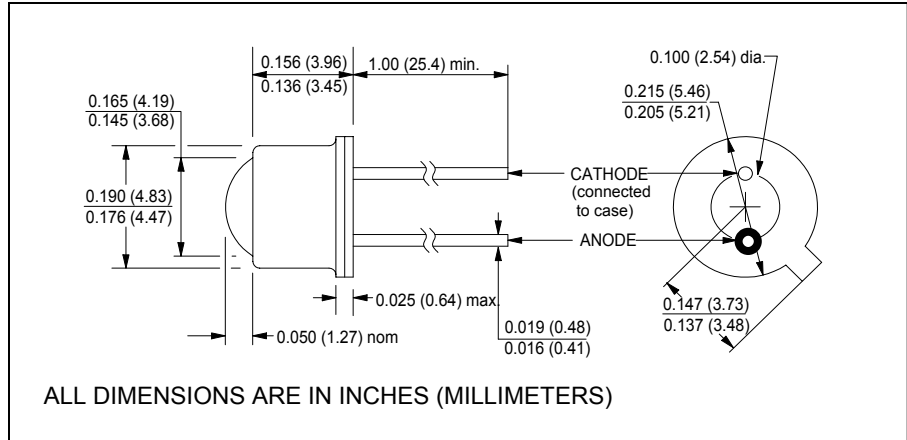


CLE336

850nm Super-Efficient AlGaAs Emitter Narrow Radiation Pattern



April, 2006



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 ($T_A = 25^\circ\text{C}$ unless otherwise stated)

storage temperature.....	-65°C to +150°C
operating temperature.....	-65°C to +150°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 0.64mA/°C free air temperature to $T_A = +150^\circ\text{C}$.
3. Derate linearly 1.28mW/°C free air temperature to $T_A = +150^\circ\text{C}$.

electrical characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
P_O	Total power output	10	20	-	mW	$I_F = 100\text{mA}$
E_e	Irradiance ⁽⁴⁾	-	3.5	-	mW/cm ²	$I_F = 100\text{mA}$
V_F	Forward voltage	-	1.7	1.9	V	$I_F = 100\text{mA}$
I_R	Reverse current	-	-	10	μA	$V_R = 5\text{V}$
λ_P	Peak emission wavelength	-	845	-	nm	$I_F = 100\text{mA}$
BW	Spectral bandwidth at half power points	-	40	-	nm	$I_F = 100\text{mA}$
θ_{HP}	Emission angle at half power points	-	9.0	-	deg.	$I_F = 100\text{mA}$
t_r	Radiation rise time	-	11	-	ns	$I_F = 100\text{mA}$, $f = 1\text{KHz}$, Duty Cycle = 50%
T_f	Radiation fall time	-	7.0	-	ns	

Note: 4. 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" (6.45cm) 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