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1N4454



DO-35

High Conductance Ultra Fast Diode

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

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|---------------|--------------------------------|-------------|-------|
| 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 |
| $i_{(surge)}$ | Peak Forward Surge Current | | |
| | Pulse width = 1.0 second | 1.0 | A |
| | Pulse width = 1.0 microsecond | 4.0 | A |
| T_{stg} | Storage Temperature Range | -65 to +200 | °C |
| T_J | Operating Junction Temperature | 175 | °C |

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 200 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

| Symbol | Characteristic | Max | Units |
|-----------------|---|--------|-------|
| | | 1N4454 | |
| P_D | Total Device Dissipation Derate above 25°C | 500 | mW |
| | | 3.33 | mW/°C |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 300 | °C/W |

High Conductance Ultra Fast Diode

(continued)

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Electrical Characteristics

TA = 25°C unless otherwise noted

| Symbol | Parameter | Test Conditions | Min | Max | Units |
|----------|-----------------------|--|-------------------|--------------------------|---------------------|
| B_V | Breakdown Voltage | $I_R = 5.0 \mu A$ | 75 | | V |
| I_R | Reverse Current | $V_R = 50 V$ $V_R = 50 V, T_A = 150^\circ C$ | | 100 100 | nA μA |
| V_F | Forward Voltage | $I_F = 250 \mu A$ $I_F = 1.0 mA$ $I_F = 2.0 mA$ $I_F = 10 mA$ | 505 550 610 | 575 650 710 1.0 | mV mV mV V |
| C_O | Diode Capacitance | $V_R = 0, f = 1.0 MHz$ | | 4.0 | pF |
| T_{RR} | Reverse Recovery Time | $I_F = 10 mA, V_R = 1.0 V,$ $I_{rr} = 1.0 mA, R_L = 100 \Omega$ | | 4.0 | nS |

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