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1N4150 High Conductance Ultra Fast Diode

Features:

- DO-35 Package

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$, Note 1 unless otherwise specified)

Working Inverse Voltage, W_{IV}	50V
Total Device Dissipation, P_D	500mW
Derate above $+25^\circ\text{C}$	3.33mW/ $^\circ\text{C}$
Average Rectified Current, I_O	200mA
DC Forward Current, I_F	400mA
Recurrent Peak Forward Current, i_f	600mA
Peak Forward Surge Current, $I_{F(\text{surge})}$	
Pulse Width = 1.0 second	1.0A
Pulse Width = 1.0 microsecond	4.0A
Operating Junction Temperature, T_J	$+175^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° to $+200^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient, R_{thJA}	$+300^\circ\text{C/W}$

Note 1. These ratings are limiting values above which the serviceability of the device may be impaired.

Note 2. These ratings are based on a maximum junction temperature of $+200^\circ\text{C}$.

Note 3. These are steady state limits.

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Breakdown Voltage	B_V	$I_R = 5\mu\text{A}$	75	-	-	V
Forward Voltage	V_F	$I_F = 1\text{mA}$	540	-	620	mV
		$I_F = 10\text{mA}$	660	-	740	mV
		$I_F = 50\text{mA}$	760	-	860	mV
		$I_F = 100\text{mA}$	820	-	920	mV
		$I_F = 200\text{mA}$	0.87	-	1.0	V

Electrical Characteristics (Cont'd): ($T_A = +25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Current	I_R	$V_R = 50\text{V}$	-	-	100	nA
		$V_R = 50\text{V}, T_A = +150^\circ\text{C}$	-	-	100	μA
Diode Capacitance	C_O	$V_R = 0, f = 1\text{MHz}$	-	-	2.5	pF
Reverse Recovery Time	t_{rr}	$I_F = I_R = 10\text{mA to } 200\text{mA}, R_L = 100\Omega$	-	-	4	ns
		$I_F = I_R = 200\text{mA to } 400\text{mA}, R_L = 100\Omega$	-	-	6	ns
Forward Recovery Time	t_{fr}	$I_F = 200\text{mA}, V_{FR} = 1\text{V}$	-	-	10	ns

