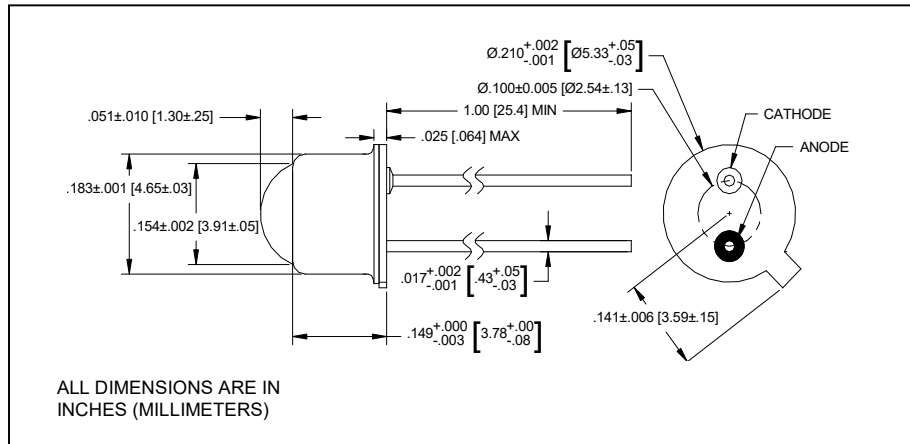
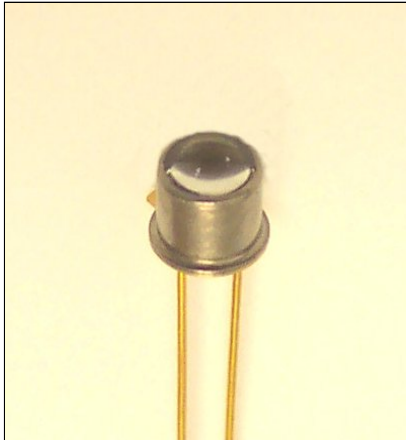


CLE135

940nm High Efficiency AlGaAs/GaAs IRED



features

- higher power output
- no visible light for night vision
- TO-46 header
- 940 nm wavelength

description

The CLE135 is a high efficiency infrared emitting diode. The new device features current state-of-the-art AlGaAs/GaAs technology for increased quantum efficiency. 940 nm wavelength is ideal for night vision applications due to no visible light emission. The substrate is N type material resulting in the case being common to the cathode. Contact Clairex for additional information.

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

storage temperature.....	-65°C to +150°C
operating temperature.....	-45°C to +125°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.....	3 V
continuous power dissipation ⁽³⁾	175 mW

notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum.
2. Derate linearly 0.90 mA/°C from 25°C free air temperature to T_A = +125°C.
3. Derate linearly 1.80 mW/°C from 25°C free air temperature to T_A = +125°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 0.337" from the lens side of the tab to the active area of the detector.
5. E_e is a measure of irradiance (power/unit area) within a 0.444" (1.128cm) diameter area, centered on the mechanical axis of the device and spaced 2.54" (6.45 cm) from the lens side of the tab. This is geometrically equivalent to a 10° cone.

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

symbol	parameter	min	typ	max	units	test conditions
Ø _e	Total radiant flux ⁽⁴⁾	10	15	-	mW	I _F = 100 mA
E _e	Irradiance ⁽⁵⁾	-	2.5	-	mW/cm ²	I _F = 100 mA
V _F	Forward voltage	-	1.5	1.75	V	I _F = 100 mA
I _R	Reverse current	-	-	10	µA	V _R = 3 V
λ _p	Peak wavelength	-	940	-	nm	I _F = 100 mA
BW	Spectral bandwidth	-	50	-	nm	I _F = 20 mA
t _r , t _f	Output rise and fall time	-	700	-	ns	I _F = 100 mA
θ _{HP}	Emission angle at half power points	-	22	-	deg.	I _F = 20 mA

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