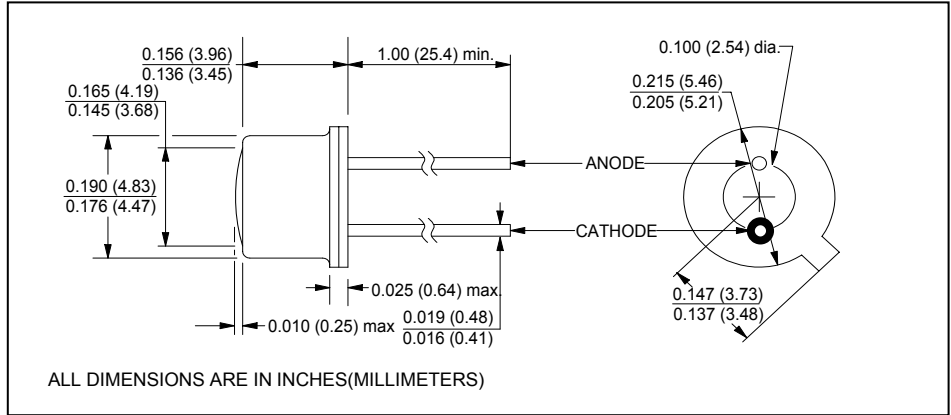


# CLD340

## High Temperature AlGaAs Photodiode



January, 2002



### features

- usable at 225°C
- 880nm wavelength
- narrow response range
- hermetically sealed TO-46

### package

- ±35° acceptance angle

### description

The CLD340 is a high temperature AlGaAs photodiode designed for sensitivity from 830 to 910nm. This specialty detector eliminates the need for signal modulation or filtering of ambient light when used where background illumination could cause problems. The 0.040" by 0.040" chip is mounted in a flat window TO-46 package. The CLE335 is recommended for optical coupling.

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

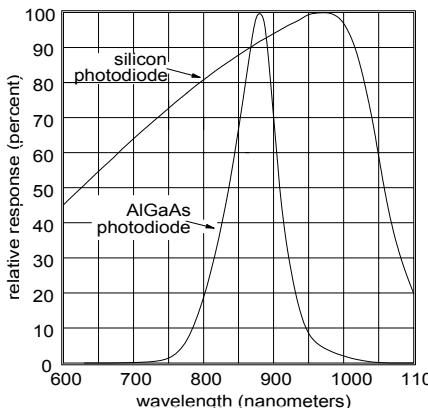
storage temperature .....	-65°C to +250°C
operating temperature .....	-65°C to +225°C
lead soldering temperature <sup>(1)</sup> .....	260°C
reverse voltage .....	10V
continuous power dissipation <sup>(2)</sup> .....	250mW

### notes:

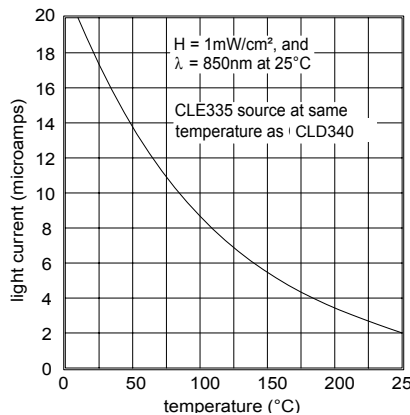
1. 0.06" (1.5mm) from the header for 5 seconds maximum.
2. Derate linearly 1.0mW/°C from 25°C free air temperature to T<sub>A</sub> = +225°C.

### fundamental characteristics

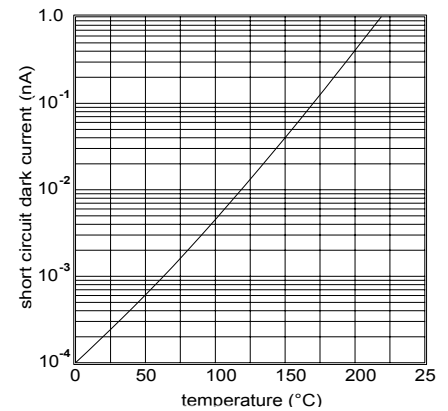
#### spectral response



#### light current vs temp.



#### dark current vs temp.



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

Revised 3/6/06

# CLD340

## High Temperature AlGaAs Photodiode



electrical characteristics at $T_A = 25^\circ\text{C}$ (unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
$I_{SC}$	Short-circuit current <sup>(3)</sup>	2.0	3.5	-	$\mu\text{A}$	$V_{BIAS} = 0\text{V}$ , $E_e = 1\text{mW}/\text{cm}^2$
$I_D$	Dark current	-	0.1	1.0	nA	$V_R = 5\text{V}$ , $E_e = 0$
$R_S$	Shunt resistance	-	3000	-	Meg. $\Omega$	$V_R = 10\text{mV}$
$V_{BR}$	Reverse breakdown	20	-	-	V	$I_R = 10\mu\text{A}$
$C_j$	Junction capacitance	-	170	-	pF	$V_{BIAS} = 0$ , $f = 1\text{MHz}$
$\Theta_{HP}$	Total angle at half sensitivity points	-	70	-	deg.	
$t_r, t_f$	Output rise and fall time <sup>(3)</sup>	-	1.0	-	$\mu\text{s}$	$R_L = 50\Omega$ , $V_R = 5\text{V}$

**note:** 3. Radiation source is an aluminum gallium arsenide IRED with a peak emission wavelength of 850nm.

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