

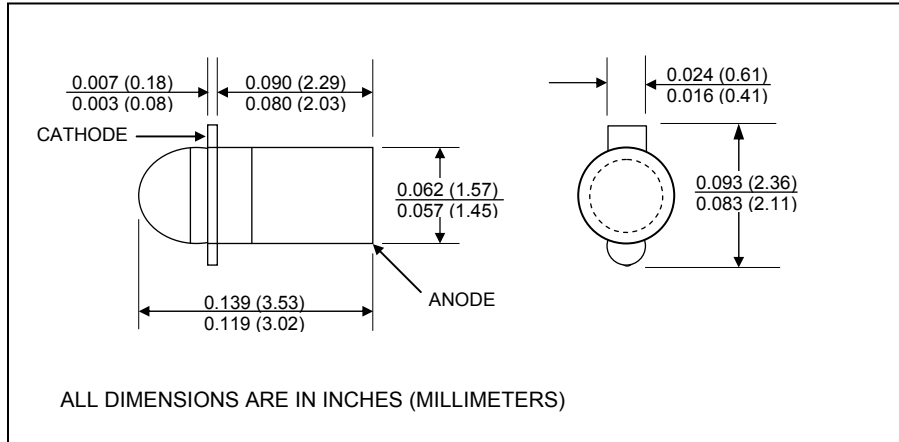
CLE250

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

notes:

1. 5 seconds maximum.
2. Derate linearly 1.0mW/ $^\circ\text{C}$ from 25°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 ⁽³⁾	CLE250A	1.0	-	-	mW/cm ²	$I_F = 50\text{mA}$
		CLE250B	3.5	-	-		
λ_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/ $^\circ\text{C}$	$I_F = 50\text{mA}$	
Θ_{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	μA	$V_R = 5\text{V}$	
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" (0.78mm) diameter area, centered on the mechanical axis of the device and spaced 0.50" (12.7mm) from the lens side of the tab. This is geometrically equivalent to a 3.5° cone.

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