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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
$i_{f(surge)}$	Peak Forward Surge Current Pulse width = 1.0 second Pulse width = 1.0 microsecond	1.0 4.0	A 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

$T_A = 25^\circ\text{C}$  unless otherwise noted

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

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