# High Conductance Ultra Fast Diode

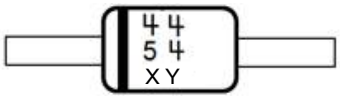
# 1N4454

Sourced from Process 1R. See MMBD1201−1205 for characteristics.

**AXIAL LEAD**
**(DO−35)**
**CASE 017AG**

(Color Band Denotes Cathode)

## MARKING DIAGRAM




4454 = Specific Device Code
XY = Date Code
Band Color: Black

## ABSOLUTE MAXIMUM RATINGS

($T_A$ = 25°C unless otherwise noted) (Notes 1, 2, 3)

| Symbol | Rating | Value | Unit |
|---|---|---|---|
| $W_{IV}$ | Working Inverse Voltage | 50 | V |
| $I_O$ | Average Rectified Current | 200 | mA |
| $I_F$ | DC Forward Current | 400 | mA |
| $i_f$ | Recurrent Peak Forward Current | 600 | mA |
| $i_{f(surge)}$ | Peak Forward Surge Current<br>Pulse Width = 1.0 s<br>Pulse Width = 1.0 μs | <br>1.0<br>4.0 | A |
| $T_{STG}$ | Storage Temperature Range | −65 to +200 | °C |
| $T_J$ | Operating Junction Temperature | 175 | °C |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. These ratings are limiting values above which the serviceability of any semiconductor devices may be impaired.
2. These ratings are based on a maximum junction temperature of 200°C.
3. These are steady limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

## THERMAL CHARACTERISTICS

| Symbol | Parameter | Max | Unit |
|---|---|---|---|
| $P_D$ | Total Power Dissipation<br>Derate above 25°C | 500<br>3.33 | mW<br>mW/°C |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 300 | °C/W |

## ORDERING INFORMATION

| Device | Package | Shipping† |
|---|---|---|
| 1N4454 | DO−35<br>(Pb−Free) | 5,000 Units / Bulk |
| 1N4454TR | DO−35<br>(Pb−Free) | 10,000 Units / Tape & Reel |

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

## ELECTRICAL CHARACTERISTICS

($T_A$ = 25°C unless otherwise noted)

| Symbol | Parameter | Conditions | Min | Max | Unit |
|---|---|---|---|---|---|
| $B_V$ | Breakdown Voltage | $I_R$ = 5.0 μA | 75 | – | V |
| $I_R$ | Reverse Current | $V_R$ = 50 V<br>$V_R$ = 50 V, $T_A$ = 150°C | –<br>– | 100<br>100 | nA<br>μA |
| $V_F$ | Forward Voltage | $I_F$ = 250 μA<br>$I_F$ = 1.0 mA<br>$I_F$ = 2.0 mA<br>$I_F$ = 10 mA | 505<br>550<br>610<br>– | 575<br>650<br>710<br>1.0 | mV<br>mV<br>mV<br>V |
| $C_O$ | Diode Capacitance | $V_R$ = 0, f = 1.0 MHz | – | 4.0 | pF |
| $T_{RR}$ | Reverse Recovery Time | $I_F$ = 10 mA, $V_R$ = 1.0 V, $I_{rr}$ = 1.0 mA, $R_L$ = 100 Ω | – | 4.0 | ns |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

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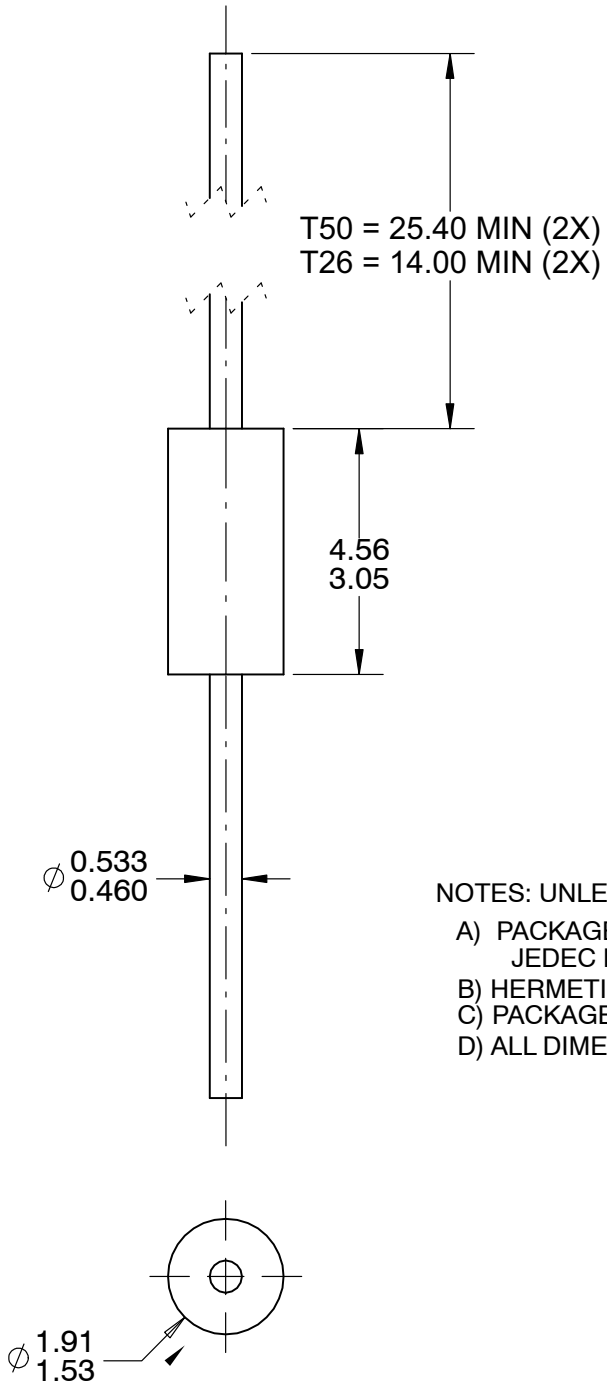
ISSUE O

DATE 31 AUG 2016




NOTES: UNLESS OTHERWISE SPECIFIED

A) PACKAGE STANDARD REFERENCE:
JEDEC DO−204, VARIATION AH.
B) HERMETICALLY SEALED GLASS PACKAGE.
C) PACKAGE WEIGHT IS 0.137 GRAM.
D) ALL DIMENSIONS ARE IN MILLIMETERS.

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