

TECHNICAL DATA  
DATA SHEET 4503, REV. -

## POWER SCHOTTKY RECTIFIER

### Low Reverse Leakage

**Applications:**

- Switching Power Supply • Converters • Free-Wheeling Diodes • Polarity Protection Diode

**Features:**

- Ultra Low Reverse Leakage Current
- Soft Reverse Recovery at Low and High Temperature
- Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Capacity
- Guard Ring for Enhanced Durability and Long Term Reliability
- Guaranteed Reverse Avalanche Characteristics

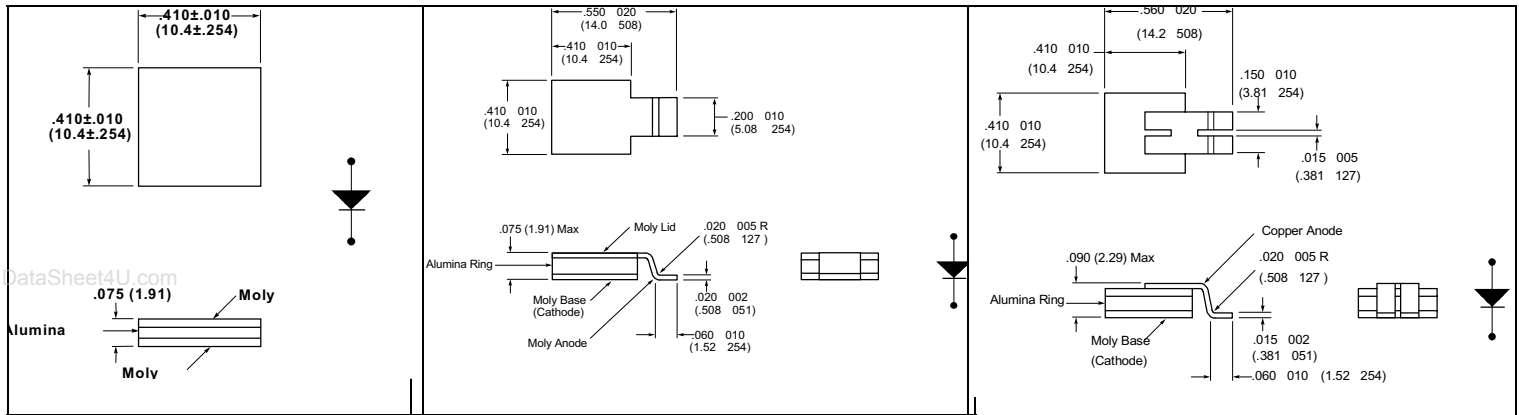
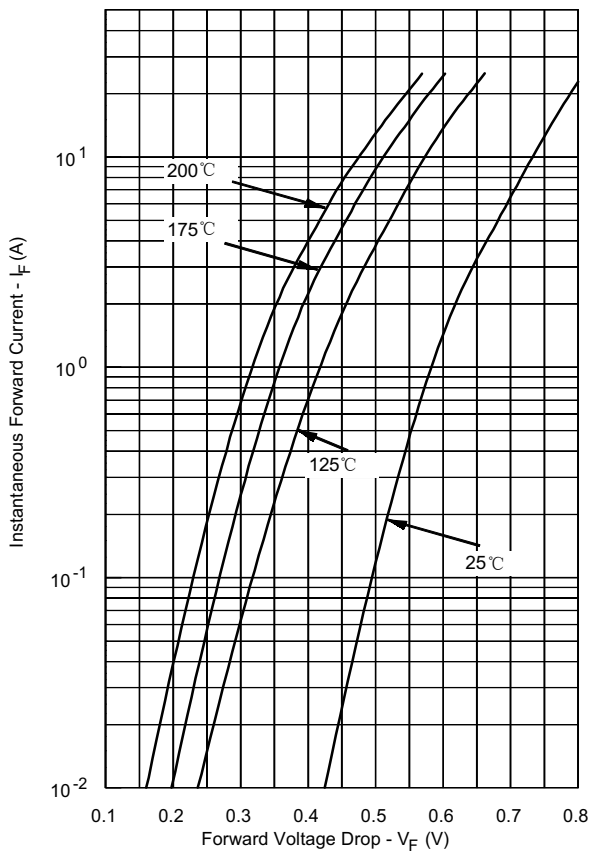
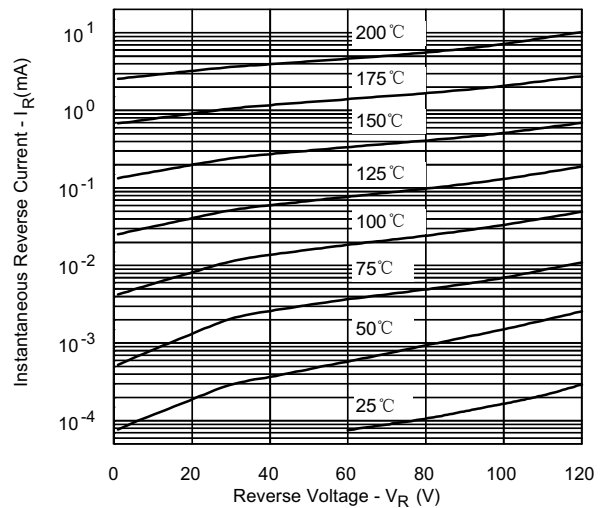
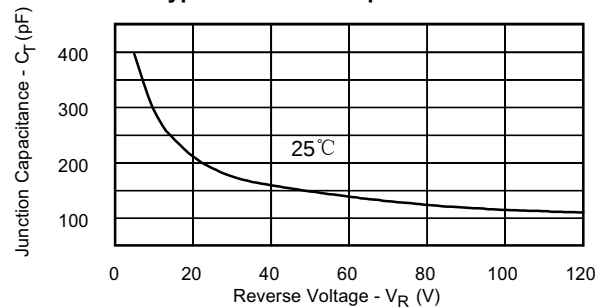
**Maximum Ratings:**

