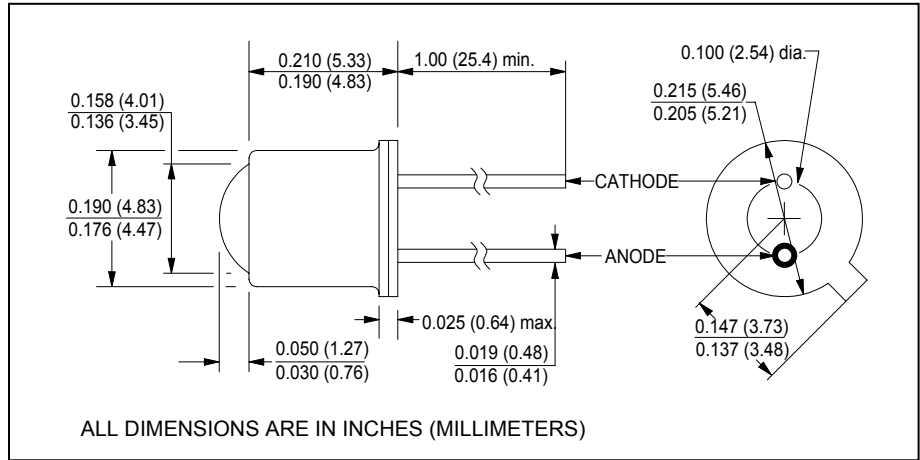


CLD142, CLD142R

Silicon Planar photodiodes



May, 2001



features

- 14° acceptance angle
- 860nm peak response
- TO-46 hermetic package
- large photosensitive area
- usable for visible through near-IR

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

storage temperature.....	-55°C to +150°C
operating temperature.....	-55°C to +150°C
lead soldering temperature ⁽¹⁾	260°C
reverse voltage.....	30V
maximum continuous power dissipation ⁽²⁾	200mW

description

The CLD142 and CLD142R are 0.051" x 0.051" active area silicon photodiodes featuring high linearity, low dark current and fast response. The TO-46 header provides thermal environment for reliable operation over a wide temperature range. Narrow acceptance angle enables excellent on-axis coupling. 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 ⁽³⁾	35	-	-	μA	$V_{BIAS} = 0\text{V}$
I_D	Dark current	CLD142	-	5.0	nA	$V_F = 100\text{mV}, E_e = 0$
		CLD142R	-	5.0	nA	$V_R = 15\text{V}, E_e = 0$
V_O	Open circuit voltage ⁽³⁾	-	0.35	-	V	
C_J	Junction capacitance	-	-	40	pF	$V_{BIAS} = 0\text{V}, f = 1\text{MHz}$
t_r, t_f	Output rise and fall time	-	-	3.0	μs	$R_L = 1\text{k}\Omega$
Θ_{HP}	Total angle at half sensitivity points	-	14	-	deg.	

notes: 3. Radiation source is a tungsten lamp at a color temperature of 2854K and $E_e = 5\text{mW}/\text{cm}^2$ or equivalent.

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

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