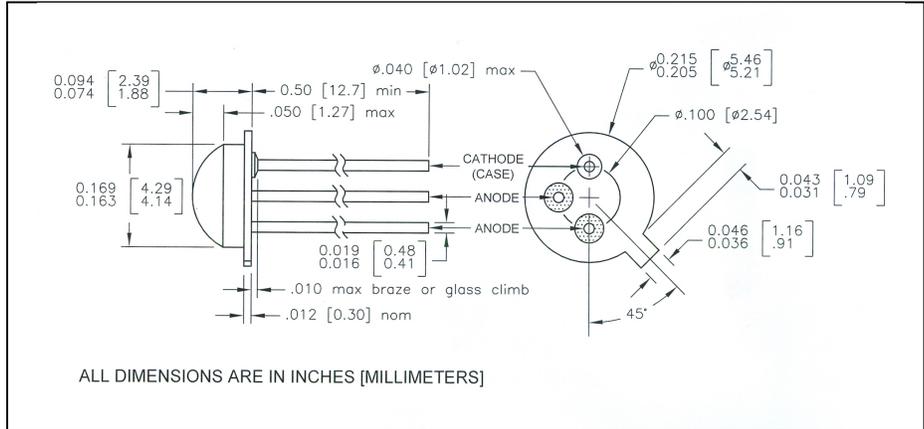


# CLE334E

## High Output AlGaAs

### Large IRED Die



#### features

- high power output
- no air gap between die and dome
- 850nm wavelength
- TO-46 with epoxy-dome lens
- broad beam angle
- cathode connected to case

#### description

The CLE334E is an advanced, high efficiency, AlGaAs infrared-emitting diode. It consists of a large IRED with four contact points that provide for even current density and maximum efficiency. Die size is 0.026 inch [0.66 mm] by 0.026 inch [0.66 mm]. The TO-46 header provides the thermal environment for reliable operation over a wide temperature range.

#### absolute maximum ratings (T<sub>A</sub> = 25°C unless otherwise stated)

storage temperature .....	-40°C to +85°C
operating temperature .....	-40°C to +85°C
lead soldering temperature <sup>(1)</sup> .....	260°C
continuous forward current <sup>(2)(4)</sup> .....	300 mA
peak forward current (1.0ms pulse width, 10% duty cycle) .....	1 A
reverse voltage .....	3 V
continuous power dissipation <sup>(3)</sup> .....	500 mW

#### notes:

1. 0.06 inch [1.5 mm] from the header for 5 seconds maximum
2. Derate linearly 5.33 mA/°C from 25°C free air temperature to T<sub>A</sub> = +85°C.
3. Derate linearly 5.33 mW/°C from 25°C free air temperature to T<sub>A</sub> = +85°C.
4. Unit must be properly heat sunk to be operated at this level.
5. Anode leads must be externally connected together.
6. Ø<sub>e</sub> is a measurement of total radiant flux within a 0.444 inch [1.128 cm] detector that is centered on the mechanical axis of the device at a distance of 0.182 inch [0.46 cm] from the lens side of the tab to the active area of the detector.

#### electrical characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

symbol	parameter	min	typ	max	units	test conditions
Ø <sub>e</sub>	Total radiant flux <sup>(6)</sup>	35	50	-	mW	I <sub>F</sub> = 300 mA
V <sub>F</sub>	Forward voltage <sup>(5)</sup>	-	1.7	2.0	V	I <sub>F</sub> = 300 mA
I <sub>R</sub>	Reverse current	-	-	10	µA	V <sub>R</sub> = 3 V
λ <sub>P</sub>	Peak emission wavelength	-	850	-	nm	I <sub>F</sub> = 100 mA
BW	Spectral bandwidth at half power points	-	35	-	nm	I <sub>F</sub> = 100 mA
Θ <sub>HP</sub>	Emission angle at half power points	-	100	-	deg.	I <sub>F</sub> = 100 mA
t <sub>r</sub>	Radiation rise time	-	20	-	ns	I <sub>F(PK)</sub> = 100 mA, f = 1 kHz, D.C. = 50%
t <sub>f</sub>	Radiation fall time	-	40	-	ns	I <sub>F(PK)</sub> = 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.