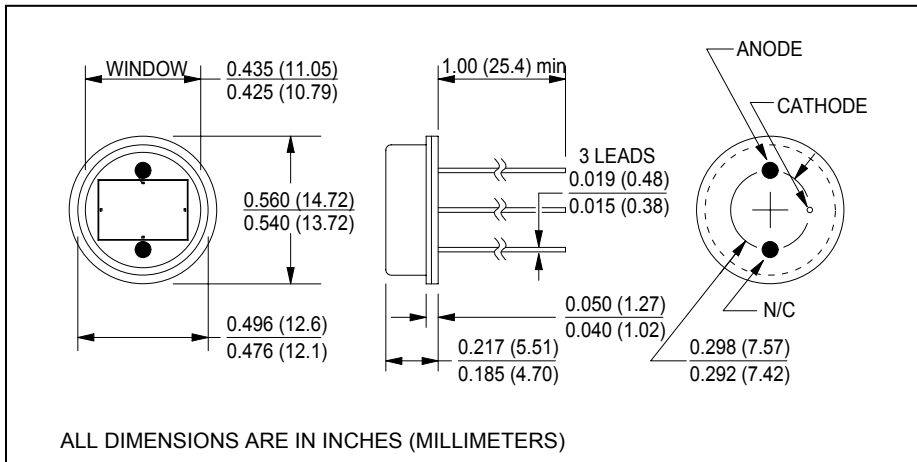


# CLD185, CLD185R

## Large Active Area Silicon Planar photodiodes



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### features

- 120° acceptance angle
- 860nm peak response
- hermetic TO-8 package
- large photosensitive area
- usable for visible through near-IR

### description

The CLD185 and CLD185R are 0.220" x 0.330" active area silicon photodiodes mounted in flat lensed TO-8 packages. Wide acceptance angle permits use in IR air communications ambient light detection, safety and monitoring, security systems, etc. For additional information, call Clairex.

### 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 <sup>(1)</sup> ..... | 260°C                |
| maximum continuous power dissipation .....      | 250mW <sup>(2)</sup> |

### notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum.
2. Derate linearly 2.0mW/°C free air temperature to  $T_A = +150^\circ\text{C}$ .

### electrical characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

| symbol        | parameter                                | min     | typ | max | units         | test conditions                                     |
|---------------|--|---------|-----|-----|---------------|---|
| $I_{SC}$      | Short-circuit current <sup>(1)</sup>     | 250     | -   | -   | $\mu\text{A}$ | $V_{BIAS}=0\text{V}$ , $E_e=5\text{mW}/\text{cm}^2$ |
| $I_D$         | Dark current                             | CLD185  | -   | 100 | nA            | $V_F = 100\text{mV}$ , $E_e = 0$                    |
|               |  | CLD185R | -   | 50  | nA            | $V_R = 15\text{V}$ , $E_e = 0$                      |
| $V_{BR}$      | Reverse breakdown                        | 25      | -   | -   | V             | $I_R = 100\mu\text{A}$                              |
| $C_J$         | Junction capacitance <sup>(2)</sup>      | -       | -   | 250 | pF            |   |
| $t_r, t_f$    | Output rise and fall time <sup>(3)</sup> | -       | -   | 40  | $\mu\text{s}$ | $R_L = 1\text{k}\Omega$                             |
| $\Theta_{HP}$ | Total angle at half sensitivity points   | -       | 120 | -   | deg.          |   |

- notes: 1. Light source is a frosted incandescent lamp with color temperature of 2854K.  
 2. Measured at zero bias,  $f = 1\text{MHz}$ .  
 3. 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.