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## NTE3037 Silicon NPN Phototransistor Detector

**Description:**

The NTE3037 is designed for counters, Industrial and process control, sorters, switching and logic controls. This device is packaged in a TO-18 case with domed glass lid.

**Features:**

- High Sensitivity
- Base Contact Externally Available
- Saturation Level Directly Compatible with Most TTL

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

Collector–Emitter Voltage, $V_{CEO}$ .....	40V
Collector–Base Voltage, $V_{CBO}$ .....	50V
Emitter–Base Voltage, $V_{EBO}$ .....	5V
Emitter–Collector Voltage, $V_{ECO}$ .....	5V
Collector Current ( $I_L$ ), $I_C$ .....	50mA
Collector Power Dissipation, $P_C$ .....	150mW
Derate Above $25^\circ\text{C}$ .....	1.2mW/ $^\circ\text{C}$
Operating Temperature Range, $T_{opr}$ .....	$-30^\circ$ to $+125^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-65^\circ$ to $+150^\circ\text{C}$
Lead Temperature (During Soldering, 1.5mm from body, 5sec max), $T_L$ .....	$+260^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dark Current	$I_D$ ( $I_{CEO}$ )	$V_{CE} = 30V, E = 0$	–	10	200	$\mu\text{A}$
Light Current	$I_L$	$V_{CE} = 3V, E = 0.1\text{mW}/\text{cm}^2$ , Note 1	60	200	–	$\mu\text{A}$
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 30\mu\text{A}, E = 0.1\text{mW}/\text{cm}^2$ , Note 1	–	0.25	0.4	V
Rise Time	$t_r$	$V_{CC} = 10V, I_C = 10\text{mA}$ , $R_L = 100\Omega$	–	2	–	$\mu\text{s}$
Fall Time	$t_f$		–	2	–	$\mu\text{s}$

Note 1. Color temperature =  $2870^\circ\text{K}$ , Standard Tungsten Lamp.

