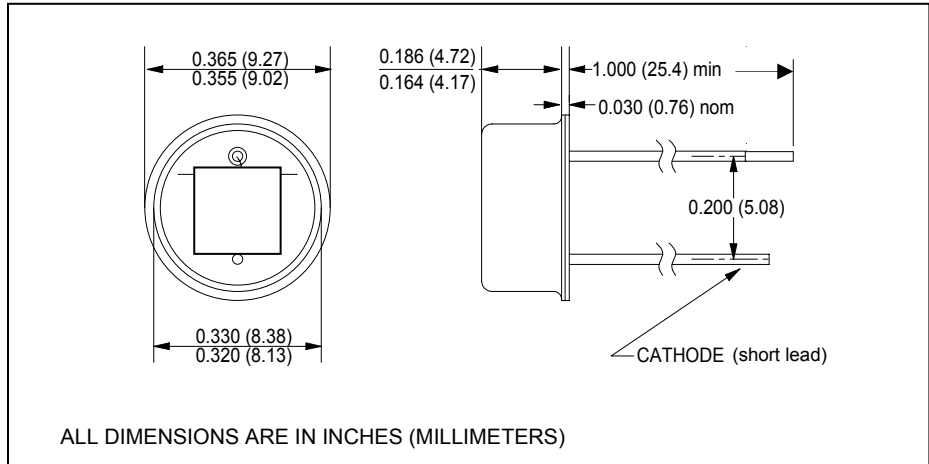
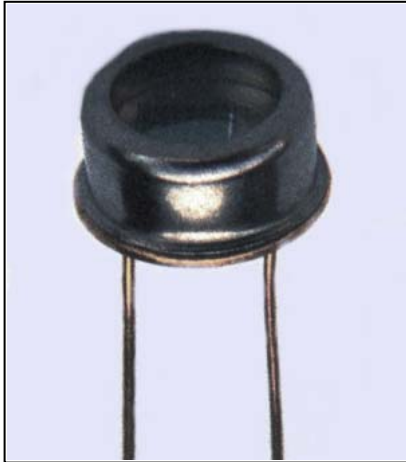


# CLD160

## Large Active Area Silicon Planar photodiode



July, 2001



### features

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

### description

The CLD160 is a 0.122" x 0.122" active area silicon photodiode mounted in a flat window 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.

### absolute maximum ratings (T<sub>A</sub> = 25°C unless otherwise stated)

storage temperature.....	-65°C to +150°C
operating temperature.....	-65°C to +150°C
lead soldering temperature <sup>(1)</sup> .....	260°C
reverse voltage.....	30V
continuous power dissipation <sup>(2)</sup> .....	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<sub>A</sub> = +150°C.

electrical characteristics (T <sub>A</sub> = 25°C unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
I <sub>SC</sub>	Short-circuit current <sup>(3)</sup>	-	50	-	μA	V <sub>BIAS</sub> = 0V, E <sub>e</sub> = 5mW/cm <sup>2</sup>
I <sub>D</sub>	Dark current	-	-	5.0	nA	V <sub>R</sub> = 15V, E <sub>e</sub> = 0
V <sub>O</sub>	Open circuit voltage <sup>(3)</sup>	-	0.35	-	V	E <sub>e</sub> = 5mW/cm <sup>2</sup>
V <sub>BR</sub>	Reverse breakdown	25	-	-	V	I <sub>R</sub> = 100μA
C <sub>J</sub>	Junction capacitance	-	-	200	pF	V <sub>BIAS</sub> = 0V, f = 1MHz
t <sub>r</sub> , t <sub>f</sub>	Output rise and fall time <sup>(4)</sup>	-	-	12	μs	R <sub>L</sub> = 1kΩ
Θ <sub>HP</sub>	Total angle at half sensitivity points	-	100	-	deg.	

- notes: 3. Radiation source is a frosted tungsten lamp with color temperature of 2854K or equivalent.  
 4. Radiation source is an AlGaAs IRED operating at a peak emission wavelength of 880nm and E<sub>e</sub> = 20mW/cm<sup>2</sup>.

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

Revised 3/15/06