

Technical Data
Data Sheet 2801, Rev. -

BAT54/A/C/S SCHOTTKY RECTIFIER

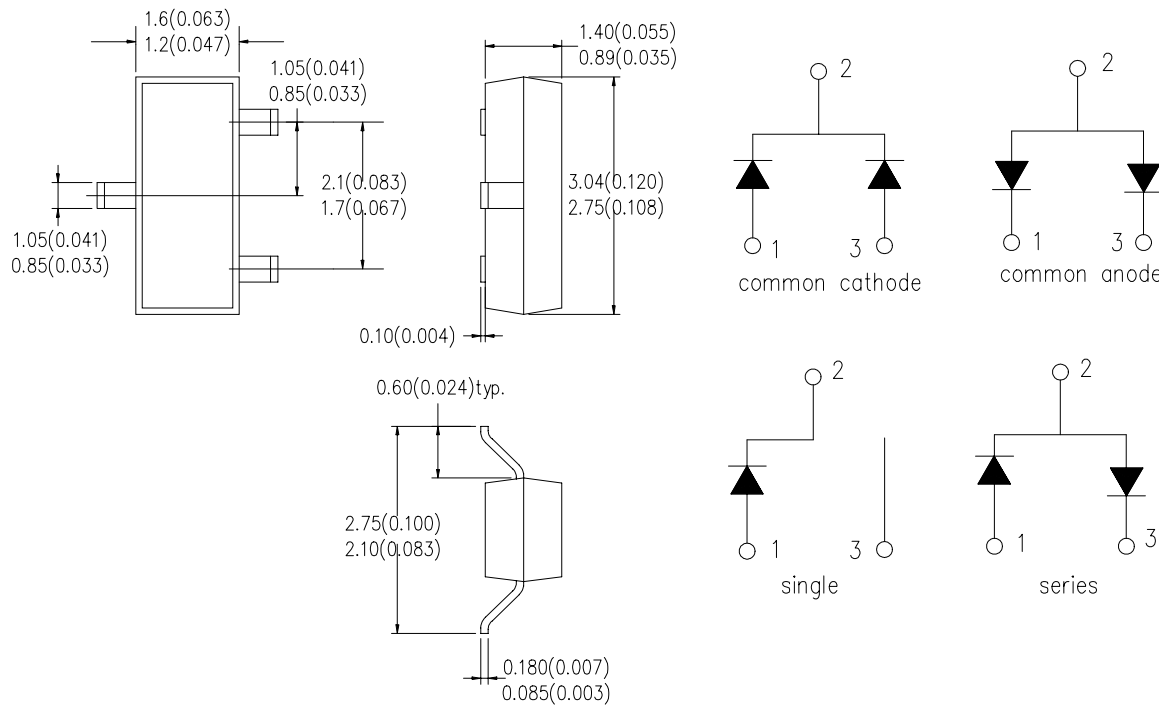
Applications:

- Small signal switching

Features:

- Negligible switching losses
- Very small conduction losses
- Low forward voltage drop
- Surface mount device
- Double diodes with different pinning are available
- Schottky barrier diodes encapsulated in a SOT-23 small SMD packages

Mechanical Dimensions: In Inches / mm



SO-23 Package

| | | | |
|---------------|-----------------------|---------------|---------------------|
| BAT54C | Common Cathode | BAT54A | Common Anode |
| BAT54 | Single | BAT54S | Series |

Data Sheet 2801, Rev. -

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|-------------|-------------------------|------|-------|
| Max. DC Reverse Voltage | V_R | - | 30 | V |
| Max. Average Forward Current | $I_{F(AV)}$ | | 0.3 | A |
| Max. Peak One Cycle Non-Repetitive Surge Current (per leg) | I_{FSM} | 8.3 ms, half Sine pulse | 1.2 | A |
| Power dissipation # | P_{tot} | $T_{amb}=25^{\circ}C$ | 250 | mW |

for double diodes, P_{tot} is the total dissipation of both diodes.

Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|---------------------------------------|----------|--|---------------------------------|---------|
| Max. Forward Voltage Drop (per leg) * | V_{F1} | @ 0.1m A, Pulse, $T_J = 25^{\circ}C$ @ 1m A, Pulse, $T_J = 25^{\circ}C$ @ 10m A, Pulse, $T_J = 25^{\circ}C$ @ 30m A, Pulse, $T_J = 25^{\circ}C$ @ 100m A, Pulse, $T_J = 25^{\circ}C$ | 240 320 400 500 900 | mV |
| Max. Reverse Current (per leg) ** | I_{R1} | @ $V_R = 30V$, Pulse, $T_J = 25^{\circ}C$ | 1 | μA |
| | I_{R2} | @ $V_R = 30V$, Pulse, $T_J = 100^{\circ}C$ | 100 | μA |
| Max. Junction Capacitance (per leg) | C_T | @ $V_R = 1V$, $T_C = 25^{\circ}C$ $f_{SIG} = 1MHz$ | 10 | pF |
| Reverse recovery time | t_{rr} | $I_F = 10 mA$ $I_R = 10 mA$ $T_J = 25^{\circ}C$ $I_{rr} = 1 mA$ $R_L = 100 \Omega$ | 5 | ns |

