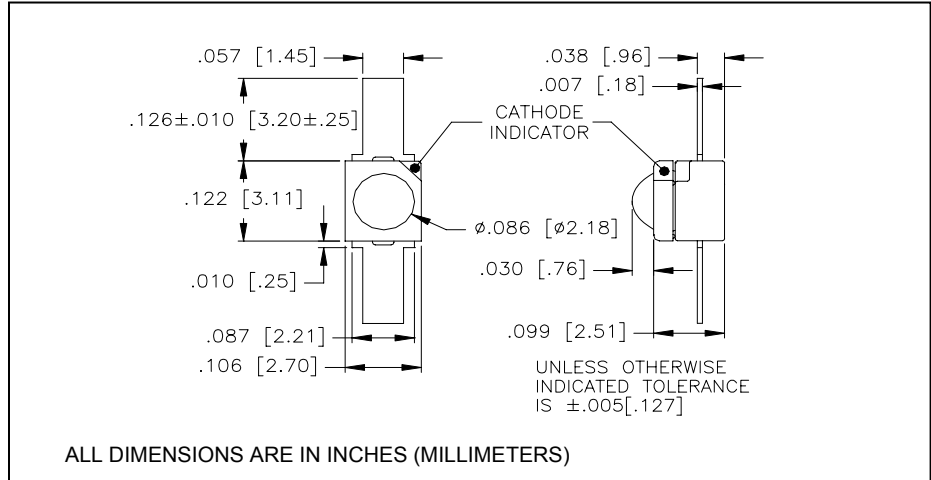


# CLE110F

## Gallium Arsenide IRED Flat Lead PLCC Package



April, 2003



### features

- Flat lead PLCC package
- $\pm 5^\circ$  emission angle
- 940 nm peak wavelength
- Collimating plastic lens
- Available with flat window

### description

The CLE110F infrared emitting diode features current GaAs/AlGaAs technology for increased quantum efficiency. The chip is mounted in a compact, embedded leadframe package with flying lead configuration. The plastic lens provides a narrow emission pattern. Contact Clairex for alternative wavelength emitter chips, different lens and lead configurations.

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

storage temperature .....	$-40^\circ\text{C}$ to $+125^\circ\text{C}$
operating temperature .....	$-40^\circ\text{C}$ to $+100^\circ\text{C}$
lead soldering temperature <sup>(1)</sup> .....	$260^\circ\text{C}$
continuous forward current <sup>(2)</sup> .....	30mA
peak forward current (1.0ms pulse width, 10% duty cycle) .....	1A
reverse voltage .....	5V
continuous power dissipation <sup>(3)</sup> .....	75mW

### notes:

1. 0.06" (1.5mm) from case for 5 seconds maximum.
2. Derate linearly 0.32mA/ $^\circ\text{C}$  from  $25^\circ\text{C}$  free air temperature to  $T_A = +100^\circ\text{C}$ .
3. Derate linearly 0.80mW/ $^\circ\text{C}$  from  $25^\circ\text{C}$  free air temperature to  $T_A = +100^\circ\text{C}$ .

electrical characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
$P_O$	Total power output	2.0	2.5	-	mW	$I_F = 20\text{mA}$
$V_F$	Forward voltage	-	-	1.5	V	$I_F = 20\text{mA}$
$I_R$	Reverse current	-	-	10	$\mu\text{A}$	$V_R = 5.0\text{V}$
$\lambda_p$	Peak emission wavelength	-	940	-	nm	$I_F = 20\text{mA}$
BW	Spectral bandwidth at half power points	-	50	-	nm	$I_F = 20\text{mA}$
$\theta_{HP}$	Emission angle at half power points	-	10	-	deg.	$I_F = 20\text{mA}$
$t_r, t_f$	Radiation rise and fall time	-	700	-	ns	$I_{F(PK)} = 20\text{mA}$

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

Revised 3/15/06