



Small Signal Schottky Diode



FEATURES

- Integrated protection ring against static discharge
- Very low forward voltage
- AEC-Q101 qualified
- Material categorization:
For definitions of compliance please see www.vishay.com/doc?99912



RoHS COMPLIANT HALOGEN FREE

APPLICATIONS

- Applications where a very low forward voltage is required

MECHANICAL DATA

Case: DO-35

Weight: approx. 125 mg

Cathode band color: black

Packaging codes/options:

TR/10K per 13" reel (52 mm tape), 50K/box

TAP/10K per ammpack (52 mm tape), 50K/box

| PARTS TABLE | | | | |
|-------------|-------------------------|-----------------------|--------------|-----------------------|
| PART | ORDERING CODE | INTERNAL CONSTRUCTION | TYPE MARKING | REMARKS |
| BAT86S | BAT86S-TR or BAT86S-TAP | Single diode | BAT86S | Tape and reel/ammpack |

| ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified) | | | | |
|---|--|------------------|-------|------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Reverse voltage | | V _R | 50 | V |
| Peak forward surge current | t _p ≤ 10 ms | I _{FSM} | 5 | A |
| Repetitive peak forward current | t _p ≤ 1 s | I _{FRM} | 500 | mA |
| Forward continuous current | | I _F | 200 | mA |
| Average forward current | PCB mounting, l = 4 mm; V _{RWM} = 25 V, T _{amb} = 50 °C | I _{FAV} | 200 | mA |

| THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | |
|--|-------------------------------------|-------------------|---------------|------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Thermal resistance junction to ambient air | l = 4 mm, T _L = constant | R _{thJA} | 320 | K/W |
| Junction temperature | | T _j | 125 | °C |
| Storage temperature range | | T _{stg} | - 65 to + 150 | °C |

| ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | | | |
|---|---------------------------------|----------------|------|------|------|------|
| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Forward voltage | I _F = 0.1 mA | V _F | | | 300 | mV |
| | I _F = 1 mA | V _F | | | 380 | mV |
| | I _F = 10 mA | V _F | | | 450 | mV |
| | I _F = 30 mA | V _F | | | 600 | mV |
| | I _F = 100 mA | V _F | | | 900 | mV |
| Reverse current | V _R = 40 V | I _R | | | 5 | µA |
| Diode capacitance | V _R = 1 V, f = 1 MHz | C _D | | | 8 | pF |

TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

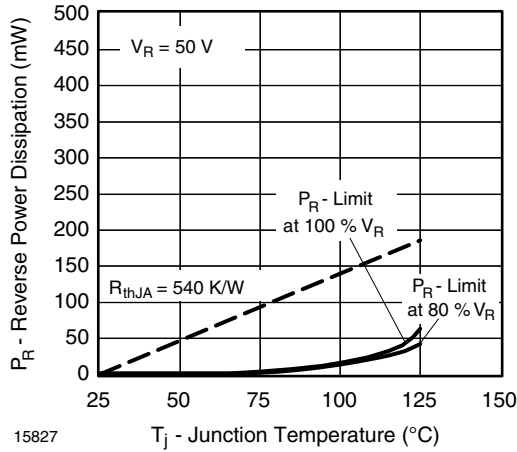


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

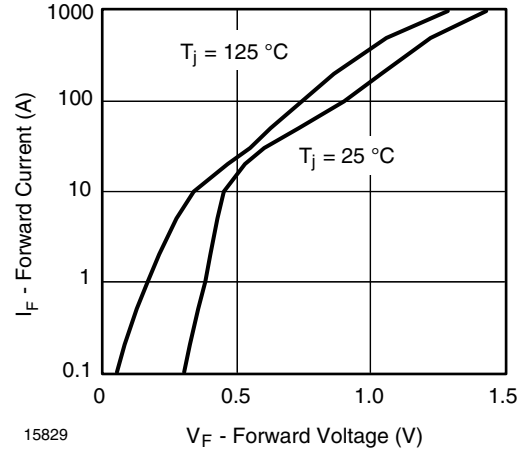


Fig. 3 - Forward Current vs. Forward Voltage

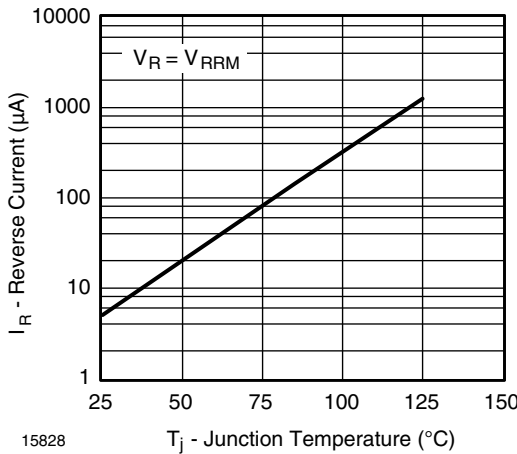


Fig. 2 - Reverse Current vs. Junction Temperature

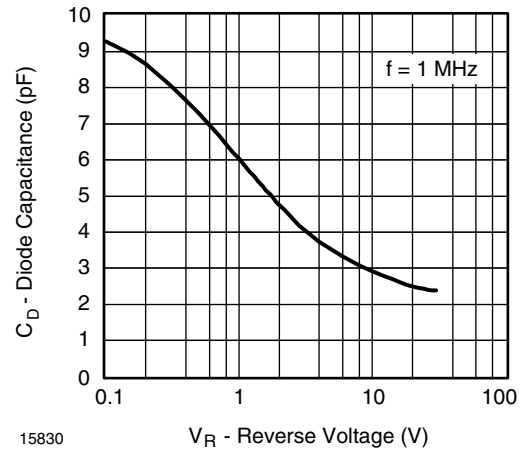
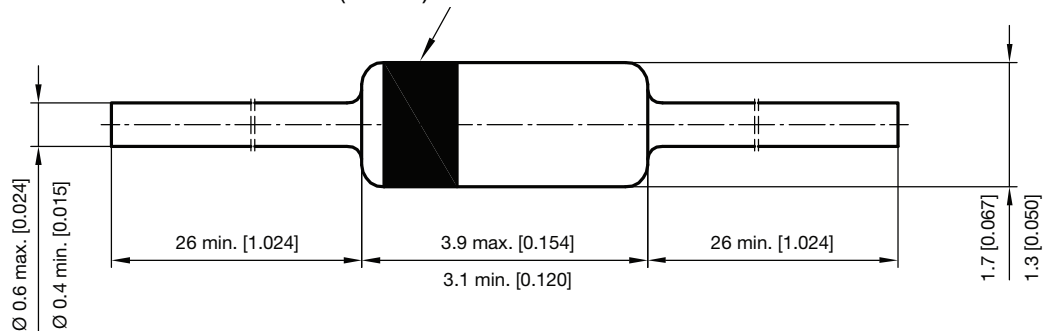


Fig. 4 - Diode Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): **DO-35**



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