



Small Signal Fast Switching Diodes



FEATURES

- Silicon epitaxial planar diode
- Low forward voltage drop
- AEC-Q101 qualified
- High forward current capability
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

APPLICATIONS

- High speed switch and general purpose use in computer and industrial applications

DESIGN SUPPORT TOOLS click logo to get started



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

| PARTS TABLE | | | | |
|-------------|-----------------------|--------------|-----------------------|-------------------------|
| PART | ORDERING CODE | TYPE MARKING | CIRCUIT CONFIGURATION | REMARKS |
| 1N4150 | 1N4150TR or 1N4150TAP | 1N4150 | Single | Tape and reel / ammpack |

| ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | |
|---|--|-------------|-------|------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Repetitive peak reverse voltage | | V_{RRM} | 50 | V |
| Reverse voltage | | V_R | 50 | V |
| Peak forward surge current | $t_p = 1\text{ }\mu\text{s}$ | I_{FSM} | 4 | A |
| Average peak forward current | | I_{FRM} | 600 | mA |
| Forward continuous current | | I_F | 300 | mA |
| Average forward current | $V_R = 0$ | $I_{F(AV)}$ | 150 | mA |
| Power dissipation | $l = 4\text{ mm}, T_L = 45\text{ }^{\circ}\text{C}$ | P_{tot} | 440 | mW |
| | $l = 4\text{ mm}, T_L \leq 25\text{ }^{\circ}\text{C}$ | P_{tot} | 500 | mW |

| THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, 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} | 350 | K/W |
| Junction temperature | | T_j | 175 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | -65 to +175 | $^{\circ}\text{C}$ |

| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | |
|---|---|----------|-------|------|-------|---------------|
| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Forward voltage | $I_F = 1\text{ mA}$ | V_F | 0.540 | | 0.620 | V |
| | $I_F = 10\text{ mA}$ | V_F | 0.660 | | 0.740 | V |
| | $I_F = 50\text{ mA}$ | V_F | 0.760 | | 0.860 | V |
| | $I_F = 100\text{ mA}$ | V_F | 0.820 | | 0.920 | V |
| | $I_F = 200\text{ mA}$ | V_F | 0.870 | | 1 | V |
| Reverse current | $V_R = 50\text{ V}$ | I_R | | | 100 | nA |
| | $V_R = 50\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$ | I_R | | | 100 | μA |
| Diode capacitance | $V_R = 0\text{ V}, f = 1\text{ MHz}, V_{HF} = 50\text{ mV}$ | C_D | | | 2.5 | pF |
| Reverse recovery time | $I_F = I_R = (10\text{ to }100)\text{ mA}, i_R = 0.1 \times I_R, R_L = 100\text{ }\Omega$ | t_{rr} | | | 4 | ns |

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

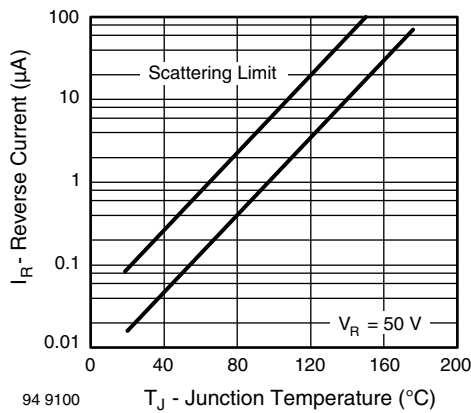


Fig. 1 - Reverse Current vs. Junction Temperature

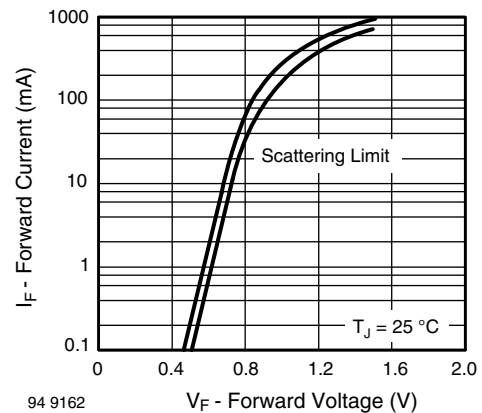
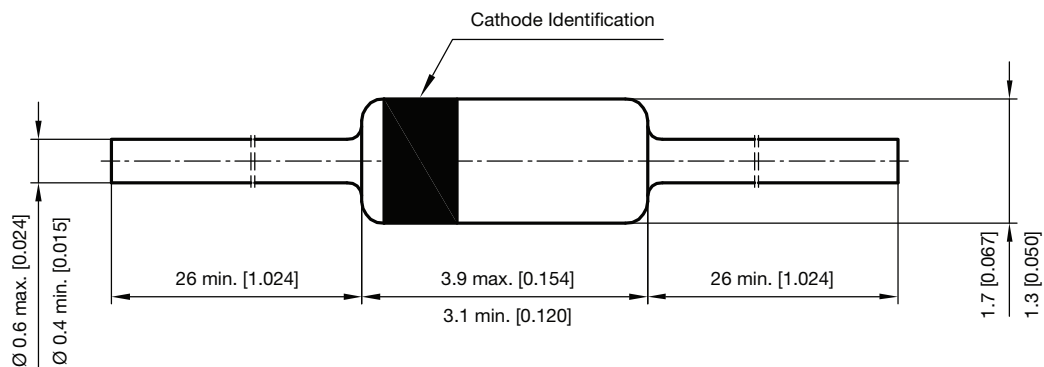


Fig. 2 - Forward Current vs. Forward Voltage

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



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