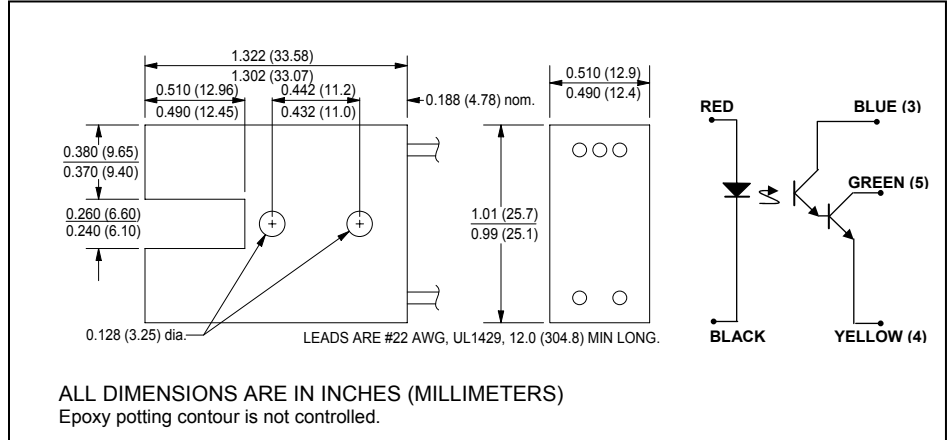
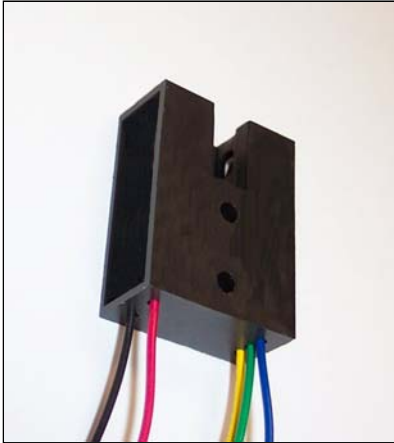


CLI305

IRED - Phototransistor Photointerrupter



September, 2001



features

- rugged plastic package
- hermetically sealed discretes
- narrow beam alignment

description

The CLI305 consists of an IRED and a phototransistor mounted in a black plastic housing. It features 12 inch leads and two holes for bracket mounting in any position. Output is an emitter follower transistor providing high gain, fast switching speed and TTL interfacing. There is a 0.005" wide aperture in front of the phototransistor. For assistance, call Clairex.

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

storage and operating temperature.....	-55°C to +100°C
LED	
continuous forward DC current.....	60mA
reverse DC voltage.....	3V
power dissipation ⁽¹⁾	100mW
OUTPUT TRANSISTOR	
collector-emitter voltage.....	30V
maximum continuous collector current ⁽²⁾	100mA
power dissipation ⁽³⁾	200mW

notes:

1. Derate linearly 1.07mW/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.
2. 200mA when pulsed at 300µs, 2% duty cycle.
3. Derate linearly 2.13mW/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.

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	-	-	1.5	V	$I_F = 16\text{mA}$
I_R	Reverse current	-	-	10	µA	$V_R = 3\text{V}$
Output Transistor (leads 4 and 5)						
I_D	Collector-emitter dark current	-	-	100	nA	$V_{CE} = 10\text{V}, E_e = 0$
Coupled						
I_L	Sensor current (lead 4)	20	-	-	mA	$I_F = 10\text{mA}, V_{CE} = 5\text{V}$
V_O	Voltage between leads 4 and 5 ⁽⁴⁾	-	-	0.50	V	$I_F = 20\text{mA}, V_{CE} = 5\text{V}$
V_{OFF}	Voltage between leads 4 and 5 ⁽⁴⁾	4.7	-	-	V	$E_e = 0$
t_r	Output rise time ⁽⁴⁾	-	5	-	µsec	$I_C = 2.0\text{mA}, V_{CE} = 10\text{V}$
t_f	Output fall time ⁽⁴⁾	-	50	-	µsec	$I_C = 2.0\text{mA}, V_{CE} = 10\text{V}$

note: 4. 2.2kΩ resistor between leads 3 and 5.

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

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