



## DESCRIPTION

The RB491D is available in SOT-23 package

## FEATURES

- Small mold type. (SOT-23)
- Ultra low  $V_F$ . ( $V_F=0.40V$  Typ. at 1A)
- $I_F=1.0A$  guaranteed despite the size.
- RoHS Compliant
- Available in SOT-23 package

## ORDERING INFORMATION

| Package Type                             | Part Number   |
|------------------------------------------|---------------|
| SOT-23                                   | RB491D        |
| Note                                     | 3,000pcs/Reel |
| AiT provides all RoHS Compliant Products |               |

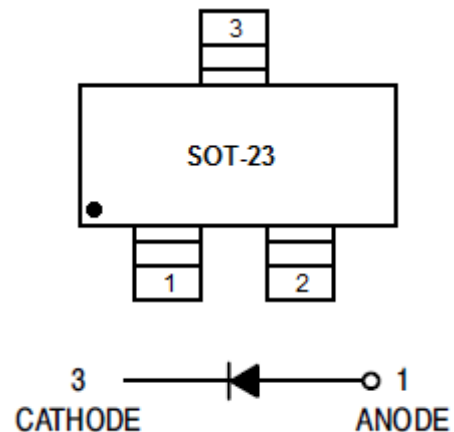
## CONSTRUCTION

Silicon epitaxial planar

## APPLICATIONS

- Low-power rectification
- For switching power supply

## PIN DESCRIPTION





## ABSOLUTE MAXIMUM RATINGS

@T<sub>A</sub>=25°C

|                                                                |               |
|----------------------------------------------------------------|---------------|
| V <sub>RM</sub> , Peak Reverse Voltage                         | 25V           |
| V <sub>R</sub> , DC Reverse Voltage                            | 20V           |
| I <sub>F</sub> , DC Forward Current                            | 1.0A          |
| I <sub>FSM</sub> <sup>NOTE1</sup> , Peak Forward Surge Current | 3A            |
| T <sub>J</sub> , Junction Temperature                          | 125°C         |
| T <sub>STG</sub> , Storage Temperature                         | -40°C ~+125°C |

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

NOTE1: 60Hz for 1 

## ELECTRICAL CHARACTERISTICS

@T<sub>A</sub>=25°C

| Parameter       | Symbol         | Conditions           | Min. | Typ. | Max. | Unit |
|-----------------|----------------|----------------------|------|------|------|------|
| Forward voltage | V <sub>F</sub> | I <sub>F</sub> =1.0A |      |      | 0.45 | V    |
| Reverse current | I <sub>R</sub> | V <sub>R</sub> =20V  |      |      | 200  | μA   |

NOTE: ESD sensitive product handling required.



