CLI400

IRED - Phototransistor Photointerrupter

Clairex® Technologies, Inc.

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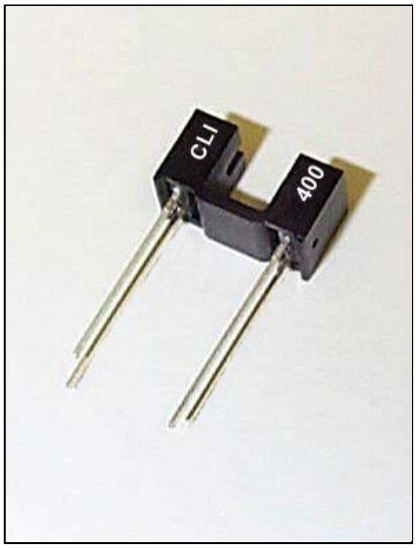

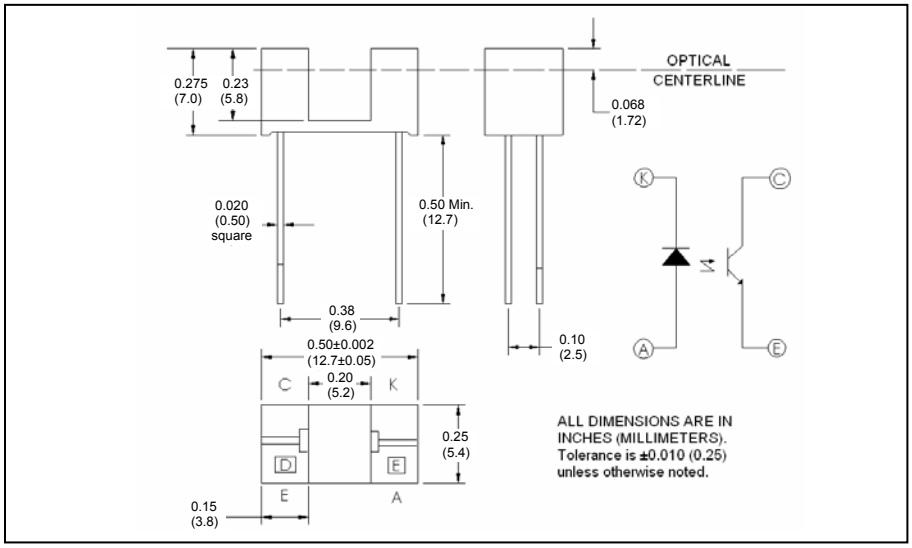

features

- compact, low profile housing
- ideal for PC board mounting
- emitter and sensor apertures
- fast switching speed

description

The CLI400 consists of an IRED and a phototransistor mounted in a black plastic housing on opposite sides of a 0.20" (5.2mm) wide slot. There are 0.055" (1.4mm) wide apertures in front of the senser and emitter. 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°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 breakdown voltage 30V
collector power dissipation[3] 75mW

notes:

1. Derate linearly 0.67mW/°C from 25°C free air temperature to T_A = +85°C.
2. Derate linearly 1.0mW/°C from 25°C free air temperature to T_A = +85°C.
3. Derate linearly 1.0mW/°C from 25°C free air temperature to T_A = +85°C.

electrical characteristics (T_A = 25°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 = 20mA
I_R	Reverse current	-	-	10	µA	V_R = 3V
Output Phototransistor						
I_D	Collector-emitter dark current	-	-	100	nA	V_{CE} = 10V, E_e = 0
Coupled						
$V_{CE(SAT)}$	Collector-emitter saturation voltage	-	-	0.4	V	I_C = 0.1mA, I_F = 20mA
$I_{C(ON)}$	Collector current	0.5	-	-	mA	I_F = 20mA, V_{CE} = 5V
t_r, t_f	Output rise and fall time	-	20	-	µsec	I_C = 0.1mA, V_{CE} = 5V, R_L=1KΩ,

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