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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	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)

1N4454

Electrical Characteristics

TA = 25°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 μA
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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