



# Small Signal Fast Switching Diode, High Voltage



### FEATURES

- Silicon planar diode
- Very low reverse current
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT HALOGEN FREE

### APPLICATIONS

- Protection circuits, delay circuits

### ADDITIONAL RESOURCES



### MECHANICAL DATA

Case: DO-35 (DO-204AH)

Weight: approx. 125 mg

Cathode band color: black

Packaging codes / options:

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

| PARTS TABLE |               |              |                       |          |
|-------------|---------------|--------------|-----------------------|----------|
| PART        | ORDERING CODE | TYPE MARKING | CIRCUIT CONFIGURATION | REMARKS  |
| BAY135      | BAY135-TAP    | BAY135       | Single                | Ampmpack |

| ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified) |                       |                    |       |      |
|---|-----------------------|--------------------|-------|------|
| PARAMETER   | TEST CONDITION        | SYMBOL             | VALUE | UNIT |
| Repetitive peak reverse voltage   |                       | V <sub>RRM</sub>   | 140   | V    |
| Reverse voltage   |                       | V <sub>R</sub>     | 125   | V    |
| Peak forward surge current  | t <sub>p</sub> = 1 μs | I <sub>FSM</sub>   | 2     | A    |
| Average forward current   | f = 50 Hz             | I <sub>F(AV)</sub> | 200   | mA   |

| THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified) |                                     |                   |             |      |
|--|-------------------------------------|-------------------|-------------|------|
| PARAMETER  | TEST CONDITION                      | SYMBOL            | VALUE       | UNIT |
| Thermal resistance junction to ambient air                                     | l = 4 mm, T <sub>L</sub> = constant | R <sub>thJA</sub> | 350         | K/W  |
| Junction temperature   |                                     | T <sub>j</sub>    | 175         | °C   |
| Storage temperature range  |                                     | T <sub>stg</sub>  | -65 to +175 | °C   |

| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |   |            |      |      |      |               |
|--|---|------------|------|------|------|---------------|
| PARAMETER  | TEST CONDITION  | SYMBOL     | MIN. | TYP. | MAX. | UNIT          |
| Forward voltage  | $I_F = 30\text{ mA}$  | $V_F$      |      |      | 1    | V             |
| Reverse current  | $E \leq 300\text{ lx}$ , $V_R = 60\text{ V}$                          | $I_R$      |      |      | 3    | nA            |
|  | $E \leq 300\text{ lx}$ , $V_R$ , $T_j = 125\text{ }^{\circ}\text{C}$  | $I_R$      |      |      | 0.5  | $\mu\text{A}$ |
|  | $E \leq 300\text{ lx}$ , $V_R = 60\text{ V}$                          | $I_R$      |      |      | 1    | nA            |
| Breakdown voltage  | $I_R = 5\text{ }\mu\text{A}$ , $t_p/T = 0.01$ , $t_p = 0.3\text{ ms}$ | $V_{(BR)}$ | 140  |      |      | V             |
| Diode capacitance  | $V_R = 0\text{ V}$ , $f = 1\text{ MHz}$ ,                             | $C_D$      |      |      | 5    | pF            |

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

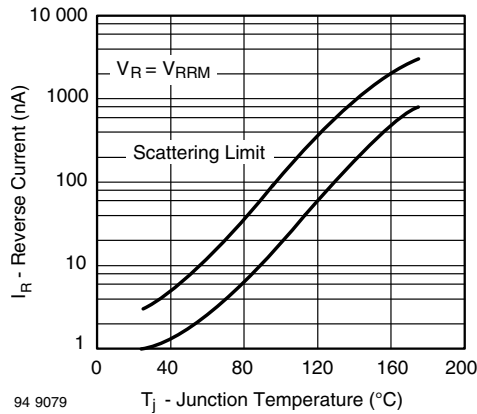


Fig. 1 - Reverse Current vs. Junction Temperature

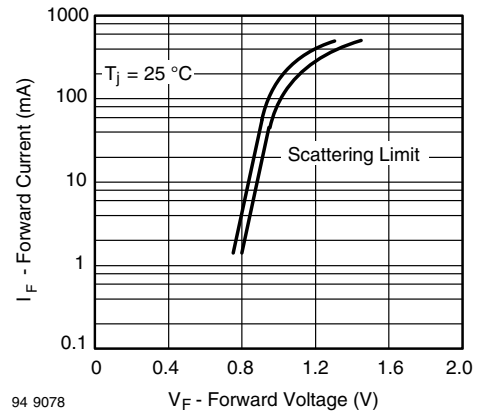
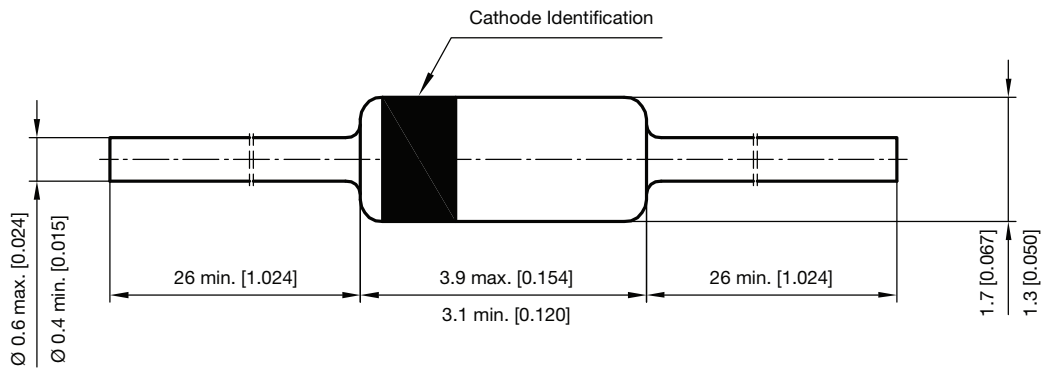


Fig. 2 - Forward Current vs. Forward Voltage

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



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