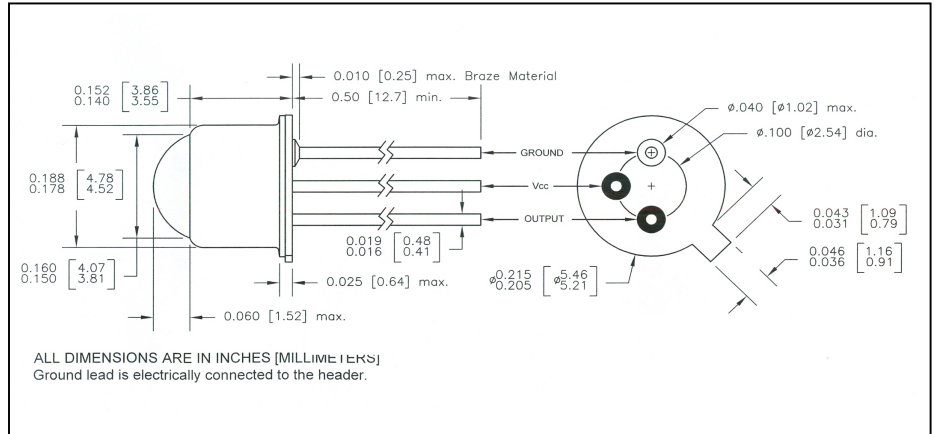
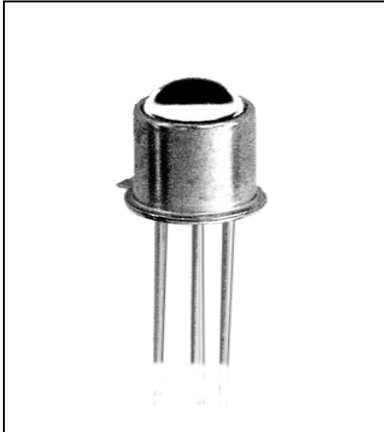


CLL137A

Digital Output IC Sensor Inverter, 10KΩ Pull-Up



features

- operates to 125°C
- low current drain
- TO-46 header with domed lens
- mechanically and spectrally matched to CLE135 and CLE335 series of LEDs.

description

The CLL137A contains a digital output, monolithic photo-IC mounted on a TO-46 header. The photo-IC consists of a voltage regulator, op amp, photodiode, Schmitt trigger and an internal 10KΩ resistor between V_{CC} and V_{OUT}. The Schmitt trigger provides high noise immunity on input and V_{CC}. For assistance, contact Clairex.

absolute maximum ratings (T_A = 25°C unless otherwise stated)

storage temperature.....	-65°C to +150°C
operating temperature.....	-55°C to +125°C
lead soldering temperature ⁽¹⁾	260°C
V _{CC} supply voltage.....	4.5 V to 18 V
V _{OUT} ⁽²⁾	30 V
I _{sink} ⁽³⁾	25 mA
continuous power dissipation ⁽⁴⁾	250 mW

notes:

- 1/16" from case for 5 seconds max.
- This rating applies when the output is in the OFF state only.
- This rating applies when the output is in the ON state only.
- Derate linearly 2.0 mW/°C from 25°C free air temperature to T_A = +125°C.
- Light measurements are made with an IRED source having a wavelength of 850nm.
- Due to the high sensitivity of the CLL series, when used in high speed switching applications, Clairex recommends installing a 0.1 μF capacitor between V_{CC} and GND.

definition:

inverter – output is LOW when input radiation is above the threshold level.
E_eT₊ is the minimum irradiance required to cause the output to change state.

electrical characteristics (T _A = 25°C unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
V _{CC}	Operating supply voltage	4.5	-	18	V	
E _e T(+)	Positive going threshold irradiance ⁽⁵⁾	0.005	-	0.05	mW/cm ²	4.5 V ≤ V _{CC} ≤ 18 V
E _e T(+)/E _e T(-)	Hysteresis ratio	1.1	-	1.8		
I _{CC}	Supply current ⁽⁵⁾	-	-	12	mA	4.5 V ≤ V _{CC} ≤ 18 V, E _e = 0 or 0.5 mW/cm ²
θ _P	Total acceptance angle	-	30	-	Deg.	
V _{OH}	High level output current	4.5	-	-	V	V _{CC} = 5 V, E _e = 0
V _{OL}	Low level output voltage ⁽⁵⁾	-	-	0.4	V	V _{CC} = 5.0V, E _e (+) ≥ 0.5 mW/cm ²
t _r , t _f	Output rise and fall time ⁽⁵⁾	-	75	-	ns	V _{CC} = 5 V, E _e = 0 or 0.5 mW/cm ² f = 10 kHz. D.C. = 50%, R _L = 330Ω
t _{PHL} , t _{PLH}	Propagation delay ⁽⁵⁾	-	5	-	μs	

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