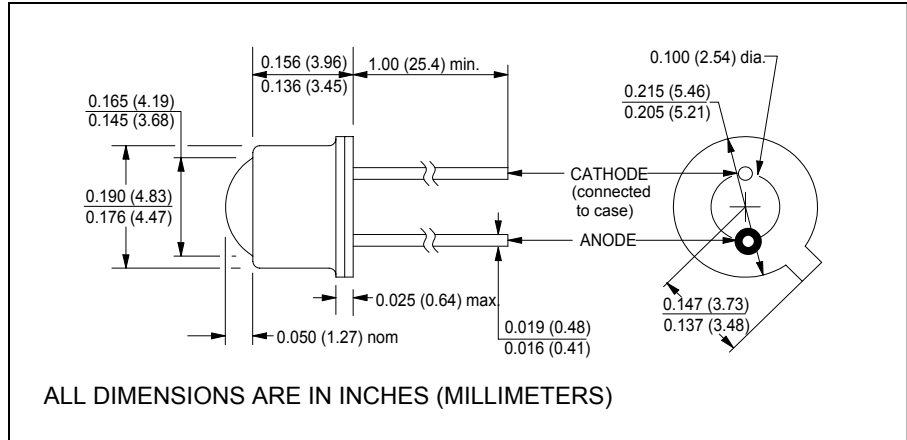
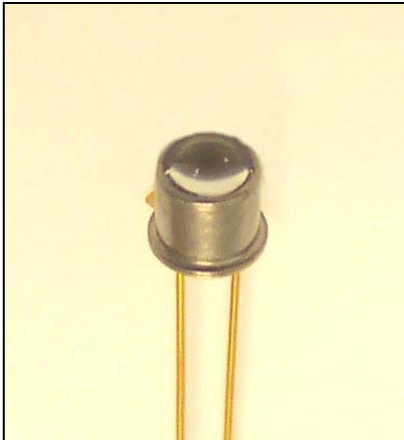


# CLE336

## 850nm Super-Efficient AlGaAs Emitter Narrow Radiation Pattern



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### features

- 150°C operating temperature
- ± 4.5° beam angle
- exceptionally high power output
- 845nm wavelength
- TO-46 hermetic package
- cathode connected to case
- RoHS compliant

### description

The CLE336 is an advanced, high-efficiency, high speed AlGaAs infrared emitting diode. Output power exceeds standard AlGaAs emitters by 50%. A special lens provides a sharply focused beam pattern. The CLE336 is designed for use anywhere a narrow beam pattern and very high output are required.

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

storage temperature.....	-65°C to +150°C
operating temperature.....	-65°C to +150°C
lead soldering temperature <sup>(1)</sup> .....	260°C
continuous forward current <sup>(2)</sup> .....	100mA
peak forward current (1.0ms pulse width, 10% duty cycle).....	1A
reverse voltage.....	5V
continuous power dissipation <sup>(3)</sup> .....	200mW

### notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum.
2. Derate linearly 0.64mA/°C free air temperature to T<sub>A</sub> = +150°C.
3. Derate linearly 1.28mW/°C free air temperature to T<sub>A</sub> = +150°C.

electrical characteristics (T <sub>A</sub> = 25°C unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
P <sub>O</sub>	Total power output	10	20	-	mW	I <sub>F</sub> = 100mA
E <sub>e</sub>	Irradiance <sup>(4)</sup>	-	3.5	-	mW/cm <sup>2</sup>	I <sub>F</sub> = 100mA
V <sub>F</sub>	Forward voltage	-	1.7	1.9	V	I <sub>F</sub> = 100mA
I <sub>R</sub>	Reverse current	-	-	10	μA	V <sub>R</sub> = 5V
λ <sub>P</sub>	Peak emission wavelength	-	845	-	nm	I <sub>F</sub> = 100mA
BW	Spectral bandwidth at half power points	-	40	-	nm	I <sub>F</sub> = 100mA
θ <sub>HP</sub>	Emission angle at half power points	-	9.0	-	deg.	I <sub>F</sub> = 100mA
t <sub>r</sub>	Radiation rise time	-	11	-	ns	I <sub>F</sub> = 100mA, f = 1KHz, Duty Cycle = 50%
T <sub>f</sub>	Radiation fall time	-	7.0	-	ns	

**Note:** 4. E<sub>e</sub> 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" (6.45cm) from the lens side of the tab. This is geometrically equivalent to a 10° cone.

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

Revised 11/08/06