CLE310F

Super-efficient AlGaAs IRED
Flat Lead PLCC Package

Clairex® Technologies, Inc.

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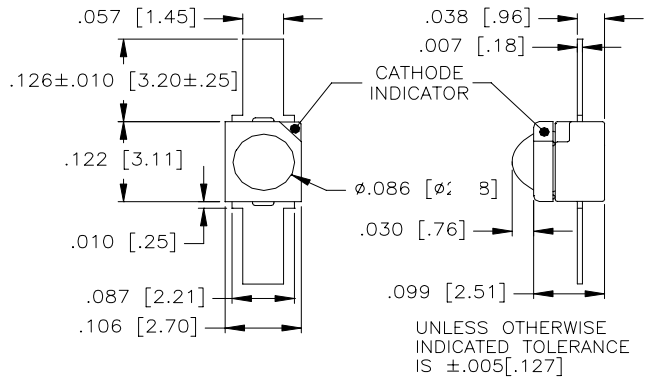

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)

features

- Flat lead PLCC package
- ± 5° emission angle
- 850nm peak wavelength
- Exceptionally high power output
- Custom 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 alternative wavelength emitter chips, different lenses and lead configurations.

absolute maximum ratings (T_A = 25°C unless otherwise stated)

storage temperature	-40°C to +125°C
operating temperature	-40°C to +125°C
lead soldering temperature[1]	240°C
maximum continuous current[2]	50mA
peak forward current (10µs pulse width, 100pps)	1A
maximum power dissipation[3]	80mW
reverse voltage	3V

notes:

1. 0.06" (1.5mm) from case for 5 seconds maximum. Maximum temperature can be 260°C if reflow soldering.
2. Derate linearly 0.40mA/°C from 25°C free air temperature to T_A = +125°C.
3. Derate linearly 0.64mW/°C from 25°C free air temperature to T_A = +125°C.
4. Other wavelength die are available in this package.

electrical characteristics (T_A = 25°C unless otherwise noted)

symbol	parameter	min	typ	max	units	test conditions
P_O	Total power output[5]	1.5	-	-	mW	I_F = 20mA
V_F	Forward voltage	-	1.4	1.6	V	I_F = 20mA
I_R	Reverse current	-	-	10	µA	V_R = 3.0V
λ_p	Peak emission wavelength	-	850	-	nm	I_F = 20mA
BW	Spectral bandwidth at half power points	-	50	-	nm	I_F = 20mA
θ_{HP}	Emission angle at half power points	-	10	-	deg.	I_F = 20mA
t_r	Radiation rise time[6]	-	20	-	ns	$I_{F(PK)}$ = 20mA
t_f	Radiation fall time[6]	-	40	-	ns	$I_{F(PK)}$ = 20mA

Note: 5. Power output is measured in an integrating sphere.
6. f = 100kHz, D.C. = 50%. Pulse generator t_r and t_f <200ps.

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