

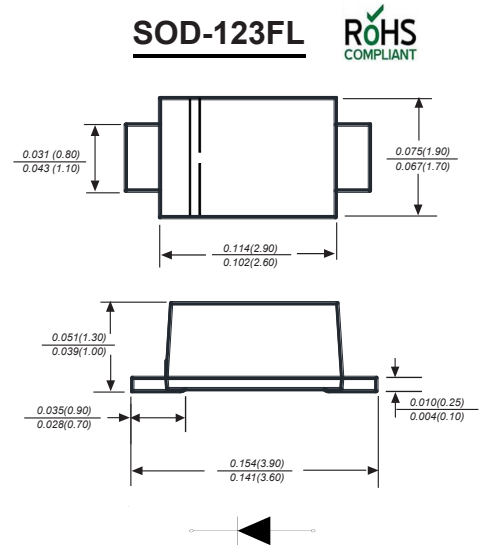
BIDIRECTIONAL TRIGGER DIODE

Features

- ◆ Small glass structure ensures high reliability
- ◆ VBO:28-36V version
- ◆ Low breakover current
- ◆ High temperature soldering guaranteed
- ◆ 250 C/10 seconds,0.375”(9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case: JEDEC SOD-123FL molded plastic body
 Terminals: Solderable per MIL-STD-750,
 Method 2026 Mounting Position: Any
 Weight:0.00048 ounce, 0.015gram
 Marking :DB3



Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz,resistive or inductive load,for capacitive load current derate by 20%.

| | TEST CONDITION | SYMBOLS | VALUE | | | UNITS |
|--|----------------------------|---------------------------|-------|------|------|--------------|
| | | | Min. | Typ. | Max. | |
| Breakover voltage * | C=22nF ** | V_{Bo} | 28 | 32 | 36 | VOLTS |
| Breakover voltage symmetry | C=22nF ** | $ I+V_{Bo} - I-V_{Bo} $ | | | 3 | VOLTS |
| Dynamic breakover voltage * | (NOTE 1) | $I \Delta V \pm I$ | 5 | | | VOLTS |
| Output voltage * | DIAGRAM2 | V_o | 5 | | | VOLTS |
| Breakover current * | C=22nF ** | I_{Bo} | | | 50 | μA |
| Rise time * | DIAGRAM3 | t_r | | | 2 | μS |
| Leakage current * | $V_R=0.5V_{Bo}$ | I_B | | | 10 | μA |
| Power dissipation on printed circuit | $T_A=65^\circ C$ | P_d | | | 150 | mW |
| Repetitive peak on-state current | $t_p=20\mu s$ $f=100Hz$ | I_{TRM} | | | 2 | A |
| Thermal Resistances from Junction to ambient | | $R_{\theta JA}$ | | | 400 | $^\circ C/W$ |
| Thermal Resistances from Junction to lead | | $R_{\theta JL}$ | | | 150 | |
| Operating junction and storage temperature range | | T_J, T_{STG} | -40 | | 125 | $^\circ C$ |

