FAIRCHILD SEMICONDUCTOR TM

Discrete POWER & Signal Technologies

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 3.33	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	300	°C/W

High Conductance Ultra Fast Diode

(continued)

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
B_V	Breakdown Voltage	I_R = 5.0 µA	75		V
I_R	Reverse Current	V_R = 50 V V_R = 50 V, T_A = 150°C		100 100	nA µA
V_F	Forward Voltage	I_F = 250 µA 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 Ω		4.0	nS