CLE331E

Aluminum Gallium Arsenide IRED
Point source Die

Clairex®
Technologies, Inc.

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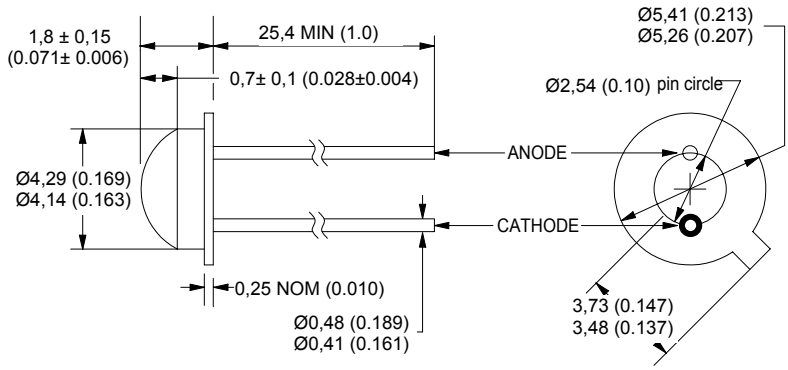

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES)

features

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

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 point source die junction is typically 0.002" dia. 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 +125°C
operating temperature	-40°C to +100°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 1.07mA/°C from 25°C free air temperature to T_A = +100°C.
3. Derate linearly 2.13mW/°C from 25°C free air temperature to T_A = +100°C.

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

symbol	parameter	min	typ	max	units	test conditions
P_O	Total power output[4]	-	1.5	-	mW	I_F = 100mA
V_F	Forward voltage	-	-	2.2	V	I_F = 100mA
I_R	Reverse current	-	-	10	µA	V_R = 3V
λ_P	Peak emission wavelength	-	850	-	nm	I_F = 100mA
BW	Spectral bandwidth at half power points	-	60	-	nm	I_F = 100mA
Θ_{HP}	Emission angle at half power points	-	100	-	deg.	I_F = 100mA
t_r, t_f	Radiation rise and fall time	-	5.0	-	ns	I_F = 100mA, f = 1kHz, D.C.= 50%

note: 4. Other ranges of power output and test conditions can be specified. Call Clairex for applications assistance.

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