* :Electrical characteristic appoicaboe in forward and reverse direct

** :Connected in parallel with the devices.

Note 1: I_{Bo} from I_{Bo} to 10mA

Typical Characteristics

Diagram1: current-voltage characteristic

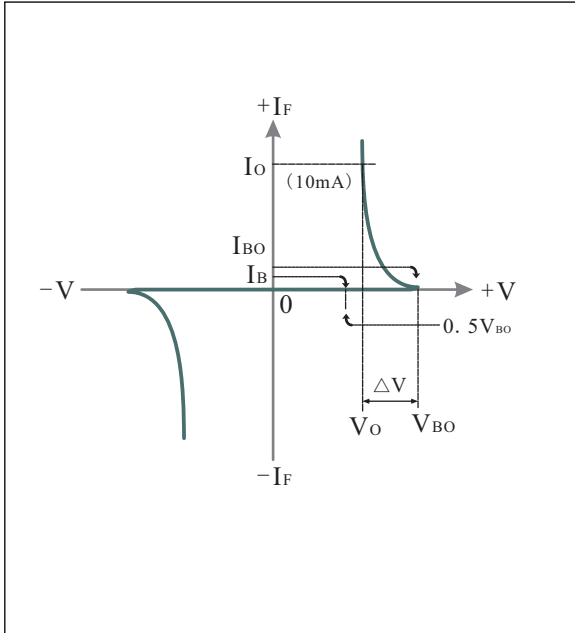


Diagram2: Test circuit for output voltage

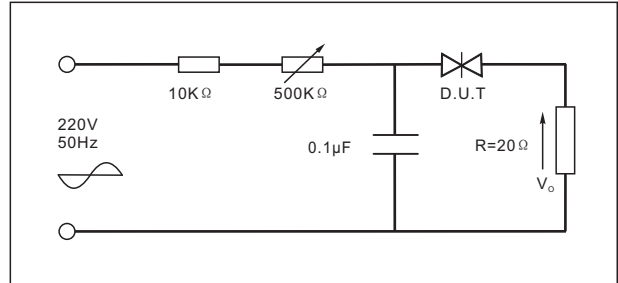


Diagram3: Test circuit see Fig.2. Adjust R for $I_p=0.5\text{A}$

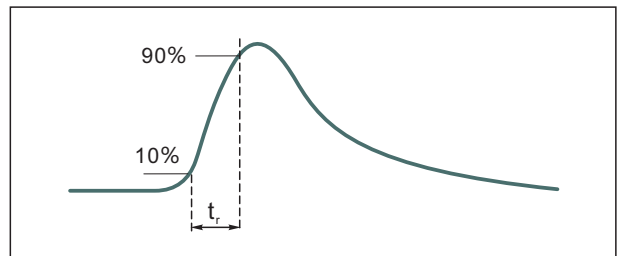


Fig.1: Power dissipation versus ambient temperature(maximum values)

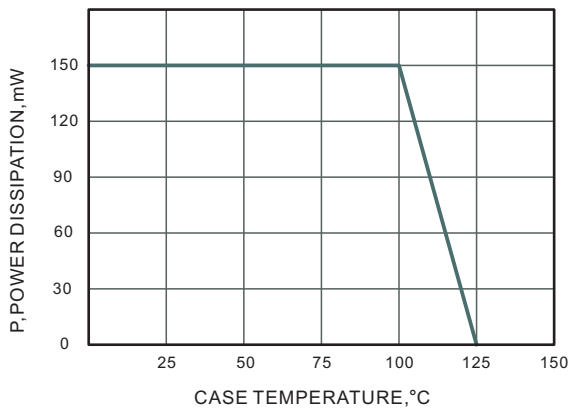


Fig.2: Power dissipation versus ambient temperature(maximum values)

