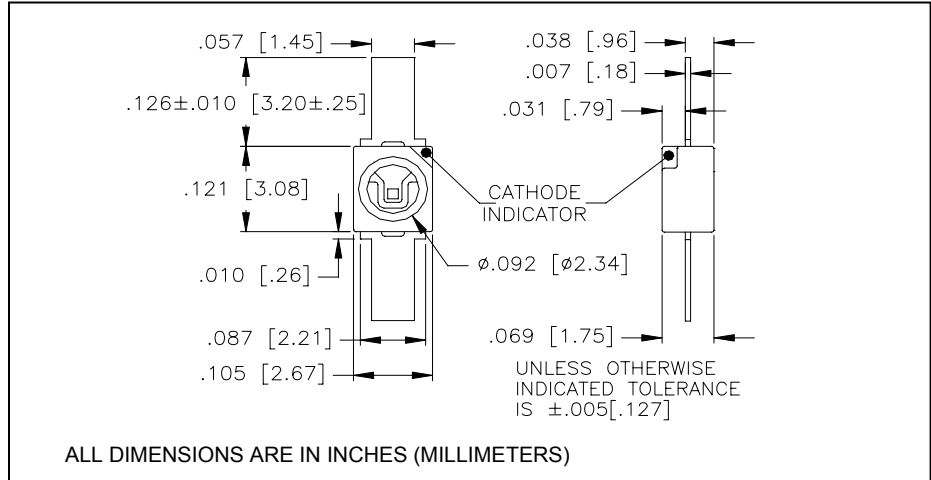


# CLE300F

## Aluminum Gallium Arsenide IRED Flat Lead PLCC Package



May, 2003



### features

- Flat lead PLCC package
- ±50° emission angle
- 850 nm peak wavelength
- RoHS compliant

### description

The CLE300F is an 850nm high output infrared emitting diode chip featuring current AlGaAs technology. It is mounted in a compact, embedded leadframe package with flying lead configuration and overcoated with clear epoxy to provide a wide emission pattern. Contact Clairex for alternative wavelength emitter chips, different lenses and lead configurations.

### absolute maximum ratings (T<sub>A</sub> = 25°C unless otherwise stated)

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

### notes:

1. 0.06" (1.5mm) from case for 5 seconds maximum.
2. Derate linearly 0.40mA/°C from 25°C free air temperature to T<sub>A</sub> = +125°C.
3. Derate linearly 0.64mW/°C from 25°C free air temperature to T<sub>A</sub> = +125°C.

electrical characteristics (T <sub>A</sub> = 25°C unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
P <sub>O</sub>	Total power output	3.0	4.0	-	mW	I <sub>F</sub> = 20mA
V <sub>F</sub>	Forward voltage	-	1.4	1.6	V	I <sub>F</sub> = 20mA
I <sub>R</sub>	Reverse current	-	-	10	μA	V <sub>R</sub> = 5V
λ <sub>p</sub>	Peak emission wavelength	-	850	-	nm	I <sub>F</sub> = 20mA
BW	Spectral bandwidth at half power points	-	60	-	nm	I <sub>F</sub> = 20mA
θ <sub>HP</sub>	Emission angle at half power points	-	100	-	deg.	I <sub>F</sub> = 20mA
t <sub>r</sub>	Radiation rise time <sup>(4)</sup>	-	11	-	ns	I <sub>F(PK)</sub> = 20mA
t <sub>f</sub>	Radiation fall time <sup>(4)</sup>	-	7.0	-	ns	I <sub>F(PK)</sub> = 20mA

notes: 4. f = 100kHz, D.C. = 50%. Pulse generator t<sub>r</sub> and t<sub>f</sub> <200ps.

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

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