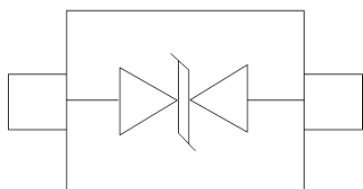


Description

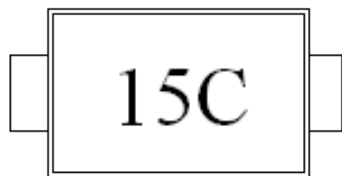
The JS15B1GS10-2 is an bi-directional TVS diode, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive data and power lines. The JS15B1GS10-2 complies with the IEC 61000-4-2 (ESD) standard with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ contact discharge. It is assembled into a SOD-123FL lead-free package. The small size and high ESD/surge protection make JS15B1GS10-2 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

Circuit Diagram



Circuit and Pin Schematic

Marking Diagram



Transparent top view

15C:Device Marking Code

Features

- * 4500W peak pulse power (8/20 μs)
- * Low leakage
- * Operating voltage: 15V
- * Ultra low clamping voltage
- * One power line protects
- * Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 150A (8/20 μs)
- * RoHS Compliant
- * Package: SOD-123FL
- * Lead Finish: Matte Tin

Applications

- * Fast-charge battery chargers
- * Power management system
- * Cellular Handsets and Accessories
- * Personal Digital Assistants
- * Notebooks and Handhelds
- * Portable Instrumentation
- * Digital Cameras

Ordering Information

| Part Number | Packaging | Reel Size |
|--------------|------------------|-----------|
| JS15B1GS10-2 | 3000/Tape & Reel | 7 inch |

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

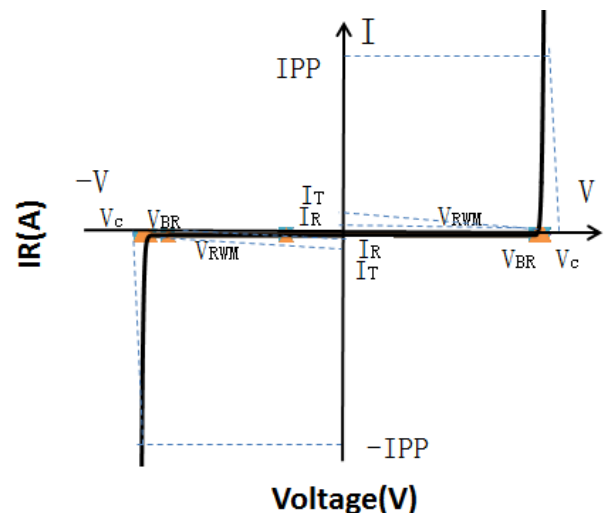
| Parameter | Symbol | Value | Unit |
|--|--------|-------------|--------------------|
| Peak Pulse Power (8/20 μs) | Ppk | 4500 | W |
| Peak Pulse Current (8/20 μs) | IPP | 150 | A |
| ESD per IEC 61000-4-2 (Air) | VESD | ± 30 | kV |
| ESD per IEC 61000-4-2 (Contact) | | ± 30 | |
| Operating Temperature Range | TJ | -55 to +125 | $^{\circ}\text{C}$ |
| Storage Temperature Range | Tstg | -55 to +150 | $^{\circ}\text{C}$ |

