# CLE300F

## Aluminum Gallium Arsenide IRED
## Flat Lead PLCC Package

Clairex® Technologies, Inc.

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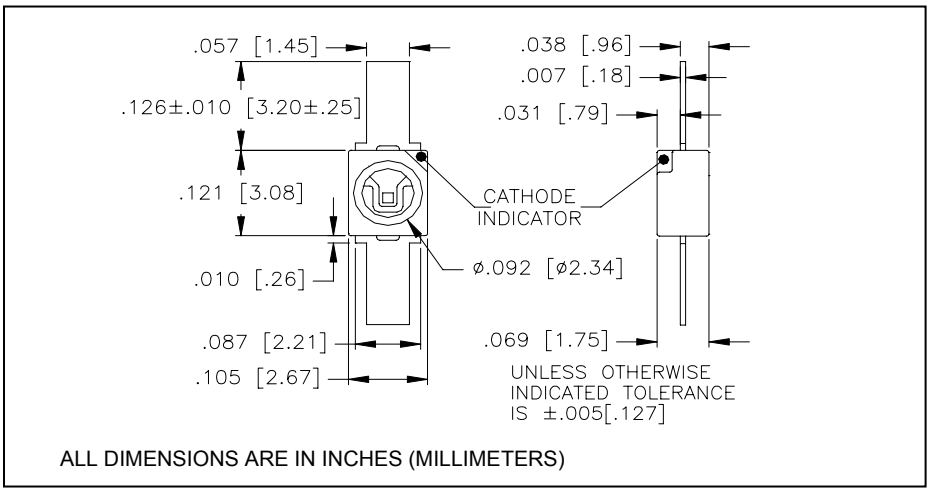


**features**

- 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** ($T_A$ = 25°C unless otherwise stated)

| | |
|---|---|
| storage temperature | -40°C to +125°C |
| operating temperature | -40°C to +125°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 0.40mA/°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.

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

| symbol | parameter | min | typ | max | units | test conditions |
|---|---|---|---|---|---|---|
| $P_O$ | Total power output | 3.0 | 4.0 | - | mW | $I_F$ = 20mA |
| $V_F$ | Forward voltage | - | 1.4 | 1.6 | V | $I_F$ = 20mA |
| $I_R$ | Reverse current | - | - | 10 | µA | $V_R$ = 5V |
| λp | Peak emission wavelength | - | 850 | - | nm | $I_F$ = 20mA |
| BW | Spectral bandwidth at half power points | - | 60 | - | nm | $I_F$ = 20mA |
| $\theta_{HP}$ | Emission angle at half power points | - | 100 | - | deg. | $I_F$ = 20mA |
| $t_r$ | Radiation rise time[4] | - | 11 | - | ns | $I_{F(PK)}$ = 20mA |
| $t_f$ | Radiation fall time[4] | - | 7.0 | - | ns | $I_{F(PK)}$ = 20mA |

**notes:** 4. f = 100kHz, D.C. = 50%. Pulse generator $t_r$ and $t_f$ <200ps.



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