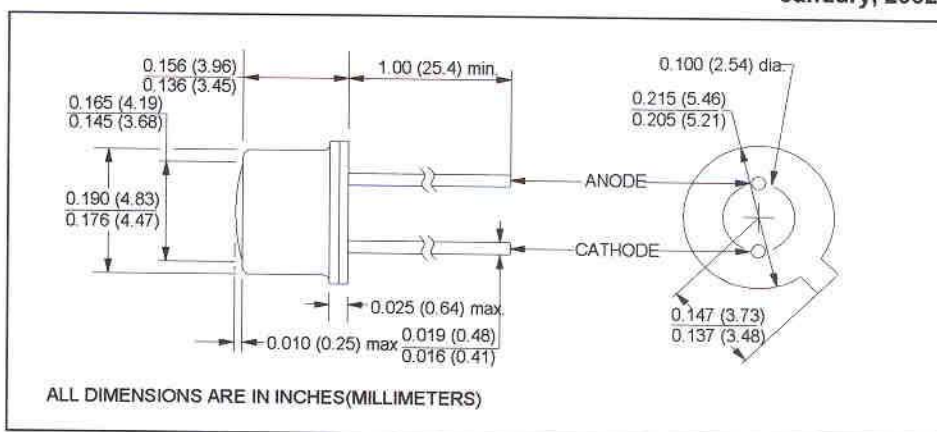


CLD340

High Temperature AlGaAs Photodiode



January, 2002



features

- usable at 225°C
- 880nm wavelength
- narrow response range
- hermetically sealed TO-46 package
- 90° acceptance angle

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

storage temperature	-55°C to +250°C
operating temperature	-55°C to +225°C
reverse voltage	10V
maximum continuous power dissipation ⁽¹⁾	250mW
lead soldering temperature ⁽²⁾	260°C

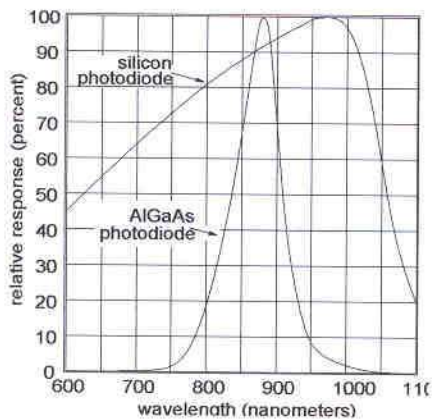
description

The CLD340 is a high temperature AlGaAs photodiode designed for sensitivity from 850 to 910nm. It is a wavelength specific detector which eliminates the need for signal modulation or filtering of ambient light when used where background illumination could cause problems. The 0.040" x 0.040" chip is mounted in a flat lensed TO-46 package. The spectrally matched CLE335 is recommended for high temperature optical coupling.

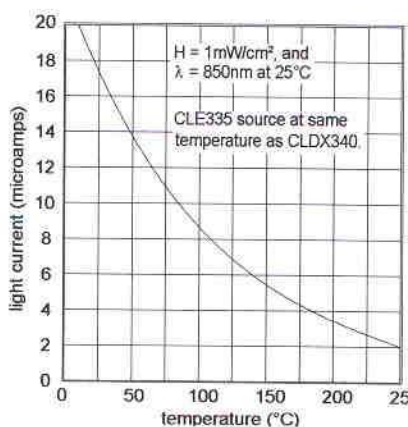
notes:

1. Derate linearly 1.25mW/°C above 25°C.
2. 0.06" (1.5mm) from the header for 5 seconds maximum.

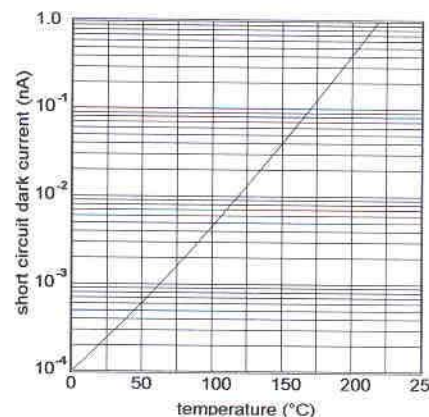
spectral response



fundamental characteristics
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.

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 ⁽¹⁾	2.0	3.5	-	μA	$V_{BIAS} = 0\text{V}$, $E_e = 1\text{mW}/\text{cm}^2$
I_D	Dark current	-	0.1	1.0	nA	$V_R = 5\text{V}$, $E_e = 0$
R_S	Shunt resistance	-	3	-	$\text{g}\Omega$	$V_R = 10\text{mV}$
V_{BR}	Reverse breakdown	20	-	-	V	$I_R = 10\mu\text{A}$
C_j	Junction capacitance	-	170	-	pF	Zero bias, $f = 1\text{MHz}$
Θ_{HP}	Total angle at half sensitivity points	-	90	-	deg.	
t_r, t_f	Output rise and fall time ⁽¹⁾	-	1.0	-	μs	$R_L = 50\Omega$, $V_R = 5\text{V}$

note: 1. Light source is an aluminum gallium arsenide IRED with a peak emission wavelength of 850nm and $E_e = 1\text{mW}/\text{cm}^2$.

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