



PRODUCT DATA SHEET



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Datasheet



Resources

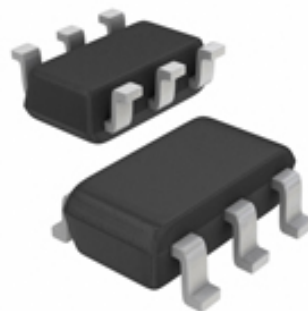


Samples

Please note: Please check the JINGAO Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.jg-semi.cn. Please email any questions regarding the system integration to JINGAO_questions@jgsemi.com.

Features

- 150Watts peak pulse power ($t_p = 8/20\mu s$)
- SOT23-6 package
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ($C_j = 0.3pF$ typ. IO to IO)
- Protection one data/power line to:
- IEC 61000-4-2 $\pm 12kV$ contact $\pm 15kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 5A (8/20 μs)



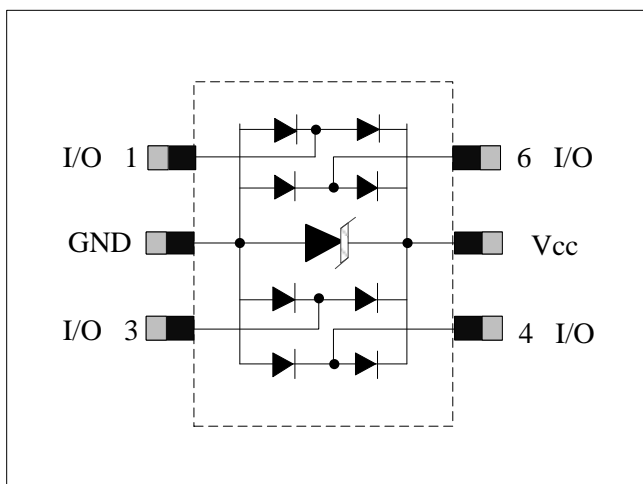
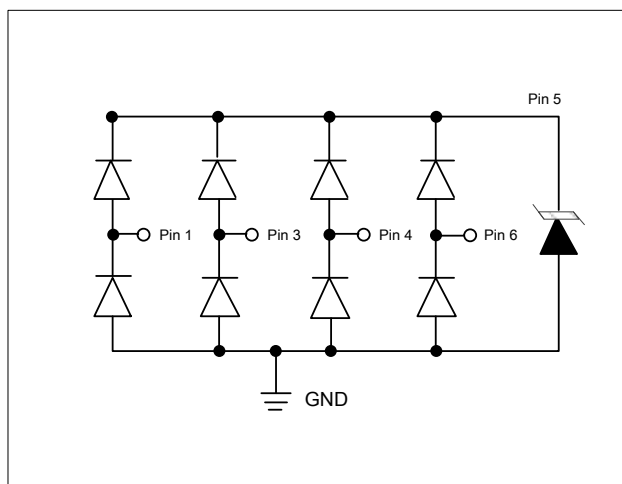
Applications

- Ethernet
- Digital Visual Interface (DVI)
- USB2.0
- Notebook and PC Computers

Mechanical Data

- SOT23-6 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Absolute Maximum Rating

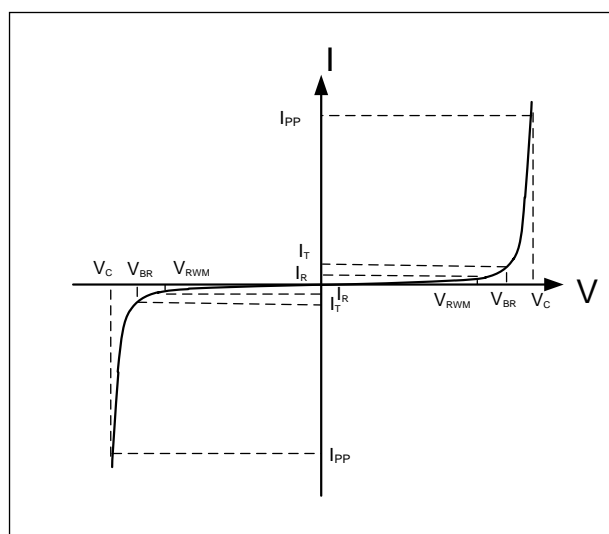
| Rating | Symbol | Value | Units |
|--|-----------|----------------|-------|
| Peak Pulse Power ($t_p = 8/20\mu s$) | P_{PP} | 150 | Watts |
| Peak Pulse Current ($t_p = 8/20\mu s$) (note1) | I_{PP} | 5.0 | A |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | V_{ESD} | 15 12 | kV |
| Lead Soldering Temperature | T_L | 260(10seconds) | °C |
| Junction Temperature | T_J | -55 to + 125 | °C |
| Storage Temperature | T_{stg} | -55 to + 125 | °C |