Pulse test :

* $t_p = 380 ms$, $\delta < 2\%$

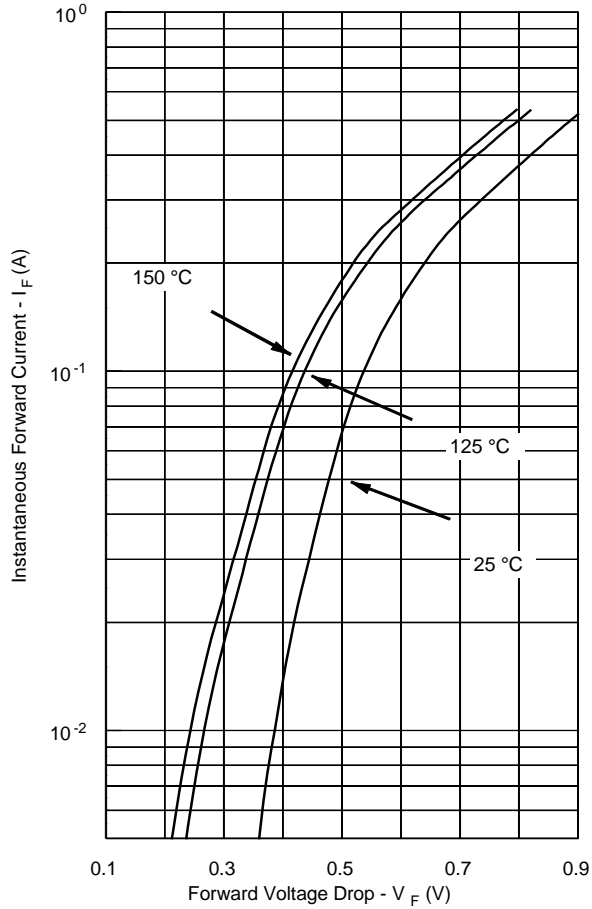
** $t_p = 5 ms$, $\delta < 2\%$

Thermal-Mechanical Specifications:

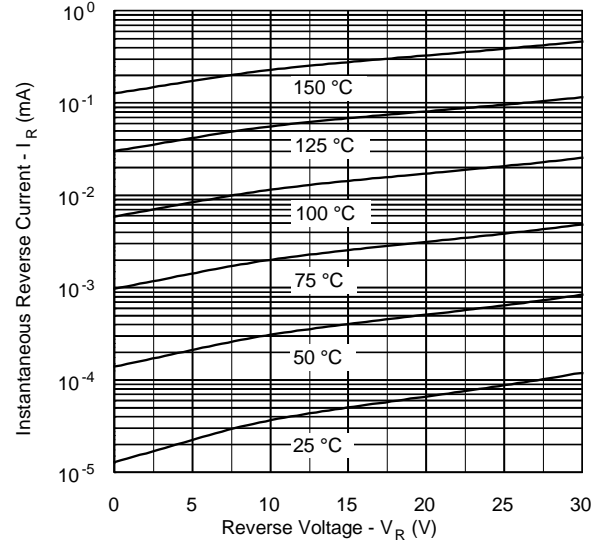
| Characteristics | Symbol | Condition | Specification | Units |
|--|-----------------|-----------|---------------|---------------|
| Max. Junction Temperature | T_J | - | 150 | $^{\circ}C$ |
| Max. Storage Temperature | T_{stg} | - | -65 to +150 | $^{\circ}C$ |
| Maximum temperature for soldering during 10s | T_L | - | 260 | $^{\circ}C$ |
| Junction to ambient | $R_{\theta JA}$ | - | 500 | $^{\circ}C/W$ |
| Case Style | SOT-23 | | | |

Data Sheet 2801, Rev. -

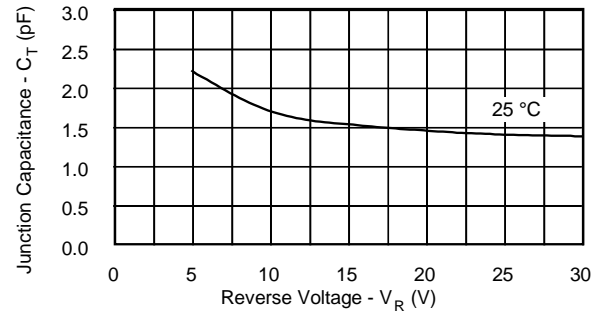
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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.