

NTE3031 Phototransistor Detector NPN-Si, Visible & IR

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

Collector-Emitter Voltage, V_{CEO}	30V
Emitter-Collector Voltage, V_{ECO}	5V
Continuous Device Dissipation, P_D	150mW
Derate Above 25°C	1.43mW/ $^\circ\text{C}$
Operating Junction Temperature Range, T_J	-55° to $+125^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° to $+150^\circ\text{C}$
Lead temperature (During Soldering, 3 min), 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
Static Characteristics						
Collector Dark Current	I_D	$V_{CE} = 10\text{V}$	—	—	100	nA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 100\mu\text{A}$	30	—	—	V
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	$I_E = 100\mu\text{A}$	5	—	—	V
Saturation Voltage	$V_{CE(sat)}$	$I_C = 0.4\text{mA}$	—	0.2	—	V
Optical Characteristics						
Light Current	I_L	$V_{CE} = 5\text{V}$, $R_L = 100\Omega$, Note 1	1	—	—	mA
Photo Current Rise Time	t_r	$R_L = 1000\Omega$, $V_{CC} = 5\text{V}$, $I_L = 1\text{mA}$ (Peak)	—	6	—	μs

Note 1. Radiation flux density (H) equal to $5\text{mW}/\text{cm}^2$ emitted from a tungsten source at a color temperature of 2875 K .

Note 2. Angular response is defined as the total included angle between the half sensitivity points and assuming a point source.

