

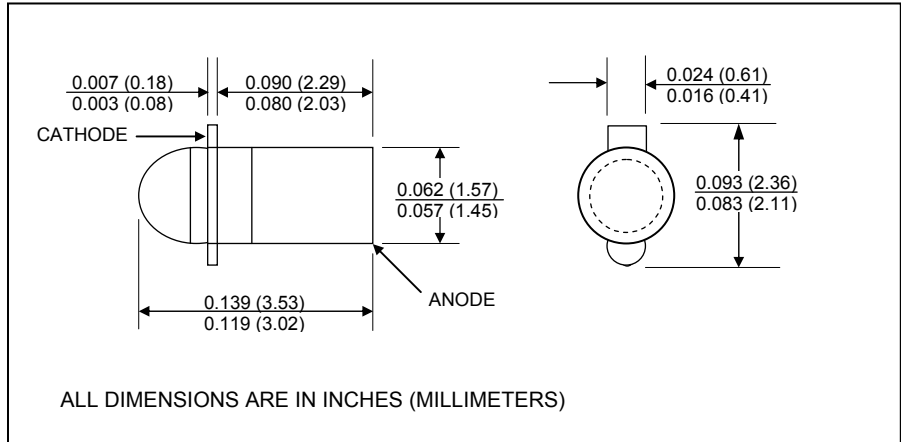
# CLE250

## Aluminum Gallium Arsenide IRED Miniature Hermetic Sealed Package

PRELIMINARY



June, 2006



### features

- 880nm wavelength
- $\pm 9^\circ$  emission angle
- Miniature hermetic package
- High power output

### description

The CLE250 is an 880nm, AlGaAs infrared-emitting diode mounted in a hermetically sealed package with a glass lens. This package is ideally suited for mounting into double-sided PC boards and is capable of reliable operation over a wide temperature range.

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

storage temperature .....	$-65^\circ\text{C}$ to $+150^\circ\text{C}$
operating temperature .....	$-65^\circ\text{C}$ to $+125^\circ\text{C}$
lead soldering temperature <sup>(1)</sup> .....	$260^\circ\text{C}$
continuous forward current .....	75mA
reverse voltage .....	5V
continuous power dissipation <sup>(2)</sup> .....	125mW

### notes:

1. 5 seconds maximum.
2. Derate linearly  $1.0\text{mW}/^\circ\text{C}$  from  $25^\circ\text{C}$  free air temperature to  $T_A = +125^\circ\text{C}$ .

### electrical characteristics (at $T_A = 25^\circ\text{C}$ unless otherwise noted)

symbol	parameter	min	typ	max	units	test conditions	
$I_E$	Radiant intensity	CLE250A	-	1.5	-	mW/sr	$I_F = 50\text{mA}$
		CLE250B	-	6.0	-		
$E_e$	Irradiance <sup>(3)</sup>	CLE250A	1.0	-	-	mW/cm <sup>2</sup>	$I_F = 50\text{mA}$
		CLE250B	3.5	-	-		
$\lambda_P$	Peak emission wavelength	-	880	-	nm	$I_F = 50\text{mA}$	
BW	Spectral bandwidth at half power points	-	50	-	nm	$I_F = 50\text{mA}$	
$\Delta\lambda_P/\Delta T$	Spectral shift with temperature	-	0.2	-	nm/ $^\circ\text{C}$	$I_F = 50\text{mA}$	
$\Theta_{HP}$	Emission angle at half power points	-	18	-	deg.	$I_F = 50\text{mA}$	
$V_F$	Forward voltage	-	-	1.8	V	$I_F = 50\text{mA}$	
$I_R$	Reverse current	-	-	10	$\mu\text{A}$	$V_R = 5\text{V}$	
$t_r, t_f$	Radiation rise and fall time	-	700	-	ns	$I_{F(PK)}=50\text{mA}, f=1\text{kHz}, D.C.=50\%$	

notes: 3. Irradiance (power/unit area) is measured within a  $0.031"$  ( $0.78\text{mm}$ ) diameter area, centered on the mechanical axis of the device and spaced  $0.50"$  ( $12.7\text{mm}$ ) from the lens side of the tab. This is geometrically equivalent to a  $3.5^\circ$  cone.

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

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

1301 East Plano Parkway  
Fax: 972-265-4949

Plano, Texas 75074-8524  
www.clairex.com