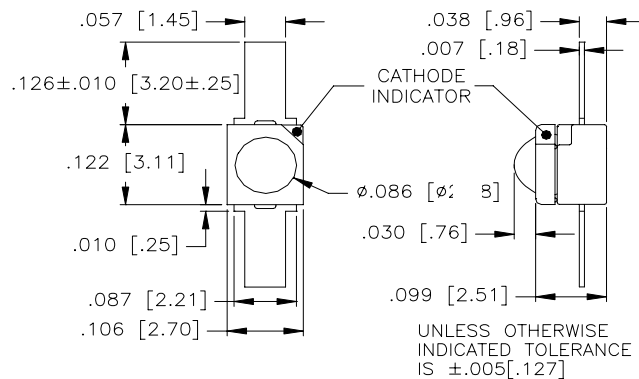


CLE310F

Super-efficient AlGaAs IRED Flat Lead PLCC Package



June, 2003



ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)

features

- Flat lead PLCC package
- $\pm 5^\circ$ emission angle
- 850nm peak wavelength
- Exceptionally high power output
- Collimating plastic lens

description

The CLE310F is an 850nm, high efficiency, AlGaAs infrared emitting diode. Output typically exceeds standard AlGaAs emitters by 50%. The CLE310F is intended for applications requiring high power output and narrow radiation pattern. Contact Clairex for other options.

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

storage temperature	-40°C to +125°C
operating temperature	-40°C to +100°C
lead soldering temperature ⁽¹⁾	260°C
continuous forward current ⁽²⁾	50mA
peak forward current (1.0ms pulse width, 10% duty cycle)	1A
reverse voltage	5V
continuous power dissipation ⁽³⁾	80mW

notes:

1. 0.06" (1.5mm) from case for 5 seconds maximum.
2. Derate linearly 0.53mA/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.
3. Derate linearly 0.85mW/°C from 25°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	1.5	2.0	-	mW	$I_F = 20\text{mA}$
V_F	Forward voltage	-	1.4	1.6	V	$I_F = 20\text{mA}$
I_R	Reverse current	-	-	10	μA	$V_R = 5\text{V}$
λ_p	Peak emission wavelength	-	850	-	nm	$I_F = 20\text{mA}$
BW	Spectral bandwidth at half power points	-	50	-	nm	$I_F = 20\text{mA}$
θ_{HP}	Emission angle at half power points	-	10	-	deg.	$I_F = 20\text{mA}$
t_r	Radiation rise time ⁽⁴⁾	-	20	-	ns	$I_{F(PK)} = 20\text{mA}$
t_f	Radiation fall time ⁽⁴⁾	-	40	-	ns	$I_{F(PK)} = 20\text{mA}$

Note 4: $f = 100\text{kHz}$, D.C. = 50%. 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.

Revised 3/15/06

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