

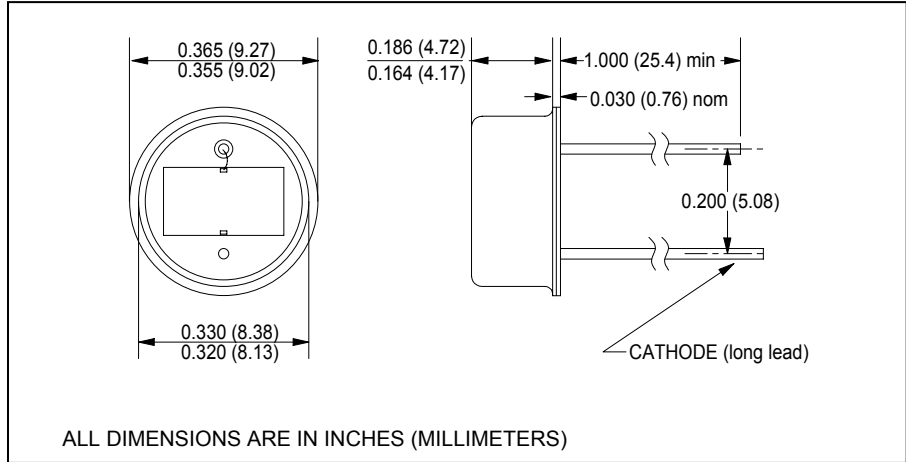
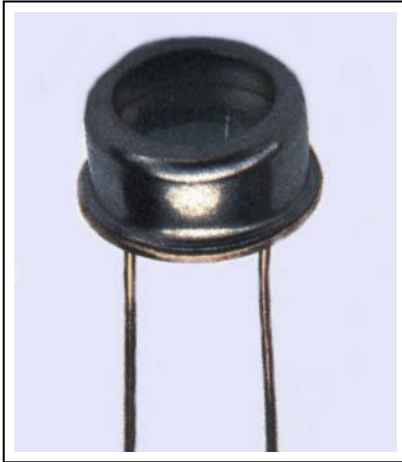
# CLD156

## Large Active Area Silicon Planar photodiode

This product is tested to satisfy the conditions of both the CLD156 and the CLD156R.



May, 2001



### features

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

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

storage temperature.....	-65°C to +150°C
operating temperature.....	-65°C to +150°C
lead soldering temperature <sup>(1)</sup> .....	260°
reverse voltage.....	30V
continuous power dissipation <sup>(2)</sup> .....	200mW

### description

The CLD156 and CLD156R are 0.122" x 0.222" active area silicon photodiodes featuring high linearity and low dark current. The TO-5 header provides thermal environment for reliable operation over a wide temperature range. Wide acceptance angle permits use in IR air communications, ambient light detection, safety and monitoring, security systems, etc. For additional information, call Clairex.

### notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum.
2. Derate linearly 1.28mW/°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>(3)</sup>	-	100	-	$\mu\text{A}$	$V_{BIAS} = 0\text{V}$ , $E_e = 5\text{mW}/\text{cm}^2$
$I_D$	Dark current	-	-	50	nA	$V_F = 100\text{mV}$ , $E_e = 0$
		-	-	50	nA	$V_R = 15\text{V}$ , $E_e = 0$
$V_O$	Open circuit voltage <sup>(3)</sup>	-	0.35	-	V	$E_e = 5\text{mW}/\text{cm}^2$
$V_{BR}$	Reverse breakdown	25	-	-	V	$I_R = 100\mu\text{A}$
$C_J$	Junction capacitance	-	-	400	pF	$V_{BIAS} = 0\text{V}$ , $f = 1\text{MHz}$
$t_r, t_f$	Output rise and fall time <sup>(4)</sup>	-	-	10	$\mu\text{s}$	$R_L = 1\text{k}\Omega$
$\Theta_{HP}$	Total angle at half sensitivity points	-	100	-	deg.	

notes: 3. Radiation source is a frosted tungsten lamp at a color temperature of 2854K or equivalent.

4. Radiation 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 3/15/06