ELECTRONICS, INC.
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NTE3032
Phototransistor Detector
NPN–Si, Visible & IR

Description:

The NTE3032 is a silicon NPN phototransistor detector in a TO18 type package designed for use in industrial inspection, processing and control, counter, sorter, switching, and logic circuit applications or any design requiring radiation sensitivity and stable characteristics.

Features:

- Sensitive Throughout Visible and Near Infrared Spectral Range for Wider Application
- Minimum Light Current: 8mH @ H = 5mW/cm^2
- External Base for Added Control
- Annular Passivated Structure for Stability and Reliability
- Popular TO18 Type Package for Easy Handling and Mounting

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

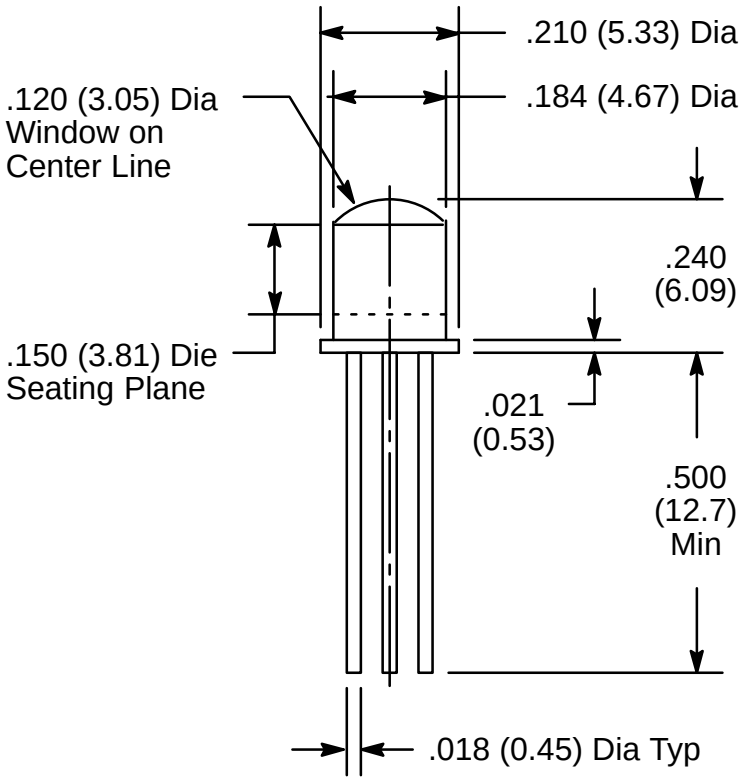
Collector–Emitter Voltage, V_{CEO} 30V
Collector–Base Voltage, V_{CBO} 80V
Emitter–Collector Voltage, V_{ECO} 5V
Total Device Dissipation, P_D 150mW
Derate Above 25°C . . . . . 1.43mW/°C
Operating Junction Temperature Range, T_J . . . . . –65° to +150°C
Storage Temperature Range, T_{stg} . . . . . –65° to +150°C

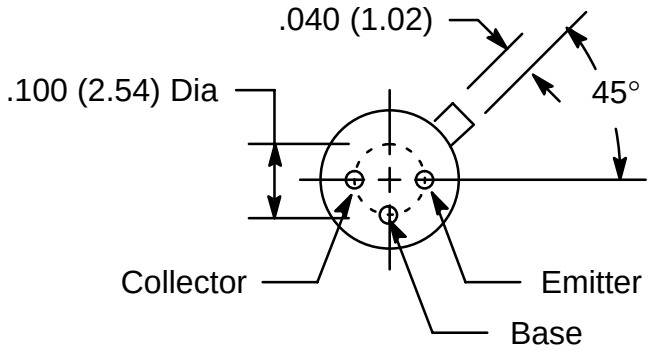
Electrical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Collector Dark Current	I_{CEO}	V_{CC} = 10V, H ~ 0	–	–	100	nA
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 100μA	80	–	–	V
Emitter–Collector Breakdown Voltage	$V_{(BR)ECO}$	I_E = 100μA	5	–	–	V
Optical Characteristics						
Light Current	I_L	V_{CC} = 5V, R_L = 100Ω, Note 1	8	–	–	mA
Photo Current Rise Time	t_r	R_L = 100Ω, I_L = 1mA (Peak), Note 2	–	15	–	μs
Photo Current Fall Time	t_f		–	15	–	μs

Note 1. Radiation flux density (H) equal to 5mW/cm^2 emitted from a tungsten source at a color temperature of 2870 K.

Note 2. For unsaturated response time measurement, radiation is provided by pulsed GaAs (gallium arsenide) light–emitting diode (λ ~ μm) with a pulse width equal to or greater than 10μs, I_L = 1mA Peak.


.210 (5.33) Dia
.184 (4.67) Dia
.120 (3.05) Dia
Window on
Center Line
.240
(6.09)
.150 (3.81) Die
Seating Plane
.021
(0.53)
.500
(12.7)
Min
.018 (0.45) Dia Typ


.040 (1.02)
.100 (2.54) Dia
45°
Collector
Emitter
Base