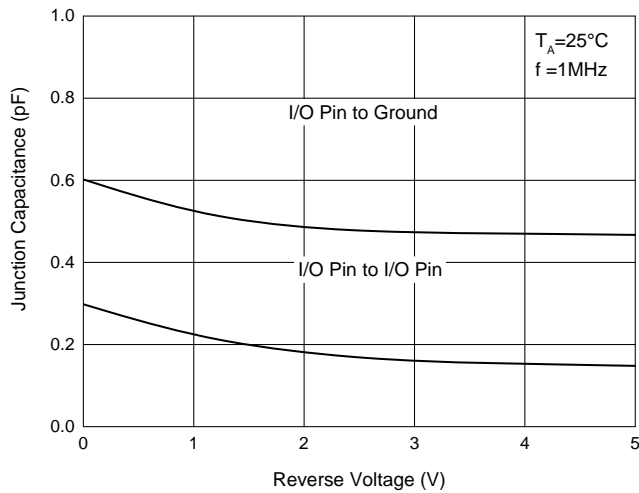
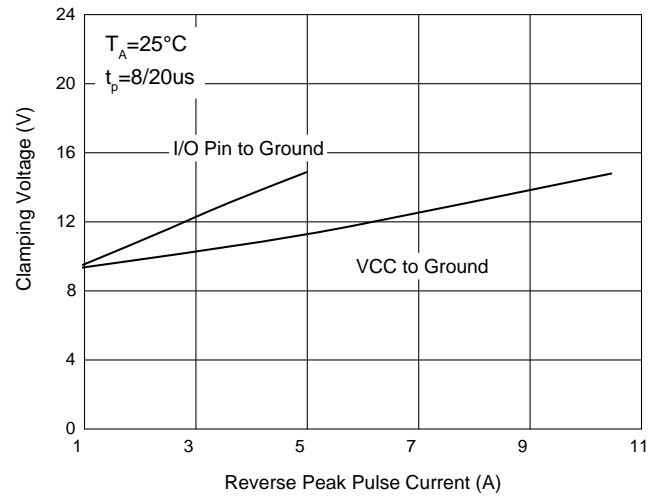
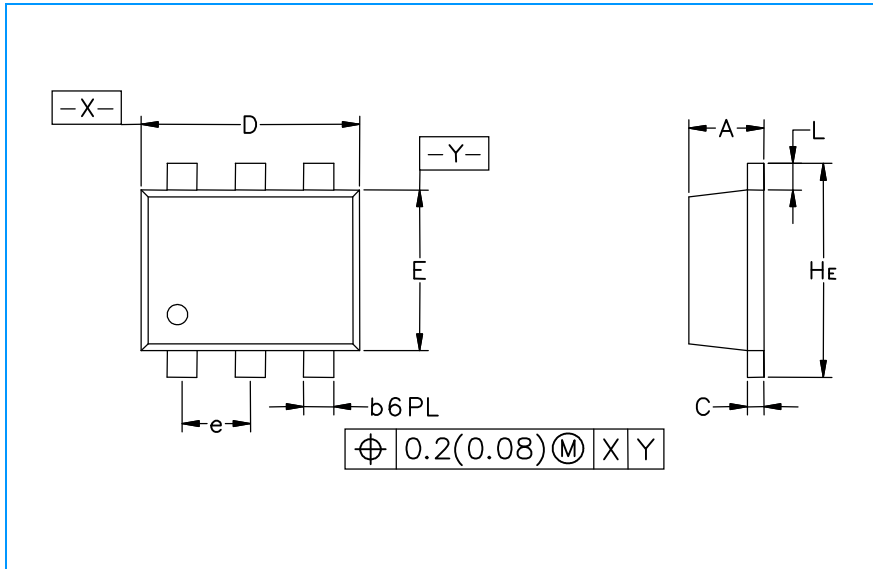


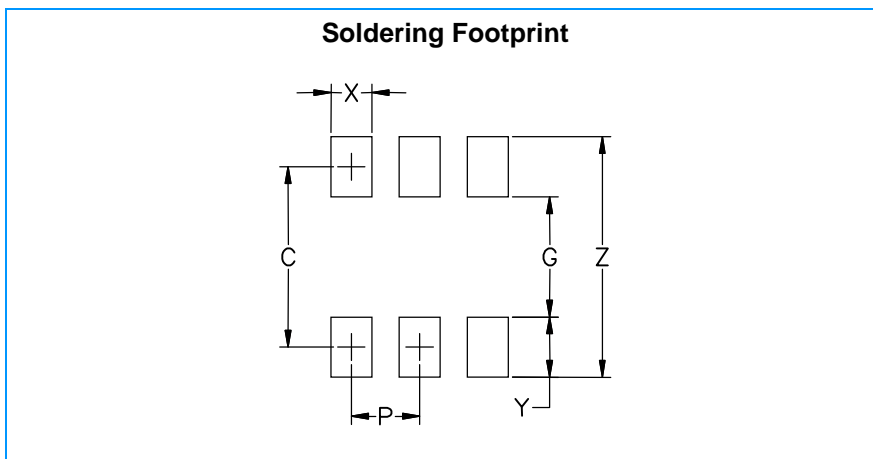
Fig. 4 - Clamping Voltage Characteristics



## SOT-563 Package Outline & Dimensions



Symbol	Inches			Millimeters		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.020	0.021	0.023	0.50	0.55	0.60
b	0.007	0.009	0.011	0.17	0.22	0.27
C	0.003	0.005	0.007	0.08	0.12	0.18
D	0.059	0.062	0.066	1.50	1.60	1.70
E	0.043	0.047	0.051	1.10	1.20	1.30
e	0.02 BSC			0.5 BSC		
L	0.004	0.008	0.012	0.10	0.20	0.30
H <sub>E</sub>	0.059	0.062	0.067	1.50	1.60	1.70



Symbol	Inches	Millimeters
C	0.0531	1.35
G	0.0354	0.90
P	0.0197	0.50
X	0.0118	0.30
Y	0.0177	0.45
Z	0.0709	1.80

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