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NTE30133 Infrared Phototransistor 1.9mm Type SMD Package

Description:

The NTE30133 is a phototransistor in a miniature SMD package which is molded in a water clear plastic with a spherical top view lens. This device is spectrally matched for use with infrared emitting diodes such as the NTE30132.

Features:

- Fast Response Time
- High Photo Sensitivity
- Low Junction Capacitance
- Compatible with Infrared and Vapor Phase Reflow Solder Process
- Silicon Chip Material
- Water Clear Lens
- For Use with NTE30132

Applications:

- Miniature Switch
- Counters and Sorter
- Position Sensor
- Infrared Applied System

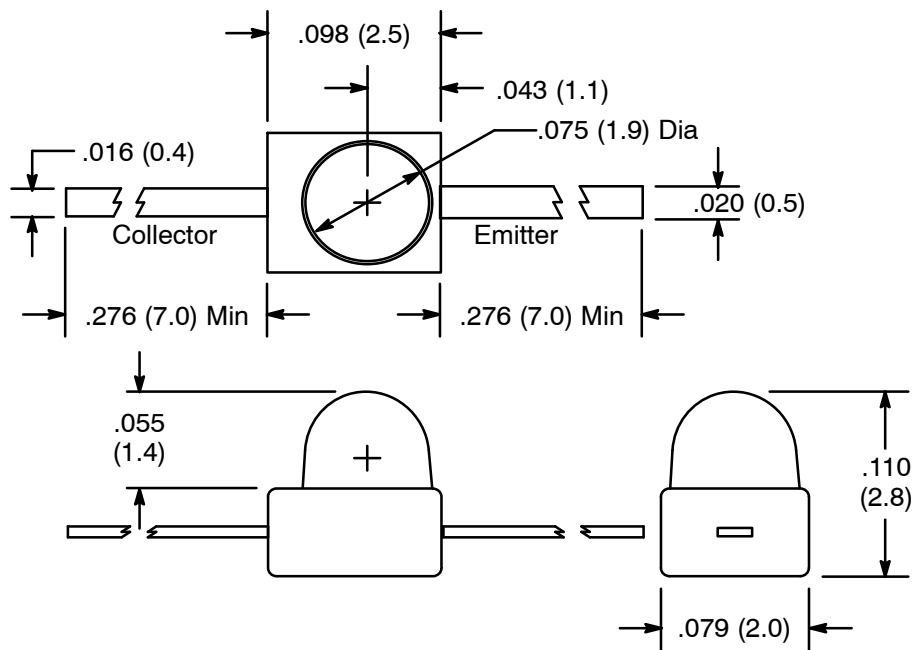
Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

| | |
|---|------------------------------------|
| Collector–Emitter Voltage, V_{CEO} | 30V |
| Emitter–Collector Voltage, V_{ECO} | 5V |
| Collector Current, I_C | 20mA |
| Power Dissipation (at or below $T_A = +25^\circ\text{C}$), P_D | 75mW |
| Operating Temperature Range, T_{opr} | -25° to $+85^\circ\text{C}$ |
| Storage Temperature Range, T_{stg} | -40° to $+85^\circ\text{C}$ |
| Soldering Temperature (5sec Max), T_{sol} | $+260^\circ\text{C}$ |



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

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|-----------------|--|-----|-----|------|---------------|
| Range of Spectrol Bandwidth | $\lambda_{0.5}$ | | 400 | - | 1100 | nm |
| Wavelength of Peak Sensitivity | λ_p | | - | 940 | - | nm |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = 100\mu\text{A}, E_e = 0\text{mW}/\text{cm}^2$ | 30 | - | - | V |
| Emitter-Collector Breakdown Voltage | $V_{(BR)ECO}$ | $I_E = 100\mu\text{A}, E_e = 0\text{mW}/\text{cm}^2$ | 5 | - | - | V |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 2\text{mA}, E_e = 1\text{mW}/\text{cm}^2$ | - | - | 0.4 | V |
| Collector Dark Current | I_{CEO} | $V_{CE} = 20\text{V}, E_e = 0\text{mW}/\text{cm}^2$ | - | - | 100 | nA |
| On-State Collector Current | $I_{C(ON)}$ | $V_{CE} = 5\text{V}, E_e = 1\text{mW}/\text{cm}^2$ | 1.0 | 1.5 | - | mA |
| Rise Time | t_r | $V_{CE} = 5\text{V}, I_C = 1\text{mA}, R_L = 1000\Omega$ | - | 15 | - | μs |
| Fall Time | t_f | | - | 15 | - | μs |



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