

Features

- * 60W peak pulse power (8/20 μ s)
- * Protects one data or power line
- * Operating voltage: $\pm 5V$
- * Ultra low clamping voltage
- * Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30kV$
 - Contact discharge: $\pm 30kV$
 - IEC61000-4-5 (SURGE) 8A (8/20us)

Ordering Information

| Part Number | Qty per Reel | Reel Size |
|-------------|--------------|-----------|
| ESD9B5VD | 8000 | 7" |

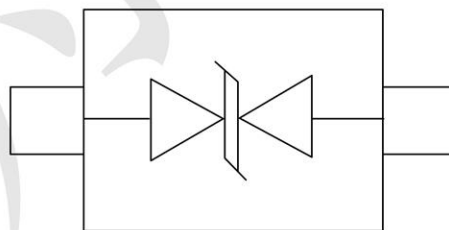
Mechanical Characteristics

- * Package: SOD-923(0402)
- * Ultra low leakage: nA level
- * Case Material: "Green" Molding Compound.
- * UL Flammability Classification Rating 94V-0
- * Moisture Sensitivity: Level 3 per J-STD-020

Applications

- * Mobile Phones and Accessories
- * Battery Protection
- * USB VBus
- * Power Line Protection
- * Hand Held Portable Applications

Dimensions and Pin Configuration



SOD923

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

| Parameter | Symbol | Value | Unit |
|---------------------------------|--------|-------------|------|
| Peak Pulse Power (8/20μs) | Ppk | 60 | W |
| Peak Pulse Current (8/20μs) | IPP | 8 | 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 (TA=25°C unless otherwise specified)

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|-------------------------|------------------|--|-----|-----|------|------|
| Reverse Working Voltage | V _{RWM} | | | | 5 | V |
| Breakdown Voltage | V _{BR} | I _T = 1mA(Pin1-Pin2) | 6 | 7 | 8 | V |
| Reverse Leakage Current | I _R | V _{RWM} = 5.0V(Pin2-Pin1) | | | 0.08 | μA |
| Clamping Voltage | V _C | I _{PP} = 1A (8 x 20us pulse) (Pin1-Pin2) | | | 8 | V |
| Clamping Voltage | V _C | I _{PP} = 6A (8 x 20us pulse) (Pin1-Pin2) | | | 10 | V |
| Junction Capacitance | C _J | V _R = 0V, f = 1MHz (Pin1-Pin2) | | 15 | | pF |

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

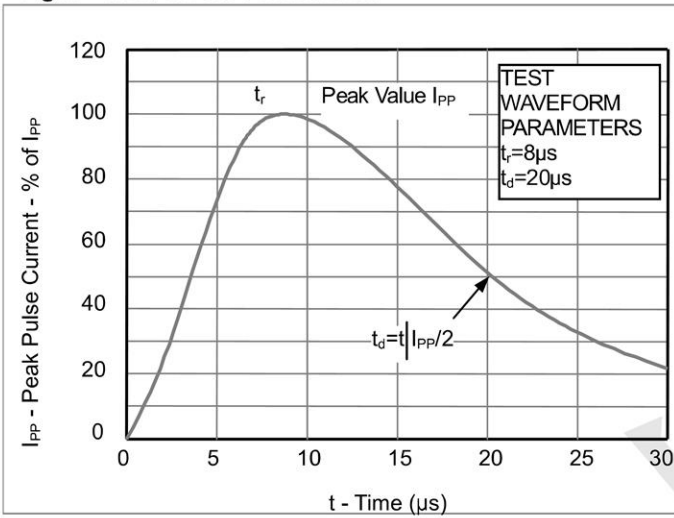


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

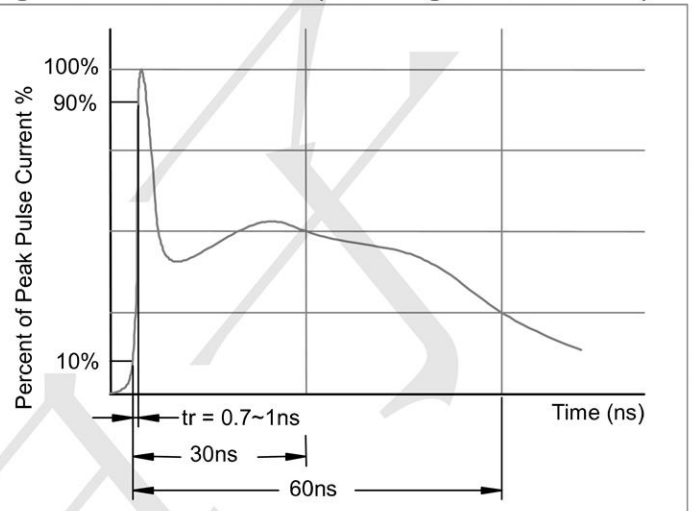
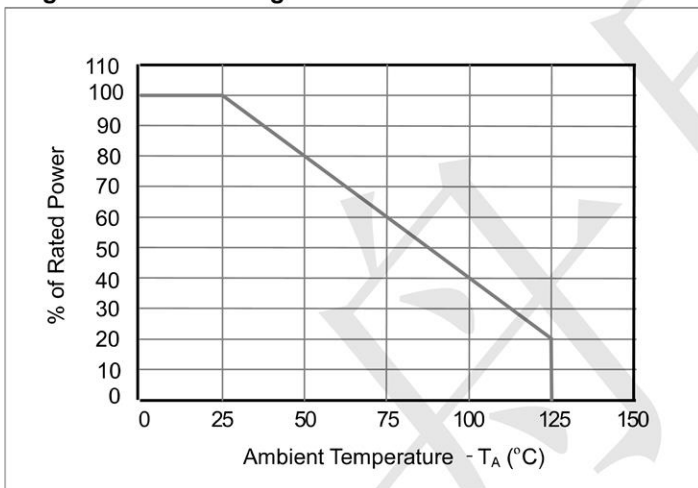
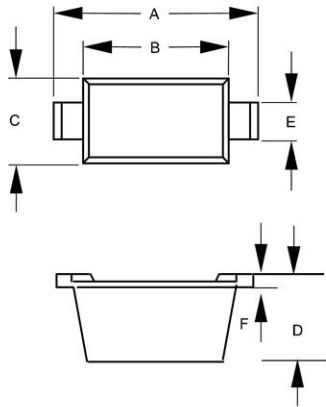


Fig3. Power Derating Curve

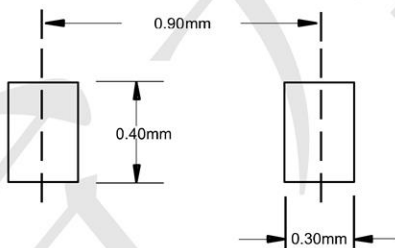


Outline Drawing - SOD-923(0402)



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|------|------|------|------|
| | INCHES | | MM | | |
| | MIN | MAX | MIN | MAX | |
| A | .037 | .041 | 0.95 | 1.05 | |
| B | .030 | .033 | 0.75 | 0.85 | |
| C | .022 | .026 | 0.55 | 0.65 | |
| D | .014 | .017 | 0.36 | 0.43 | |
| E | .006 | .010 | 0.15 | 0.25 | |
| F | .003 | .007 | 0.07 | 0.17 | |

Land Pattern - SOD-923(0402)



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