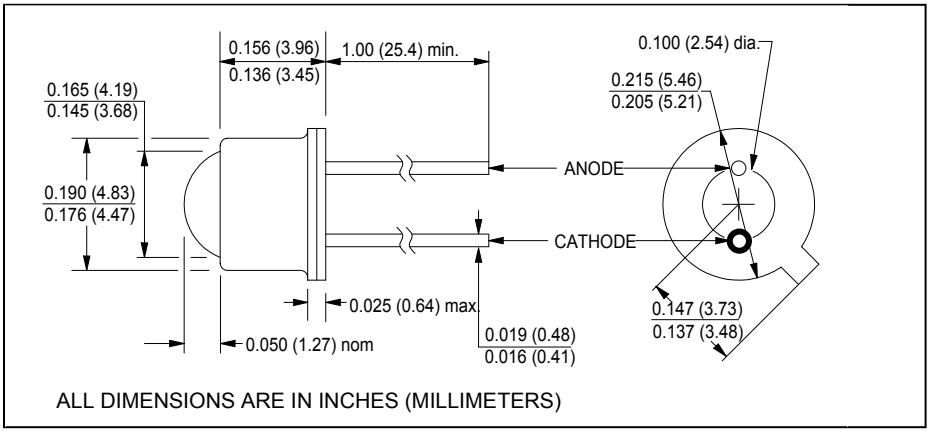
CLE331

AlGaAs Point Source IRED
Collimating Lens

Clairex® Technologies, Inc.

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features

- 850nm wavelength
- 50MHz operation
- TO-46 hermetic package
- ± 5° beam angle
- collimating lens
- RoHS compliant

description

The CLE331 is an advanced, high efficiency, high speed, point source, AlGaAs infrared-emitting diode intended for use in applications requiring a uniform output radiation pattern. The point source die junction is 0.002" in diameter, and the dual aspheric lens provides a highly collimated radiation source. Beam pattern is very uniform without the bond wire shadow effect of standard infrared emitting diodes.

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

storage temperature	-65°C to +150°C
operating temperature	-65°C to +125°C
lead soldering temperature[1]	260°C
continuous forward current[2]	100mA
peak forward current (1.0ms pulse width, 10% duty cycle)	1A
reverse voltage	5V
continuous power dissipation[3]	200mW

notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum
2. Derate linearly 0.80mA/°C from 25°C free air temperature to T_A = +125°C.
3. Derate linearly 1.6mW/°C from 25°C free air temperature to T_A = +125°C.

electrical characteristics (T_A = 25°C unless otherwise noted)

symbol	parameter	min	typ	max	units	test conditions
P_O	Total power output	2.0	3.0	-	mW	I_F = 100mA
E_e	Irradiance[4]	300	-	-	μW/cm^2	I_F = 100mA
λ_P	Peak emission wavelength	-	850	-	nm	I_F = 100mA
I_R	Reverse current	-	-	10	μA	V_R = 3.0V
V_F	Forward voltage	-	-	2.2	V	I_F = 100mA
θ_{HP}	Emission angle at half power points	-	10	-	deg.	I_F = 100mA
t_r, t_f	Output rise and fall time	-	5.0	10	ns	I_F = 100mA

notes: 4. Power/unit area measured within a 0.444" (1.128cm) diameter area, centered on the mechanical axis of the device and spaced 2.54" (6.45cm) from lens side of the tab. This is geometrically equivalent to a 10° cone.

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

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