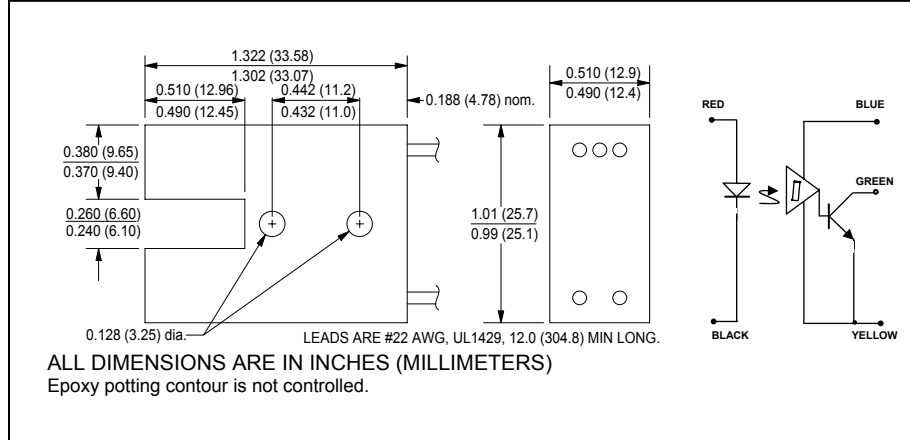


CLI385

IRED – Photo-IC photointerrupter
NPN, buffer, open collector output⁽¹⁾



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features

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

description

The CLI385 consists of an IRED and a monolithic, digital output, photo-IC mounted in a black plastic housing. It features 12 inch leads and two holes for bracket mounting in any position. The photo-IC consists of a voltage regulator, op amp, photodiode, Schmitt trigger and an NPN open collector output transistor. See note 1.

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 ⁽²⁾	100mW
PHOTO-IC	
common supply voltage	18V
maximum sink current.....	25mA
power dissipation ⁽³⁾	200mW

notes:

1. Other output configurations are available. Contact Clairex.
2. Derate linearly 1.33mW/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.
3. Derate linearly 2.66mW/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.

definition:

buffer – output is LOW when input radiation is below the threshold level.

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	$I_F = 10\text{mA}$
I_R	Reverse current	-	-	10	μA	$V_R = 3\text{V}$
Output Photo- IC						
V_{CC}	Supply voltage	4	-	16	V	
I_{CC}	Supply current	-	-	12	mA	$V_{CC} = 4.5\text{V} - 16\text{V}$
Coupled ($V_{CC} = 5\text{V}$ unless otherwise noted)						
V_{OL}	Low level output voltage	-	-	0.4	V	$I_{OL} = 15\text{mA}, I_F = 0^{(4)}$
I_{OH}	High level output leakage	-	-	5.0	μA	$I_F = 15\text{mA}, V_{OH} = 18\text{V}$
I_{F+}	IREd positive going threshold	-	-	10	mA	
I_{F+}/I_{F-}	Hysteresis ratio	-	1.2	-		
t_r, t_f	Output rise and fall time	-	75	-	ns	$I_F = 0^{(4)}$ or 15mA,
t_{PLH}	Propagation delay, low to high	-	6.0	-	μs	$f = 10\text{kHz}, \text{dc} = 50\%$,
t_{PHL}	Propagation delay, high to low	-	6.0	-	μs	$R_L = 240\Omega, C_L = 15\text{pF}$

Note: 4. $I_F = 0$ equates to light path being blocked by opaque object.

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

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