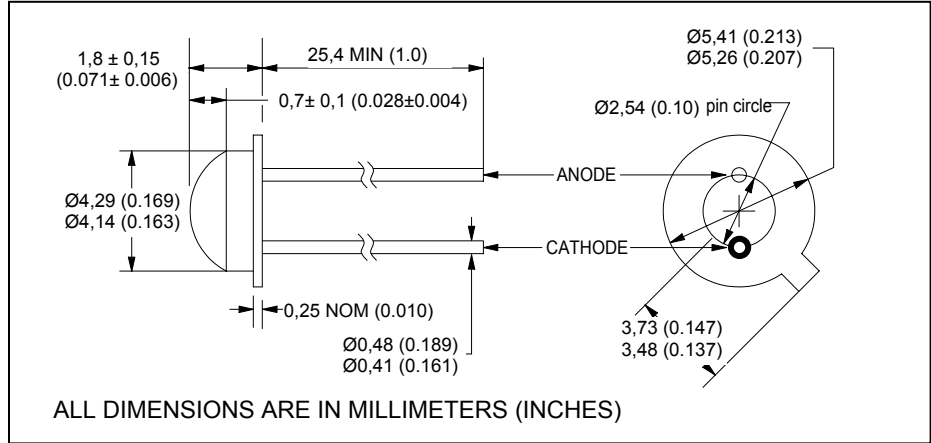


CLE331E

Aluminum Gallium Arsenide IRED Point source Die



December, 1998



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 ($T_A = 25^\circ\text{C}$ 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 $T_A = +100^\circ\text{C}$.
3. Derate linearly 2.13mW/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.

electrical characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

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

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

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

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Clairex Technologies, Inc.
Phone: 972-265-4900

1301 East Plano Parkway
Fax: 972-265-4949

Plano, Texas 75074-8524
www.clairex.com