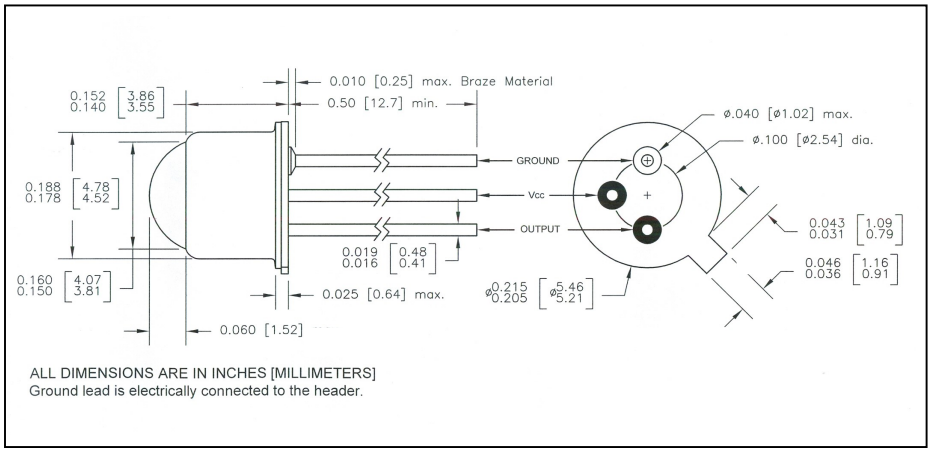
CLL135A

Digital Output IC Sensor
Inverter, Open Collector Output

CLAIREX® SEMICONDUCTOR

17-135A0A



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 CLL135A 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 NPN open collector transistor. 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. 1/16" from case for 5 seconds max.
2. This rating applies when the output is in the OFF state only.
3. This rating applies when the output is in the ON state only.
4. Derate linearly 2.0 mW/°C from 25°C free air temperature to T_A = +125°C.
5. Light measurements are made with an LED source having a wavelength of 850nm.
6. 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.

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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	
$E_eT(+)$	Positive going threshold irradiance[5]	0.005	-	0.05	mW/cm^2	4.5 V ≤ V_{CC} ≤ 18 V
$E_eT(+)/E_eT(-)$	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.	
I_{OH}	High level output current	-	-	100	µA	V_{CC} = 5 V, V_{OH} = 30 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, R_L = 330Ω
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	

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