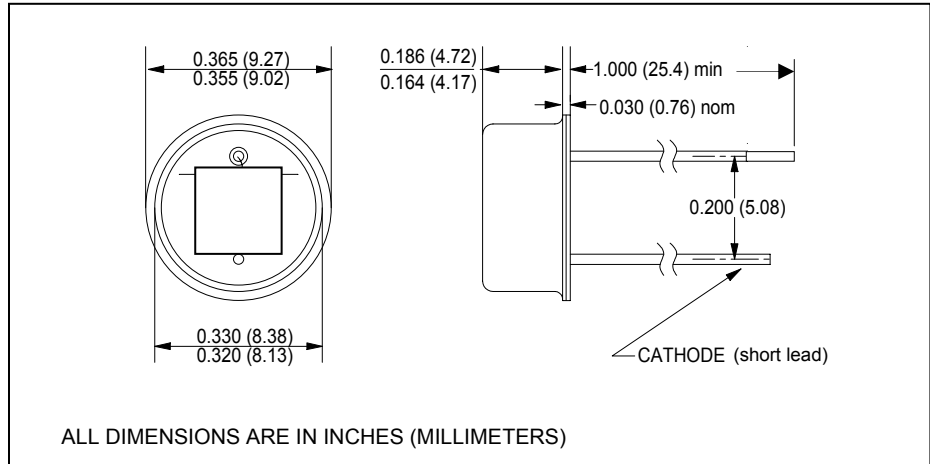


CLD160

Silicon Planar photodiode



July, 2001



features

- 100° acceptance angle
- 860nm peak response
- hermetically sealed TO-5 package
- large photosensitive area
- usable for visible through near-IR

absolute maximum ratings ($T_A = 25^\circ\text{C}$ unless otherwise stated)

| | |
|---|-----------------|
| storage temperature..... | -35°C to +150°C |
| operating temperature..... | -35°C to +150°C |
| lead soldering temperature ⁽¹⁾ | 260°C |
| reverse voltage..... | 30V |
| maximum continuous power dissipation ⁽²⁾ | 250mW |

notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum.
2. Derate linearly 1.60mW/°C free air temperature to $T_A = +150^\circ\text{C}$.

description

The CLD160 is a 0.125" x 0.125" active area silicon photodiode mounted in a flat lensed TO-5 package. Wide acceptance angle permits use in IR air communications ambient light detection, safety and monitoring, security systems, etc. For additional information, call Clairex.

| electrical characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | | |
|---|--|------|------|-----|---------------|---|
| symbol | parameter | min | typ | max | units | test conditions |
| I_{SC} | Short-circuit current ⁽³⁾ | 50.0 | 70.0 | - | μA | $V_{BIAS}=0\text{V}$, $E_e=5\text{mW}/\text{cm}^2$ |
| I_D | Dark current | - | - | 100 | nA | $V_R = 10\text{V}$, $E_e = 0$ |
| V_{BR} | Reverse breakdown | 25 | - | - | V | $I_R = 100\mu\text{A}$ |
| C_J | Junction capacitance ⁽⁴⁾ | - | - | 200 | pF | |
| t_r, t_f | Output rise and fall time ⁽⁵⁾ | - | - | 12 | μs | $R_L = 1\text{k}\Omega$ |
| Θ_{HP} | Total angle at half sensitivity points | - | 100 | - | deg. | |

- notes: 3. Light source is a frosted incandescent lamp with color temperature of 2854K.
 4. Measured at zero bias, $f = 1\text{MHz}$.
 5. Light source is an AlGaAs IRED operating at a peak emission wavelength of 880nm and $E_e = 20\text{mW}/\text{cm}^2$.

Clairex reserves the right to make changes at any time to improve design and to provide the best possible product.

Revised 12/01/04