



**ELECTRONICS, INC.**  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089  
<http://www.nteinc.com>

## 1N3600 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 (Note 2), $P_D$ .....	500mW
Derate above $+25^\circ\text{C}$ .....	3.33mW/ $^\circ\text{C}$
Average Rectified Current, $I_O$ .....	200mA
DC Forward Current, $I_F$ .....	400mA
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, $T_{\text{stg}}$ .....	$-65^\circ$ to $+200^\circ\text{C}$
Lead Temperature (During Soldering), $T_L$ .....	$+260^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient, $R_{\text{thJA}}$ .....	$+300^\circ\text{C/W}$

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

Note 2. These 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
Reverse Current	$I_R$	$V_R = 50\text{V}$	-	-	100	nA
		$V_R = 50\text{V}, T_A = +150^\circ\text{C}$	-	-	100	$\mu\text{A}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Capacitance	C	$V_R = 0, f = 1\text{MHz}$	-	-	2.5	pF
Reverse Recovery Time	$t_{rr}$	$I_F = I_R = 10\text{mA to } 200\text{mA},$ $R_L = 100\Omega, \text{ Note 3}$	-	-	4	ns
		$I_F = I_R = 200\text{mA to } 400\text{mA},$ $R_L = 100\Omega, \text{ Note 3}$	-	-	6	ns
Forward Recovery Time	$t_{fr}$	$I_F = 200\text{mA}, t_r = 0.4\text{ns}, V_{fr} = 1\text{V}$	-	-	10	ns

Note 3. Recovery to 0.1  $t_f$ .

