



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

NTE3038 Phototransistor Silicon, NPN, Visible

Features:

- High Sensitivity: $I_L = 1\text{mA}$ (Typ)
- Small Size
- Saturation Level Directly Compatible with Most TTL

Applications:

- Optical Switch
- Position Sensor
- Tape, Card Readers

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

Collector-Emitter Voltage, V_{CEO}	30V
Emitter-Collector Voltage, V_{ECO}	5V
Collector Current, I_C (I_L)	40mA
Collector Power Dissipation, P_C	75mW
Derate Above 25°C	1.0mW/ $^\circ\text{C}$
Operating Temperature Range, T_{opr}	-25° to $+85^\circ\text{C}$
Storage Temperature Range, T_{stg}	-30° to $+100^\circ\text{C}$

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

Parameter		Symbol	Test Conditions	Min	Typ	Max	Unit
Dark Current		I_D (I_{CEO})	$V_{CE} = 16\text{V}$, $E = 0$	-	30	250	nA
Light Current		I_L	$V_{CE} = 3\text{V}$, $E = 0.01\text{mW/cm}^2$	0.15	1	-	mA
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 0.08\text{mA}$, $E = 0.01\text{mW/cm}^2$	-	0.9	1.2	V
Switching Time	Rise Time	t_r	$V_{CC} = 5\text{V}$, $I_C = 10\text{mA}$, $R_L = 100\Omega$	-	0.2	-	ms
	Fall Time	t_f		-	0.1	-	ms

