

Small Signal Schottky Diode



FEATURES

- Integrated protection ring against static discharge
- Very low forward voltage
- 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 (DO-204AH)

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

LINKS TO ADDITIONAL RESOURCES



3D Models

PARTS TABLE

| PART | ORDERING CODE | CIRCUIT CONFIGURATION | TYPE MARKING | REMARKS |
|--------|-------------------------|-----------------------|--------------|-----------------------|
| BAT86S | BAT86S-TR or BAT86S-TAP | Single | BAT86S | Tape and reel/ammpack |

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25^{\circ}\text{C}$, unless otherwise specified)

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|---------------------------------|---|-----------|-------|------|
| Reverse voltage | | V_R | 50 | V |
| Peak forward surge current | $t_p \leq 10\text{ ms}$ | I_{FSM} | 5 | A |
| Repetitive peak forward current | $t_p \leq 1\text{ s}$ | I_{FRM} | 500 | mA |
| Forward continuous current | | I_F | 200 | mA |
| Average forward current | PCB mounting, $l = 4\text{ mm}$; $V_{RWM} = 25\text{ V}$, $T_{amb} = 50^{\circ}\text{C}$ | I_{FAV} | 200 | mA |

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

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|--|---|------------|-------------|--------------------|
| Thermal resistance junction to ambient air | $l = 4\text{ mm}$, $T_L = \text{constant}$ | R_{thJA} | 320 | K/W |
| Junction temperature | | T_j | 125 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | -65 to +150 | $^{\circ}\text{C}$ |

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

| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|-------------------|---|--------|------|------|------|---------------|
| Forward voltage | $I_F = 0.1\text{ mA}$ | V_F | | | 300 | mV |
| | $I_F = 1\text{ mA}$ | V_F | | | 380 | mV |
| | $I_F = 10\text{ mA}$ | V_F | | | 450 | mV |
| | $I_F = 30\text{ mA}$ | V_F | | | 600 | mV |
| | $I_F = 100\text{ mA}$ | V_F | | | 900 | mV |
| Reverse current | $V_R = 40\text{ V}$ | I_R | | | 5 | μA |
| Diode capacitance | $V_R = 1\text{ V}$, $f = 1\text{ MHz}$ | C_D | | | 8 | pF |

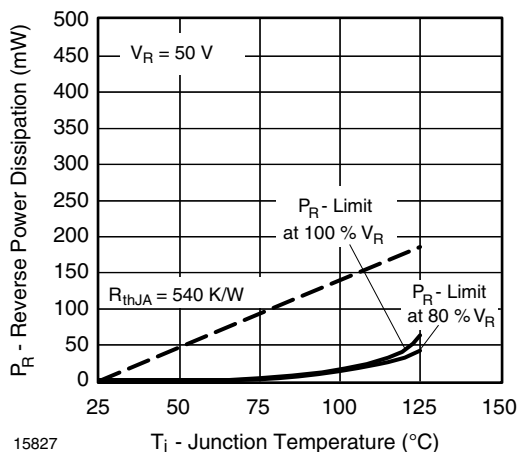
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


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

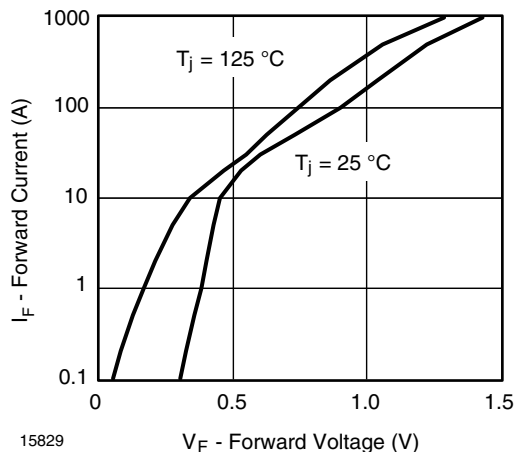


Fig. 3 - Forward Current vs. Forward Voltage

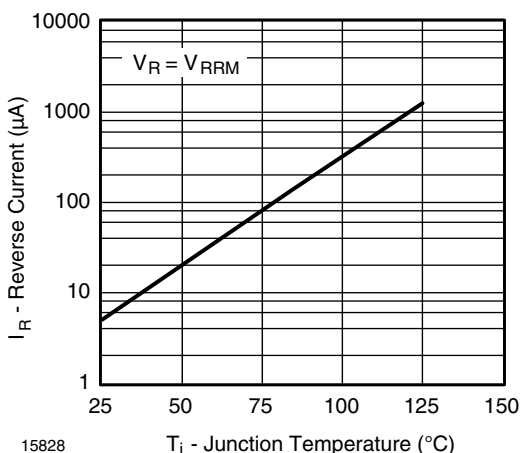


Fig. 2 - Reverse Current vs. Junction Temperature

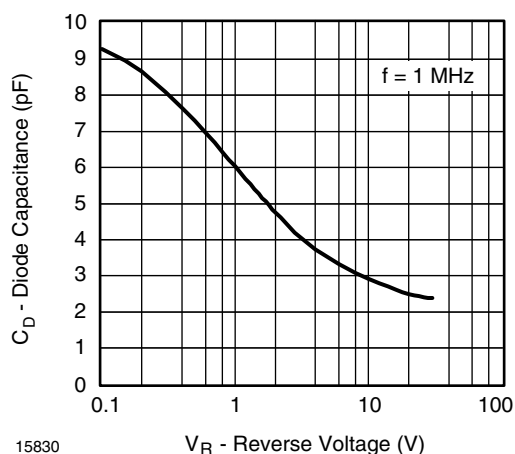
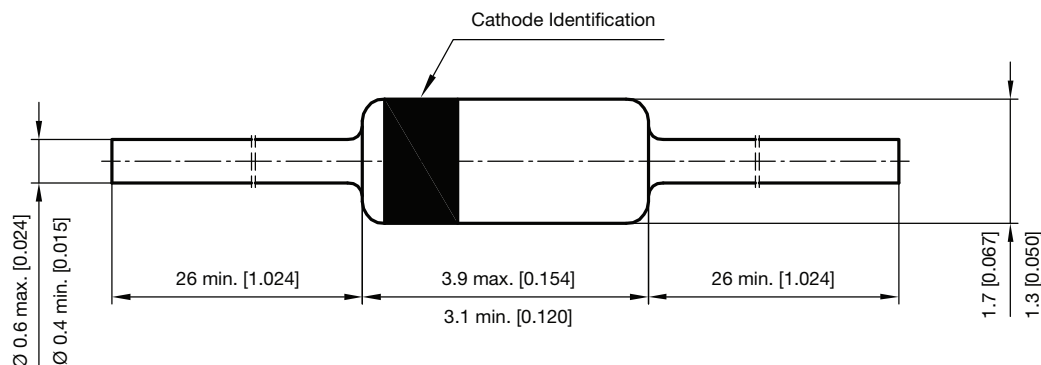


Fig. 4 - Diode Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): **DO-35 (DO-204AH)**


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