

TECHNICAL DATA  
DATASHEET 345, REV B**SILICON ULTRA-FAST RECOVERY EPITAXIAL RECTIFIER DIE****Applications:**

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

**Features:**

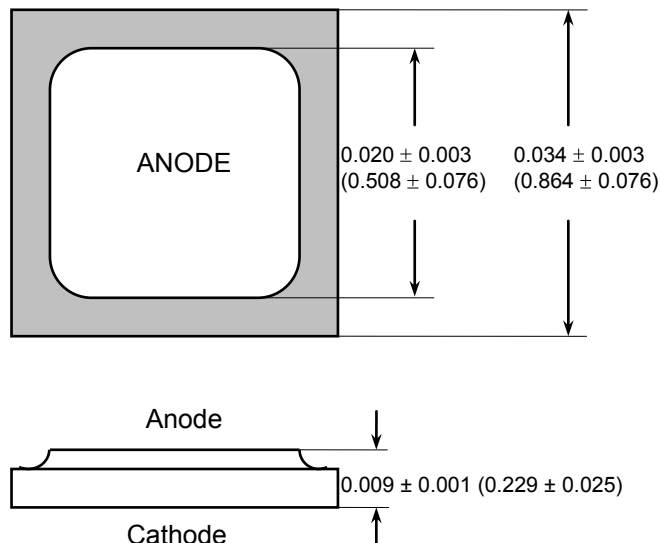
- Glass passivated Epitaxial Diode with Mesa Structure
- Soft Reverse Recovery at Low and High Temperature
- Low Forward Voltage Drop and Low Reverse Current
- Electrically and Mechanically Stable during and after Packaging

**Maximum Ratings:**

| Characteristics                                  | Symbol    | Condition                                                       | Max.        | Units            |
|--------------------------------------------------|-----------|-----------------------------------------------------------------|-------------|------------------|
| Peak Inverse Voltage                             | $V_{RWM}$ | -                                                               | 600         | V                |
| Max. Output Current                              | $I_O$     | 50% duty cycle, rectangular wave form; $T_A = 55^\circ\text{C}$ | 1.2         | A                |
| Max. Peak One Cycle Non-Repetitive Surge Current | $I_{FSM}$ | 8.3 ms, sine pulse <sup>(1)</sup>                               | 20          | A                |
| Max. Junction Temperature                        | $T_J$     | -                                                               | -55 to +175 | $^\circ\text{C}$ |
| Max. Storage Temperature                         | $T_{stg}$ | -                                                               | -55 to +200 | $^\circ\text{C}$ |

**Electrical Characteristics:**

| Characteristics              | Symbol   | Condition                                                                                                     | Min. | Max. | Units         |
|------------------------------|----------|---------------------------------------------------------------------------------------------------------------|------|------|---------------|
| Breakdown Voltage            | $V_{RM}$ | $I_R = 50\ \mu\text{A}$ ; $T_J = 25^\circ\text{C}$                                                            | 660  |      | V             |
| Forward Voltage Drop         | $V_{F1}$ | $I_F = 1.2\ \text{A}$ , pulse, $T_J = 25^\circ\text{C}$                                                       |      | 1.4  | V             |
|                              | $V_{F2}$ | $I_F = 2.0\ \text{A}$ , pulse, $T_J = 25^\circ\text{C}$                                                       |      | 1.6  |               |
| Max. Reverse Leakage Current | $I_{R1}$ | $V_R = V_{RWM}$ , pulse, $T_J = 25^\circ\text{C}$                                                             |      | 0.5  | $\mu\text{A}$ |
|                              | $I_{R2}$ | $V_R = V_{RWM}$ , pulse, $T_J = 150^\circ\text{C}$                                                            |      | 150  | $\mu\text{A}$ |
| Max. Junction Capacitance    | $C_T$    | $V_R = 10\ \text{V}$ , $T_C = 25^\circ\text{C}$ , $f_{SIG} = 1\ \text{MHz}$ , $V_{SIG} = 50\ \text{mV (p-p)}$ |      | 10   | pF            |
| Reverse Recovery Time        | $t_{rr}$ | $I_F = 0.5\ \text{A}$ , $I_R = 1.0\ \text{A}$ , $I_{RM} = 0.25\ \text{A}$                                     |      | 30   | ns            |

**Mechanical Dimensions: In Inches (mm)**

Top side metalization: Al - 25 kÅ minimum

Bottom side metalization: Ti/Ni/Ag - 30 kÅ minimum.

Bottom side is cathode, top side is anode.

---

**TECHNICAL DATA**  
**DATASHEET 345, REV B****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.