## TYPICAL CHARACTERISTICS

Figure 1. Forward characteristics

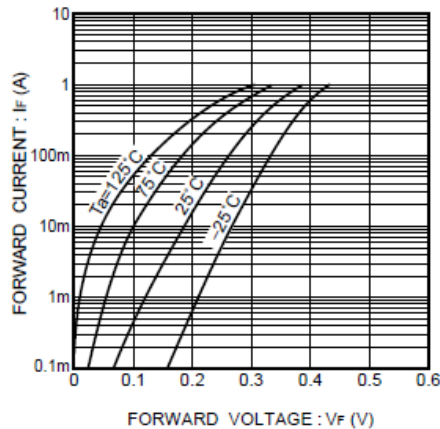


Figure 2. Reverse characteristics

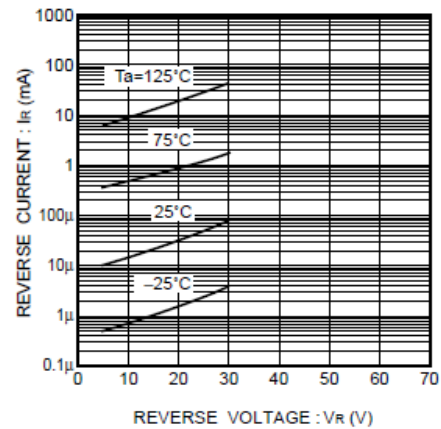


Figure 3. Capacitance between terminals characteristics

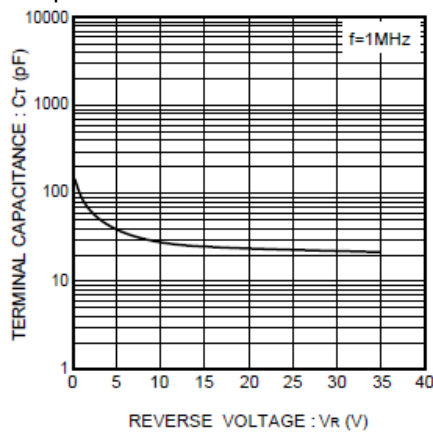


Figure 4. Forward power dissipation characteristics

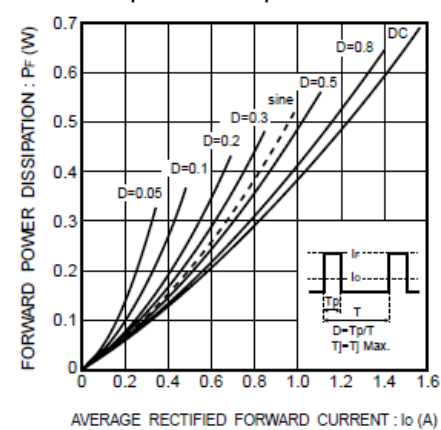
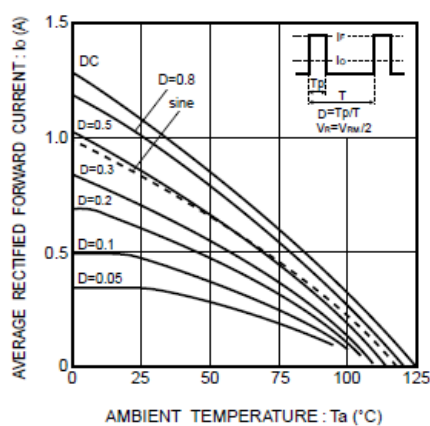


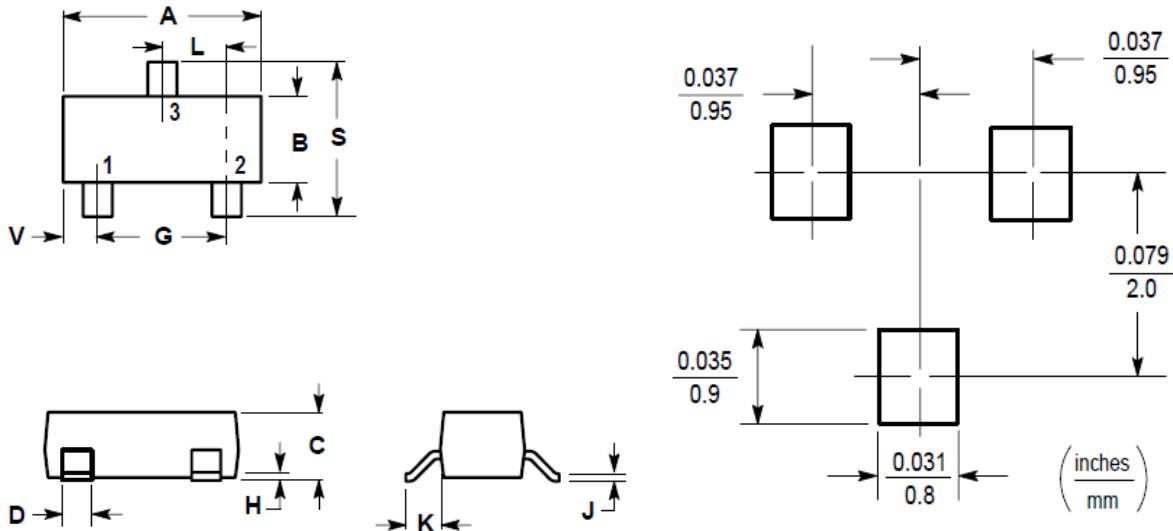
Figure 5. Derating curve ( $I_o - T_A$ )





## PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



| DIM | MILLIMETERS |       | INCHES |        |
|-----|-------------|-------|--------|--------|
|     | MIN         | MAX   | MIN    | MAX    |
| A   | 2.80        | 3.04  | 0.1102 | 0.1197 |
| B   | 1.20        | 1.40  | 0.0472 | 0.0551 |
| C   | 0.89        | 1.11  | 0.0350 | 0.0440 |
| D   | 0.37        | 0.50  | 0.0150 | 0.0200 |
| G   | 1.78        | 2.04  | 0.0701 | 0.0807 |
| H   | 0.013       | 0.100 | 0.0005 | 0.0040 |
| J   | 0.085       | 0.177 | 0.0034 | 0.0070 |
| K   | 0.35        | 0.69  | 0.0140 | 0.0285 |
| L   | 0.89        | 1.02  | 0.0350 | 0.0401 |
| S   | 2.10        | 2.64  | 0.0830 | 0.1039 |
| V   | 0.45        | 0.60  | 0.0177 | 0.0236 |



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