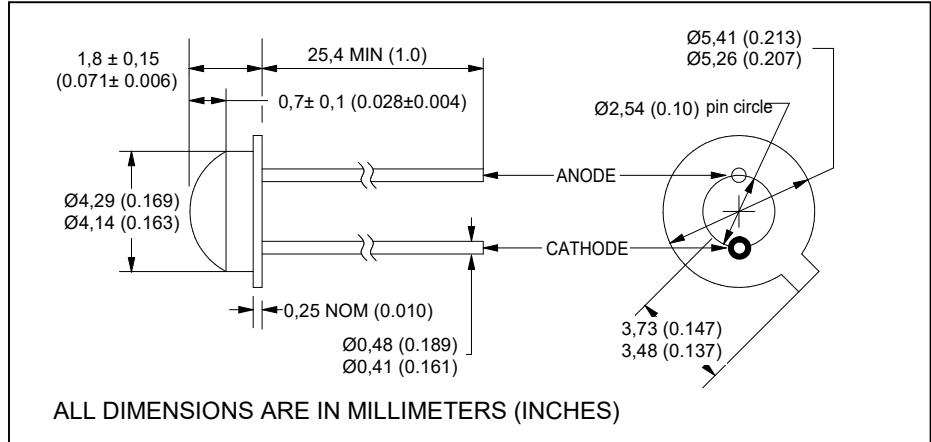


CLE331E

High efficiency AlGaAs IRED Point source Die



features

- high power output
- 850 nm wavelength
- > 10MHz operation
- TO-46 epoxy-dome lens
- wide beam angle
- uniform output radiation pattern
- 0.002" dia. emitting region

description

The CLE331E is an advanced, high efficiency, high speed, point source, AlGaAs infrared-emitting diode intended for applications requiring a uniform output radiation pattern. The emitting region is typically 0.002" diameter and provides a uniform radiation pattern without the usual bond wire shadow effect

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

storage temperature	-40°C to +85°C
operating temperature	-40°C to +85°C
lead soldering temperature ⁽¹⁾	260°C
continuous forward current ⁽²⁾	100 mA
peak forward current (1.0ms pulse width, 10% duty cycle)	1 A
reverse voltage	2 V
continuous power dissipation ⁽³⁾	200 mW

notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum.
2. Derate linearly 1.07 mA/°C from 25°C free air temperature to T_A = +85°C.
3. Derate linearly 2.13 mW/°C from 25°C free air temperature to T_A = +85°C.
4. Ø_e is a measurement of total radiant flux within a 0.444" PIN photodiode that is centered on the mechanical axis of the device at a distance of 0.267" from the lens side of the tab to the active area of the detector.

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

symbol	parameter	min	typ	max	units	test conditions
Ø _e	Total radiant flux ⁽⁴⁾	2.0	-	-	mW	I _F = 100 mA
V _F	Forward voltage	-	-	2.2	V	I _F = 100 mA
I _R	Reverse current	-	-	10	µA	V _R = 2 V
λ _P	Peak emission wavelength	-	850	-	nm	I _F = 100 mA
BW	Spectral bandwidth at half power points	-	60	-	nm	I _F = 100 mA
Θ _{HP}	Emission angle at half power points	-	40	-	deg.	I _F = 100 mA
t _r , t _f	Radiation rise and fall time	-	5.0	-	ns	I _F = 100 mA, f = 1 kHz, D.C. = 50%

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