

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

| PARAMETER                       | TEST CONDITION               | SYMBOL      | VALUE | UNIT |
|---------------------------------|------------------------------|-------------|-------|------|
| Repetitive peak reverse voltage |                              | $V_{RRM}$   | 140   | V    |
| Reverse voltage                 |                              | $V_R$       | 125   | V    |
| Peak forward surge current      | $t_p = 1\text{ }\mu\text{s}$ | $I_{FSM}$   | 2     | A    |
| Average forward current         | $f = 50\text{ Hz}$           | $I_{F(AV)}$ | 200   | mA   |

## 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 | $^{\circ}\text{C}$ |

| <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            |

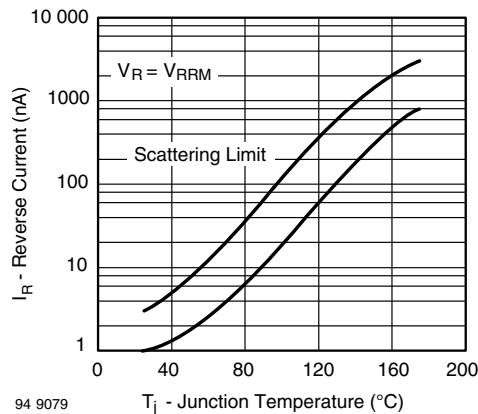
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Reverse Current vs. Junction Temperature

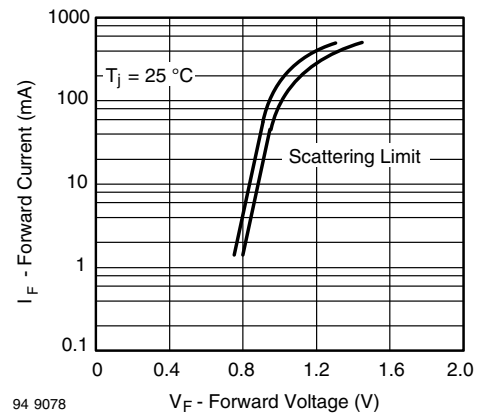
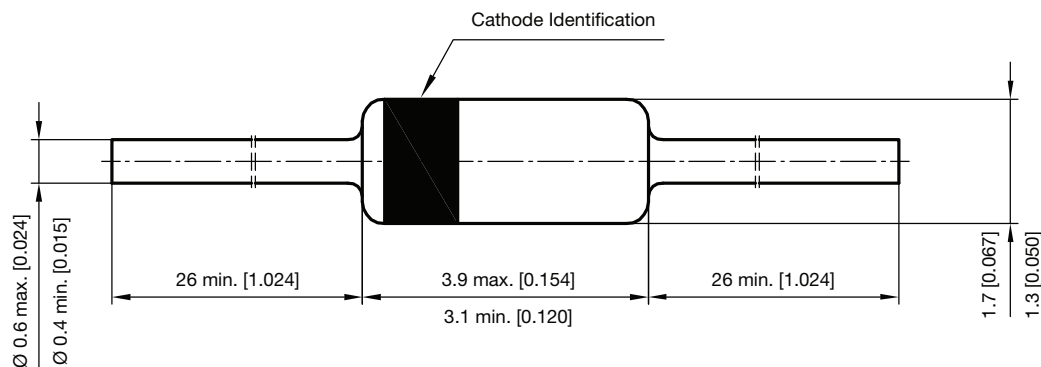


Fig. 2 - Forward Current vs. Forward Voltage

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


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