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

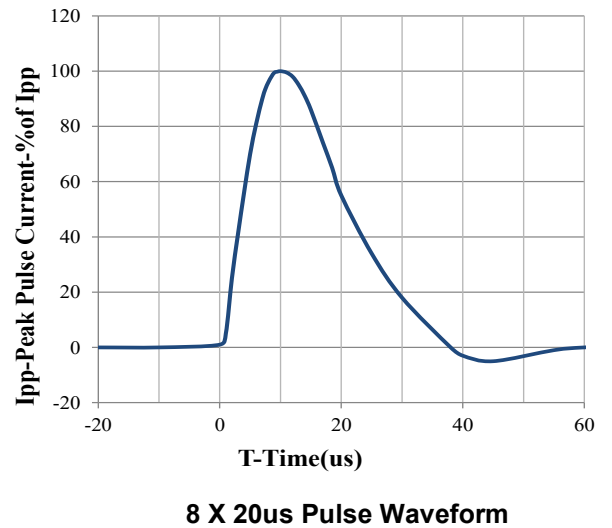
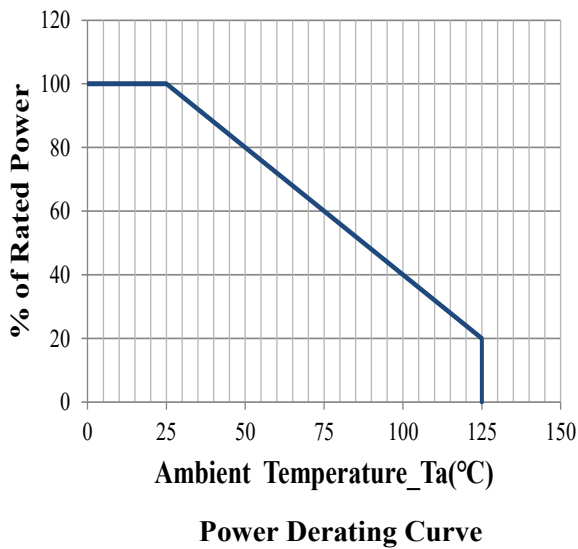
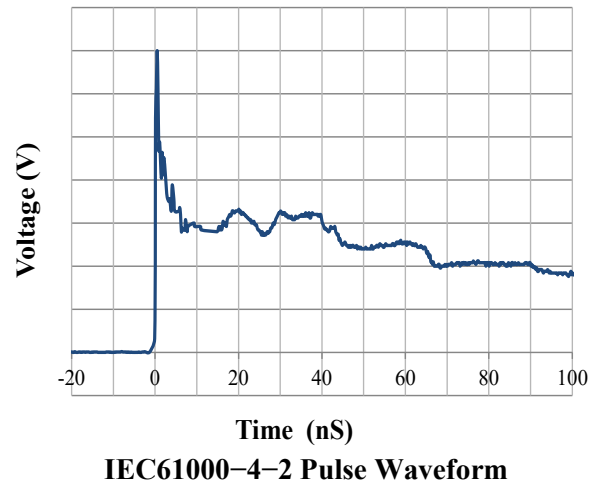
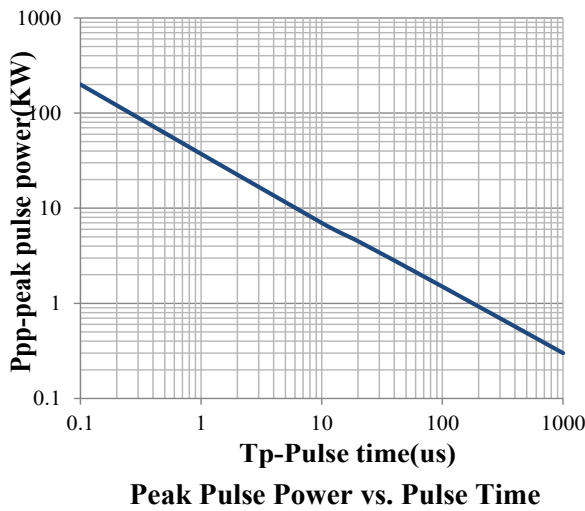
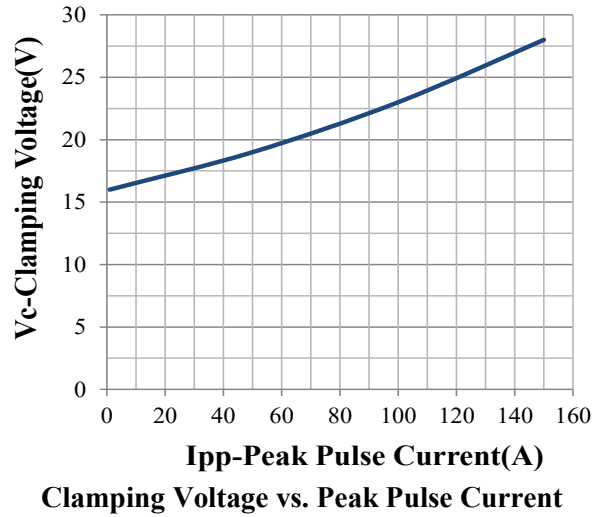
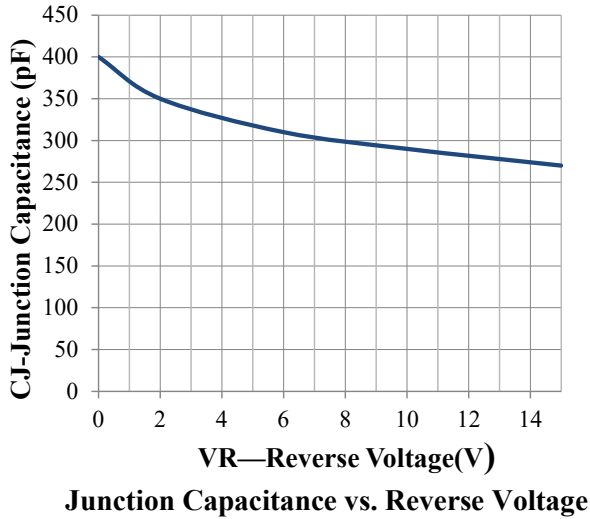
| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|-------------------------|-----------|---|------|------|------|---------------|
| Reverse Working Voltage | V_{RWM} | | | | 15.0 | V |
| Breakdown Voltage | V_{BR} | $I_T = 1\text{mA}$ | 16.5 | 17.5 | 19.5 | V |
| Reverse Leakage Current | I_R | $V_{RWM} = 15\text{V}$ | | | 2.0 | μA |
| Clamping Voltage | V_C | $I_{PP} = 100\text{A}$ (8 x 20 μs pulse) | | | 24.0 | V |
| Clamping Voltage | V_C | $I_{PP} = 150\text{A}$ (8 x 20 μs pulse) | | | 30.0 | V |
| Junction Capacitance | C_J | $V_R = 0\text{V}$, $f = 1\text{MHz}$ | | 400 | 500 | pF |

