

NTE3035A Phototransistor Detector

Description:

The NTE3035A is designed for a wide variety of industrial processing and control applications requiring a sensitive detector. The NTE3034A is an identical package and is designed to be used with the NTE3029A infrared emitter.

Features:

- Miniature, Low Profile, Clear Plastic Package
- Designed for Automatic Handling and Accurate Positioning
- Side Looking, with Molded Lens
- High Volume, Economical

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

Collector-Emitter Voltage, V_{CEO} 60V
 Total Device Dissipation ($T_A = +25^\circ\text{C}$), P_D 150mW
 Derate Above 25°C (Note 1) 2mW/ $^\circ\text{C}$
 Operating Junction Temperature Range, T_J -40° to $+100^\circ\text{C}$
 Storage Temperature Range, T_{stg} -40° to $+100^\circ\text{C}$
 Lead Temperature (During Soldering, 1/16" from case, 5sec max., Note 2), T_L $+260^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Dark Current	I_D	$V_{CE} = 10\text{V}$, $H \approx 0$	–	–	100	nA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}$, $H \approx 0$	60	–	–	V
Capacitance	C_{ce}	$V_{CC} = 5\text{V}$, $f = 1\text{MHz}$	–	3.9	–	pF

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Light Current	I_L	$V_{CE} = 5\text{V}$, $H = 500\mu\text{W}/\text{cm}^2$, $\lambda = 940\text{nm}$	5	25	–	mA
Turn-On Time	t_{on}	$H = 500\mu\text{W}/\text{cm}^2$, $V_{CC} = 5\text{V}$, $R_L = 100\Omega$	–	125	–	μs
Turn-Off Time	t_{off}		–	150	–	μs
Saturation Voltage	$V_{CE(sat)}$	$H = 500\mu\text{W}/\text{cm}^2$, $\lambda = 940\text{nm}$, $I_C = 2\text{mA}$, $V_{CC} = 5\text{V}$	–	0.75	1.0	V
Wavelength of Maximum Sensitivity	λ_s		–	0.8	–	μm

Note 1. Measured with device soldered into a typical PC board.

Note 2. Heat sink should be applied to leads during soldering to prevent case temperature from exceeding $+100^\circ\text{C}$.

