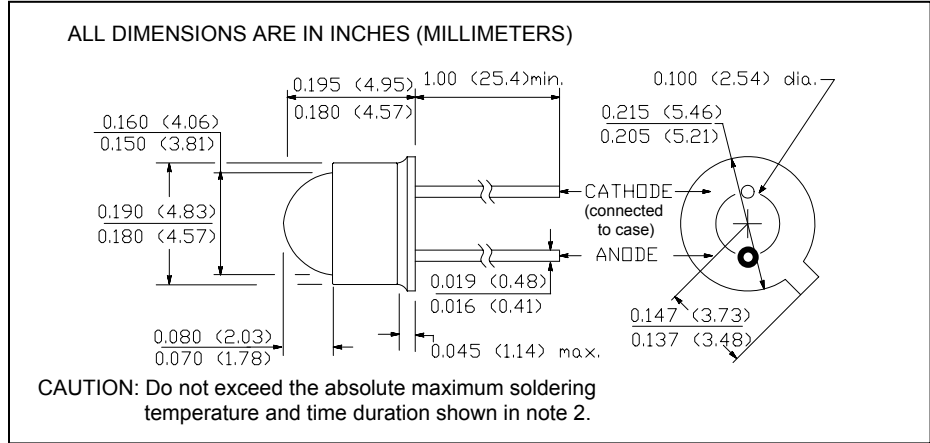
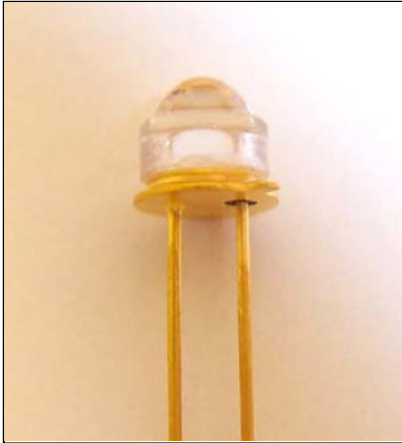


CLE335P

Super-efficient Aluminum Gallium Arsenide IRED Plastic collimating lens



June, 2003



features

- cathode connected to case
- exceptionally high power output
- 845nm wavelength
- >10MHz operation
- TO-46 plastic lens package
- collimated beam

description

The CLE335P is a low cost, high efficiency, AlGaAs infrared-emitting diode. Output power typically exceeds standard AlGaAs emitters by 50%. The TO-46 header provides the thermal environment for reliable operation. The lens is designed to provide a highly collimated radiation pattern from 0.10" to 0.20" from the lens tip.

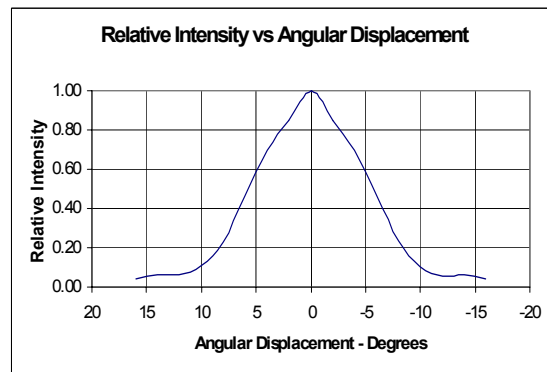
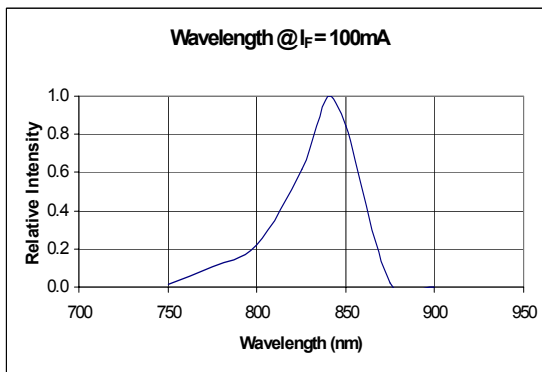
absolute maximum ratings ($T_A = 25^\circ\text{C}$ unless otherwise stated)

storage and operating temperature.....	-40°C to +100°C
junction temperature ⁽¹⁾	+125°C
lead soldering temperature ⁽²⁾	240°C
continuous forward current ⁽³⁾	100mA
peak forward current ⁽⁴⁾	3A
reverse voltage.....	3V
maximum power dissipation ⁽⁵⁾	200mW

notes:

1. Maximum operating temperature of the metallurgical junction.
2. 1/16" (1.6mm) from the header for 5 seconds maximum.
3. Derate linearly 1.07mA/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.
4. Pulsed condition only. Maximum pulse width is 2.0µs at 2% duty cycle. Use good judgement when operating this device under these conditions. Thermal transients exceeding these restrictions can cause irreversible damage.
5. Derate linearly 2.13mW/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.