| Characteristics                                  | Symbol      | Condition                                                                                  | Max.        | Units              |
|--------------------------------------------------|-------------|--------------------------------------------------------------------------------------------|-------------|--------------------|
| Peak Inverse Voltage                             | $V_{RWM}$   | -                                                                                          | 100         | V                  |
| Max. Average Forward Current                     | $I_{F(AV)}$ | 50% duty cycle, rectangular wave form                                                      | 15          | A                  |
| Max. Peak One Cycle Non-Repetitive Surge Current | $I_{FSM}$   | 8.3 ms, half Sine wave (per leg)                                                           | 280         | A                  |
| Non-Repetitive Avalanche Energy                  | $E_{AS}$    | $T_J = 25^\circ\text{C}$ , $I_{AS} = 1.3\text{ A}$ , $L = 40\text{mH}$ (per leg)           | 27          | mJ                 |
| Repetitive Avalanche Current                     | $I_{AR}$    | $I_{AS}$ decay linearly to 0 in 1 $\mu\text{s}$<br>$f$ limited by $T_J$ max $V_A = 1.5V_R$ | 1.3         | A                  |
| Thermal Resistance                               | $R_{thJC}$  | Per Package                                                                                | 0.85        | $^\circ\text{C/W}$ |
| Max. Junction Temperature                        | $T_J$       | -                                                                                          | -65 to +200 | $^\circ\text{C}$   |
| Max. Storage Temperature                         | $T_{stg}$   | -                                                                                          | -65 to +200 | $^\circ\text{C}$   |

**Electrical Characteristics:**

| Characteristics           | Symbol   | Condition                                                                                                                | Max. | Units |
|---------------------------|----------|--------------------------------------------------------------------------------------------------------------------------|------|-------|
| Max. Forward Voltage Drop | $V_{F1}$ | @ 15A, Pulse, $T_J = 25^\circ\text{C}$ (per leg) measured at the leads                                                   | 0.84 | V     |
|                           | $V_{F2}$ | @ 15A, Pulse, $T_J = 125^\circ\text{C}$ (per leg) measured at the leads                                                  | 0.68 | V     |
| Max. Reverse Current      | $I_{R1}$ | @ $V_R = 100\text{V}$ , Pulse, $T_J = 25^\circ\text{C}$ (per leg)                                                        | 0.01 | mA    |
|                           | $I_{R2}$ | @ $V_R = 100\text{V}$ , Pulse, $T_J = 125^\circ\text{C}$ (per leg)                                                       | 1.0  | mA    |
| Max. Junction Capacitance | $C_T$    | @ $V_R = 5\text{ V}$ , $T_C = 25^\circ\text{C}$<br>$f_{SIG} = 1\text{ MHz}$ ,<br>$V_{SIG} = 50\text{mV}$ (p-p) (per leg) | 500  | pF    |

Due to the nature of the 100V Schottky devices, some degradation in  $t_{rr}$  performance at high temperatures should be expected, unlike conventional lower voltage Schottkys.

TECHNICAL DATA  
DATA SHEET 4503, REV. –Mechanical Dimensions: in inches / mm**SHD-3****SHD-3A****SHD-3B****Typical Forward Characteristics****Typical Reverse Characteristics****Typical Junction Capacitance**

Vf Curves shown are for die only.

**TECHNICAL DATA**

**DISCLAIMER:**

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
- 3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.