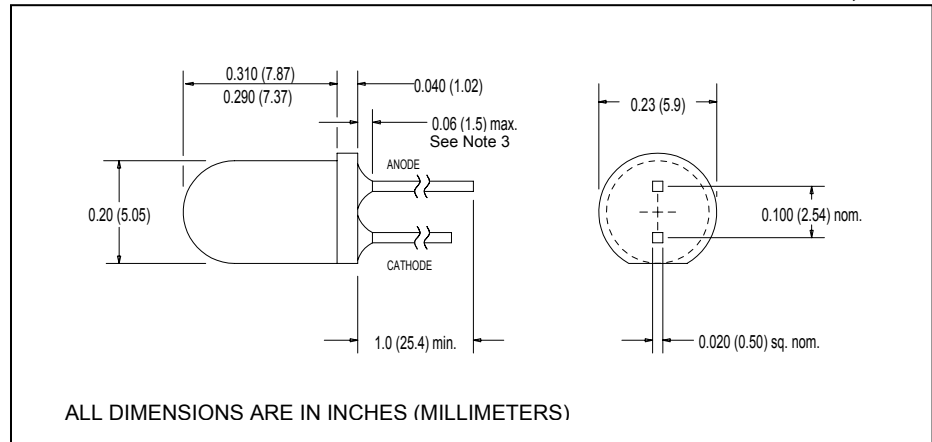


CLD370F

Plastic PIN Photodiode

December, 2001



features

- fast switching speed
- low junction capacitance
- 850 nm peak response
- large photosensitive area
- sharp cutoff to visible wavelengths
- $\pm 30^\circ$ acceptance angle

description

The CLD370F is a high gain silicon photodiode mounted in a T-1 $\frac{3}{4}$ (5mm) dark plastic package. The chip has an active area of approximately 0.080" x 0.080" (4 square mm) and is intended for use as an infrared sensor. The dark tinting of the package effectively attenuates wavelengths shorter than 700nm eliminating most visible light interference.

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

storage temperature	-40°C to +125°C
operating temperature	-40°C to +100°C
lead soldering temperature ⁽¹⁾	260°C
continuous power dissipation ⁽²⁾	150mW

notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum
2. Derate linearly 1.6mW/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.
3. Protruding resin under flange is 0.06" (1.5mm) max.

electrical characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

symbol	parameter	min	typ	max	units	test conditions
I_{SC}	Short-circuit current ⁽¹⁾	5.0	10.0	-	μA	$V_R = 5\text{V}, E_e = 0.1\text{mW}/\text{cm}^2$
		-	60.0	-	μA	$V_R = 5\text{V}, E_e = 1.0\text{mW}/\text{cm}^2$
I_D	Dark current	-	-	30	nA	$V_R = 10\text{V}, E_e = 0$
V_{BR}	Reverse breakdown	30	-	-	V	$I_R = 100\mu\text{A}, E_e = 0$
C_J	Junction capacitance	-	25	-	pF	$V_R = 3\text{V}, E_e = 0, f = 1\text{MHz}$
V_O	Open circuit voltage	-	350	-	mV	$E_e = 0.1\text{mW}/\text{cm}^2$
Θ_{HP}	Total angle at half sensitivity points	-	60	-	deg.	
t_r, t_f	Output rise and fall time ⁽¹⁾	-	30	-	ns	$R_L = 1\text{k}\Omega, V_R = 10\text{V}$

Note: 1. Radiation source is an aluminum gallium arsenide IRED operating at a peak wavelength of 850nm.

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

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