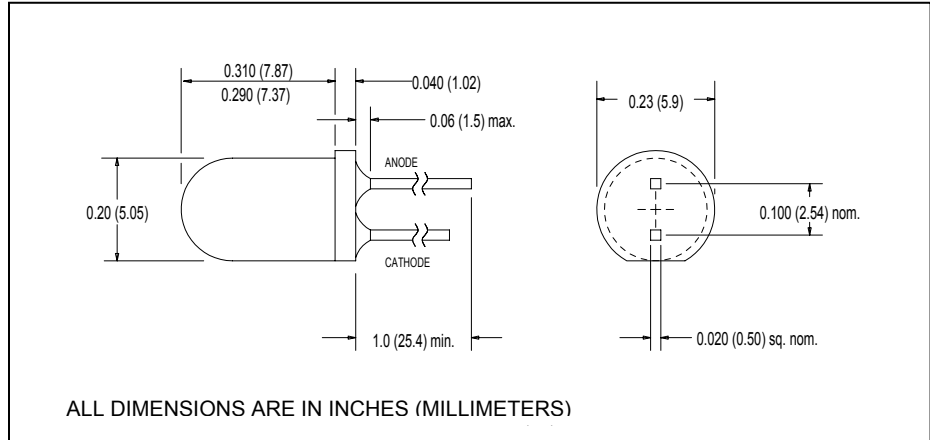


CLE367

High Power Aluminum Gallium Arsenide IRED



April, 2004



features

- narrow emission angle
- T-1 $\frac{3}{4}$ (5mm) plastic package
- excellent heat dissipation
- high power output
- fast response

description

The CLE367 is a AlGaAs infrared emitting diode mounted in a T-1 $\frac{3}{4}$ (5mm) water-clear plastic package. The CLE367 features high power output, fast response and a peak wavelength of 850nm. For additional information, call Clairex.

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⁾	100mA
peak forward current (1.0ms pulse width, 10% duty cycle)	1A
reverse voltage	5V
continuous power dissipation ⁽³⁾	170mW

notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum
2. Derate linearly 1.06mA/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.
3. Derate linearly 1.81mW/°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	20	40	-	mW	$I_F = 100\text{mA}$
E_e	Irradiance ⁽⁴⁾	-	0.9	-	mW/cm ²	$I_F = 20\text{mA}$
V_F	Forward voltage	-	1.45	1.9	V	$I_F = 100\text{mA}$
I_R	Reverse current	-	-	10	μA	$V_R = 5.0\text{V}$
λ_p	Peak emission wavelength	-	850	-	nm	$I_F = 20\text{mA}$
BW	Spectral bandwidth at half power points	-	30	-	nm	$I_F = 20\text{mA}$
Θ_{HP}	Emission angle at half power points	-	24	-	deg.	$I_F = 20\text{mA}$
t_r	Output rise time	-	20	-	ns	$I_{F(PK)} = 100\text{mA}$ ⁽⁵⁾
t_f	Output fall time	-	40	-	ns	$I_{F(PK)} = 100\text{mA}$ ⁽⁵⁾

- notes:
4. E_e is a measure of irradiance (power/unit area) within a 0.444" (1.128cm) diameter area, centered on the mechanical axis of the device and spaced 2.54" (6.45cm) from the lens side of the tab. This is geometrically equivalent to a 10° cone.
 5. $f = 1\text{kHz}$, D.C. = 50%.

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

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