Portion Electronics Parameter

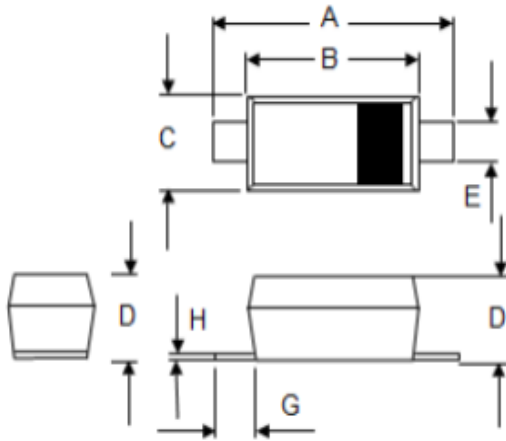
| Symbol | Parameter |
|----------|------------------------------------|
| I_T | Test Current |
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_C |



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

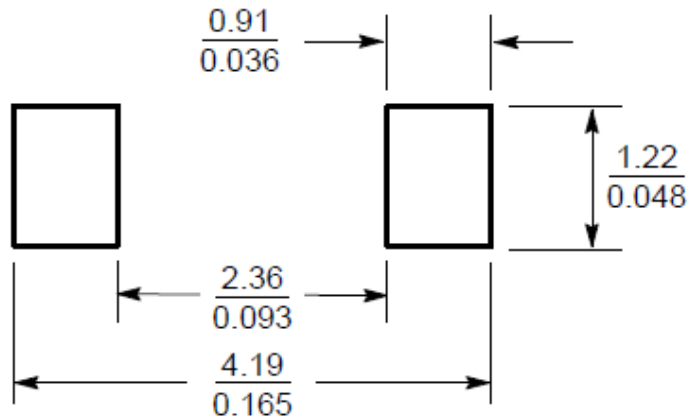


SOD-123FL Package Outline Drawing (Dimensions in millimeters)



| SYM | DIMENSIONS | | | | | |
|-----|-------------|------|------|--------|-------|-------|
| | MILLIMETERS | | | INCHES | | |
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 3.4 | 3.7 | 3.95 | 0.142 | 0.148 | 0.155 |
| B | 2.5 | 2.7 | 2.90 | 0.098 | 0.106 | 0.114 |
| C | 1.4 | 1.70 | 1.95 | 0.055 | 0.066 | 0.077 |
| D | 1.10 | 1.15 | 1.20 | 0.044 | 0.046 | 0.048 |
| E | 0.5 | 0.80 | 1.10 | 0.020 | 0.031 | 0.043 |
| G | 0.25 | — | — | 0.010 | — | — |
| H | — | — | 0.20 | — | — | 0.008 |

Suggested Land Pattern



SCALE 10:1 ($\frac{\text{mm}}{\text{inches}}$)

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