fundamental characteristics



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

Revised 12/01/04

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

1301 East Plano Parkway
Fax: 972-265-4949

Plano, Texas 75074-8524
www.clairex.com

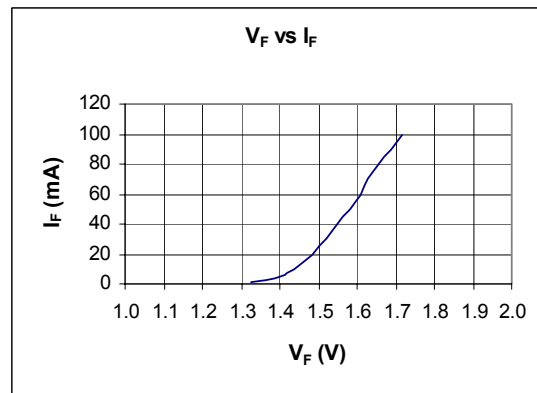
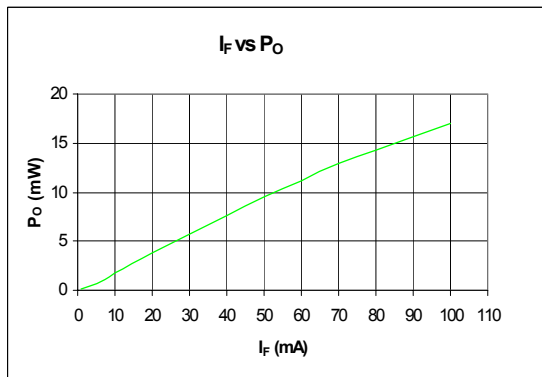
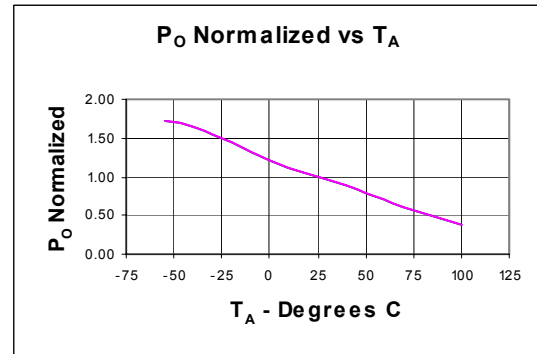
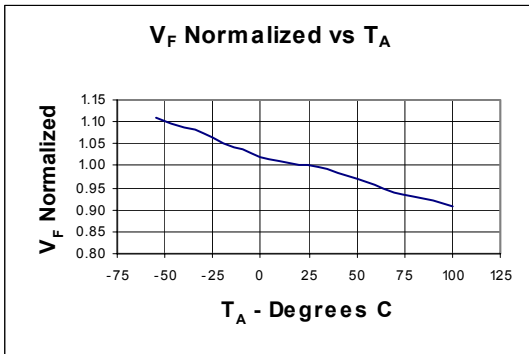
CLE335P

Super-efficient Aluminum Gallium Arsenide IRED Plastic collimating lens



electrical characteristics at $T_A = 25^\circ\text{C}$ (unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
P_O	Total power output ⁽⁷⁾	-	17	-	mW	$I_F = 100\text{mA}$
E_e	Typical irradiance ⁽⁶⁾	2.5	3.5	-	mW/cm^2	$I_F = 100\text{mA}$
V_F	Forward voltage ⁽⁷⁾	-	1.7	1.9	V	$I_F = 100\text{mA}$
I_R	Reverse current	-	-	10	μA	$V_R = 3.0\text{V}$
λ_p	Peak emission wavelength ⁽⁷⁾	-	845	-	nm	$I_F = 100\text{mA}$
BW	Spectral bandwidth at half power points ⁽⁷⁾	-	40	-	nm	$I_F = 100\text{mA}$
Θ_{HP}	Emission angle at half power points ⁽⁷⁾	-	12	-	deg.	$I_F = 100\text{mA}$
t_r	Output rise time ⁽⁷⁾	-	20	-	ns	$I_F = 100\text{mA}$
t_f	Output fall time ⁽⁷⁾	-	40	-	ns	$I_F = 100\text{mA}$

- notes: 6. Power/unit area measured within a 0.444" (1.128cm) diameter area, centered on the mechanical axis of the device and spaced 2.54" (6.45cm) from lens side of the tab. This is geometrically equivalent to a 10° cone.
7. Measurement made with 100 μs pulse measured at the trailing edge of the pulse with a duty cycle of 0.1%. Pulse generator t_r and $t_f < 200\text{ps}$.



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