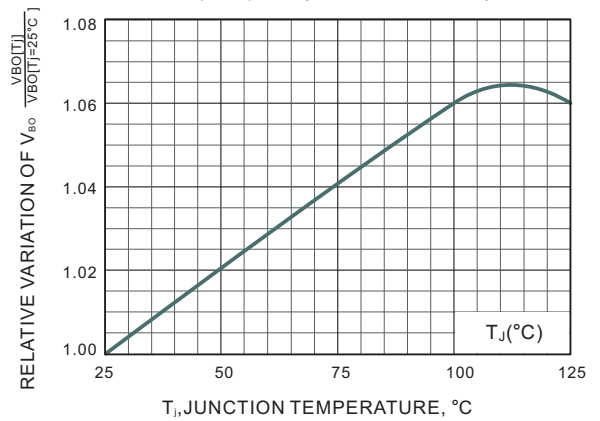
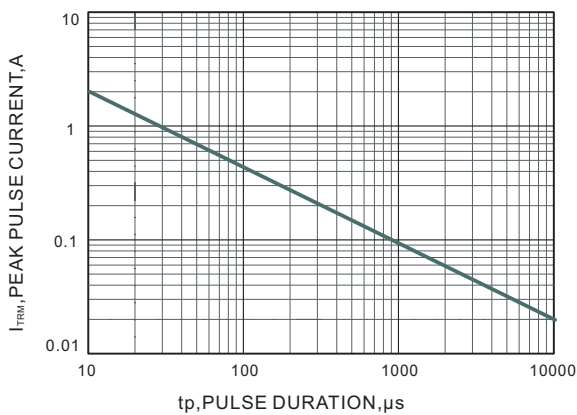
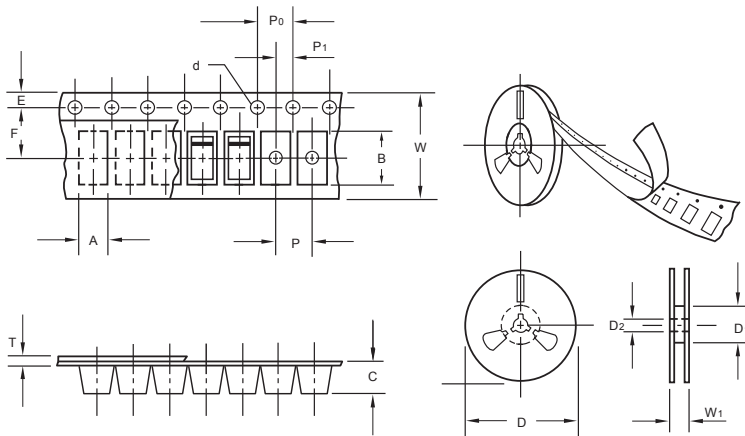


Fig.3: Power dissipation versus ambient temperature(maximum values)



The curve above is for reference only.

Packing information



unit:mm

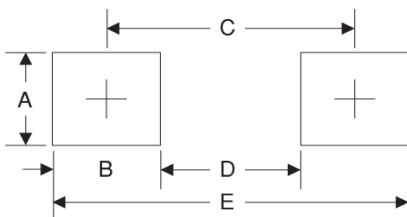
| Item | Symbol | Tolerance | SOD-123FL |
|--------------------------|--------|-----------|-----------|
| Carrier width | A | 0.1 | 2.1 |
| Carrier length | B | 0.1 | 4.0 |
| Carrier depth | C | 0.1 | 1.60 |
| Sprocket hole | d | 0.05 | 1.55 |
| 7" Reel outside diameter | D | 2.0 | 178.00 |
| 7" Reel inner diameter | D1 | min | 50.0 |
| Feed hole diameter | D2 | 0.5 | 13.00 |
| Sprocket hole position | E | 0.1 | 1.75 |
| Punch hole position | F | 0.1 | 3.50 |
| Punch hole pitch | P | 0.1 | 4.00 |
| Sprocket hole pitch | P0 | 0.1 | 4.00 |
| Embossment center | P1 | 0.1 | 2.00 |
| Overall tape thickness | T | 0.1 | 0.25 |
| Tape width | W | 0.3 | 8.15 |
| Reel width | W1 | 1.0 | 10.5 |

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

Reel packing

| PACKAGE | REEL SIZE | REEL (pcs) | COMPONENT SPACING (m/m) | BOX (pcs) | INNER BOX (m/m) | REEL DIA, (m/m) | CARTON SIZE (m/m) | CARTON (pcs) | APPROX. GROSS WEIGHT (kg) |
|-----------|-----------|------------|-------------------------|-----------|-----------------|-----------------|-------------------|--------------|---------------------------|
| SOD-123FL | 7" | 3,000 | 4.0 | 45,000 | 210*208*203 | 178 | 430*430*235 | 180,000 | 9.0 |

Suggested Pad Layout



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 1.2 | 0.047 |
| B | 1.2 | 0.047 |
| C | 3.2 | 0.126 |
| D | 2 | 0.079 |
| E | 4.4 | 0.173 |