Electrical Characteristics

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|---------------------------|-----------|-----------------------------------|-----|---------|------|---------|
| Reverse Stand-Off Voltage | V_{RWM} | | | | 5.0 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T = 1mA$ | 6 | | | V |
| Reverse Leakage Current | I_R | $V_{RWM} = 5V, T = 25^\circ C$ | | | 1.0 | μA |
| Peak Pulse Current | I_{PP} | $t_p = 8/20\mu s$ | | | 5.0 | A |
| Clamping Voltage | V_C | $I_{PP} = 5.0A, t_p = 8/20\mu s$ | | | 16 | V |
| Junction Capacitance | C_j | $V_R = 0V, f = 1MHz$ IO to IO | | 0.3 | 0.45 | pF |
| | | $V_R = 0V, f = 1MHz$ IO to GND | | 0.6 | 0.9 | |

Electrical Parameters (TA = 25 °C unless otherwise noted)

| Symbol | Parameter |
|-----------|---|
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Working Peak Reverse Voltage |
| I_R | Maximum Reverse Leakage Current @ V_{RWM} |
| V_{BR} | Breakdown Voltage @ I_T |
| I_T | Test Current |
| | |
| | |



Note: 8/20 μs pulse waveform.

Typical Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

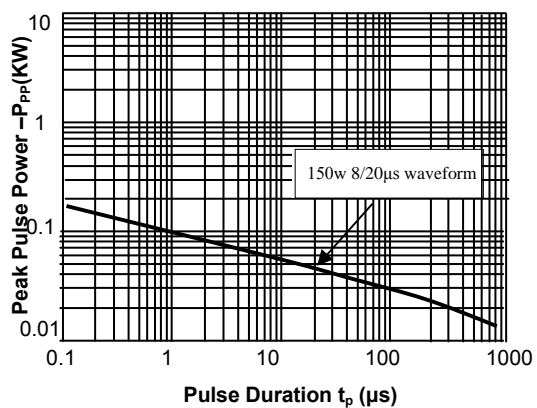


Fig.2 Pulse Derating Curve

