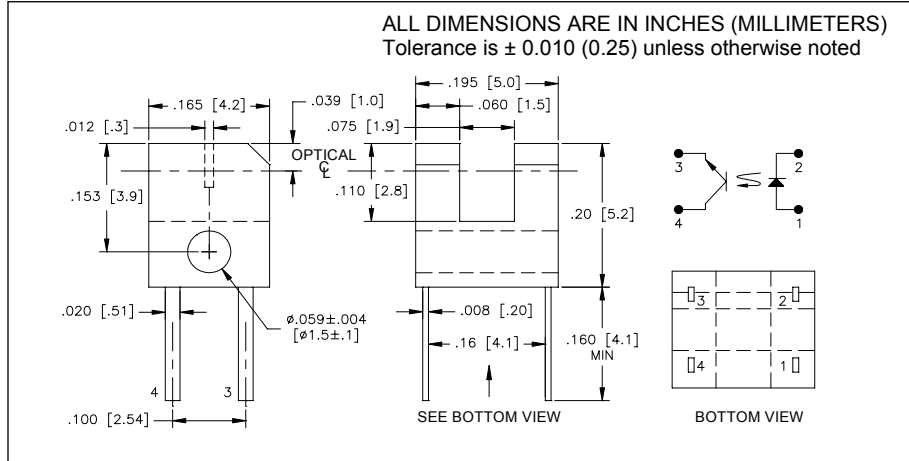
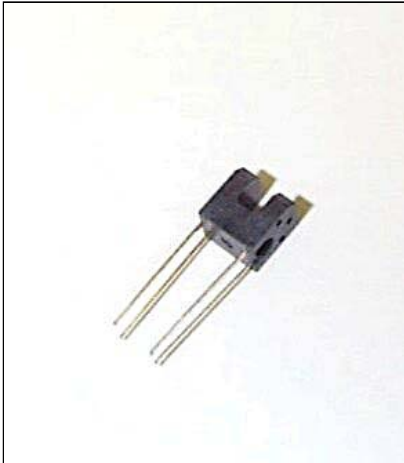


CLI250

Sub - Miniature IRED Phototransistor Photointerrupter



October, 2002



features

- ultra-compact
- low cost plastic package
- 0.012 (0.3mm) wide apertures

description

The CLI250 consists of an IRED and a phototransistor mounted in a black, double layer mold, plastic housing on opposite sides of a 0.08" (2mm) wide slot. There are 0.012" (0.3mm) wide apertures in front of the emitter and sensor. This device's small size makes it ideal for PC board mounting in confined spaces. For assistance, call Clairex.

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

storage temperature	-40°C to +100°C
operating temperature	-25°C to +85°C
lead soldering temperature	260°C for 3 seconds
total power dissipation	100mW

LED

continuous forward DC current ⁽¹⁾	50mA
reverse DC voltage	5V
power dissipation ⁽²⁾	75mW

PHOTOTRANSISTOR

collector-emitter voltage	30V
collector power dissipation ⁽³⁾	75mW

notes:

1. Derate linearly 0.67mW/°C from 25°C free air temperature to $T_A = +85^\circ\text{C}$.
2. Derate linearly 1.0mW/°C from 25°C free air temperature to $T_A = +85^\circ\text{C}$.
3. Derate linearly 1.0mW/°C from 25°C free air temperature to $T_A = +85^\circ\text{C}$.

electrical characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
Input IRED						
V_F	Forward voltage	-	1.2	1.4	V	$I_F = 20\text{mA}$
I_R	Reverse current	-	-	10	μA	$V_R = 3\text{V}$
Output Phototransistor						
I_D	Collector-emitter dark current	-	-	100	nA	$V_{CE} = 10\text{V}, E_e = 0$
Coupled						
$V_{CE(SAT)}$	Collector-emitter saturation voltage	-	-	0.4	V	$I_C = 0.1\text{mA}, I_F = 20\text{mA}$
$I_{C(ON)}$	Collector current	0.5	-	-	mA	$I_F = 20\text{mA}, V_{CE} = 5\text{V}$
t_r, t_f	Output rise and fall time	-	50	150	μsec	$I_C = 0.1\text{mA}, V_{CE} = 5\text{V}, R_L = 1\text{K}\Omega$

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

Revised 12/01/04