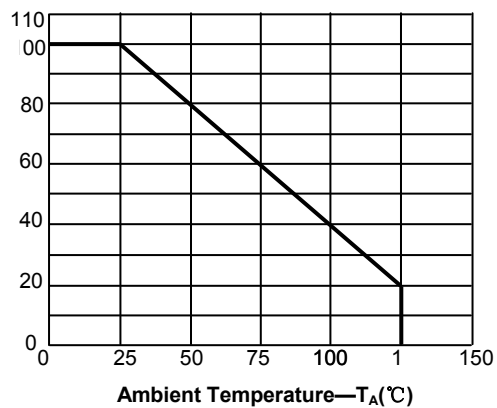


Fig.3 Pulse Waveform-8/20 μ s

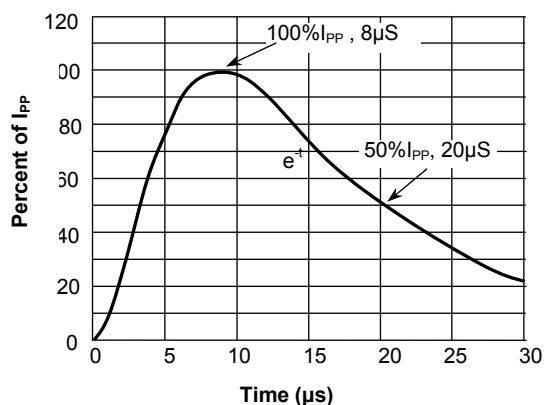
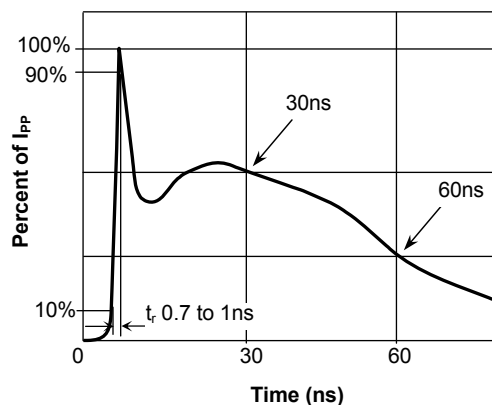
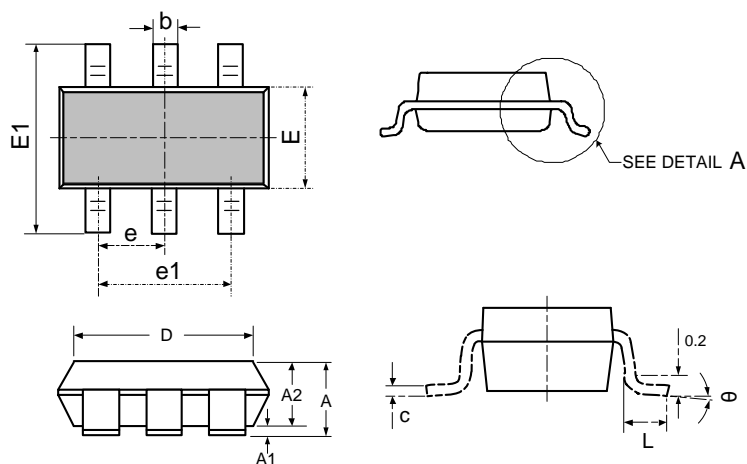


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

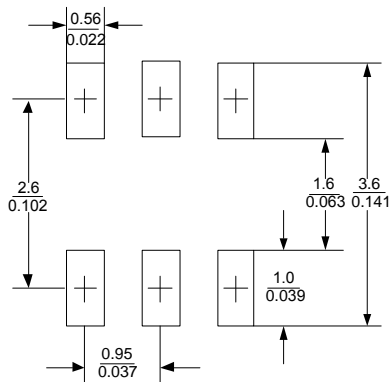
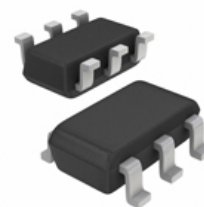


Outline Drawing – SOT23-6

PACKAGE OUTLINE



| SYMBOL | DIMENSIONS | | | |
|----------|------------|-------|------------|-------|
| | INCHES | | MILLIMETER | |
| | MIN | MAX | MIN | MAX |
| A | 0.041 | 0.049 | 1.050 | 1.250 |
| A1 | 0.000 | 0.004 | 0.000 | 0.100 |
| A2 | 0.041 | 0.045 | 1.050 | 1.150 |
| D | 0.111 | 0.119 | 2.820 | 3.020 |
| E | 0.059 | 0.067 | 1.500 | 1.700 |
| E1 | 0.104 | 0.116 | 2.650 | 2.950 |
| b | 0.012 | 0.020 | 0.300 | 0.500 |
| e | 0.037(BSC) | | 0.950(BSC) | |
| e1 | 0.071 | 0.079 | 1.800 | 2.000 |
| L | 0.012 | 0.024 | 0.300 | 0.600 |
| θ | 0° | 8° | 0° | 8° |



Notes

1. This land pattern is for reference purposes only consult your manufacturing group to ensure your company's manufacturing guidelines are met.

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