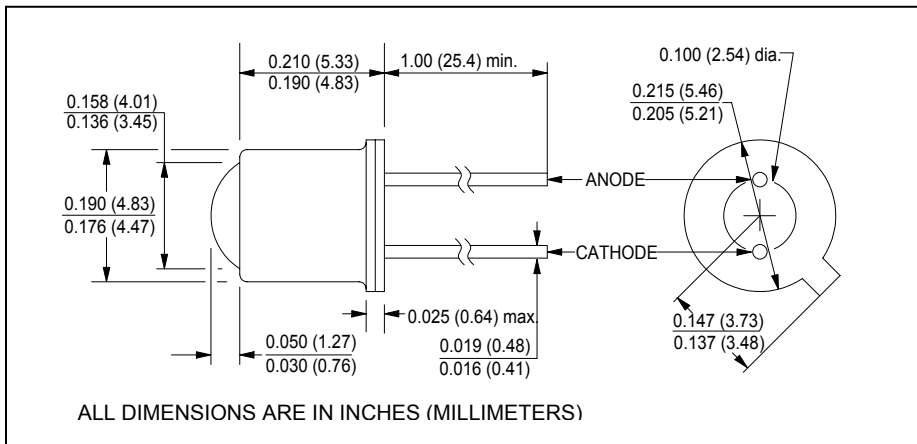


CLE230, CLE231, CLE232, CLE233

High Power Aluminum Gallium Arsenide IREs



February, 2001



features

- narrow emission angle
- TO-46 hermetically sealed package
- excellent heat dissipation
- high power output

description

The CLE230 series are AlGaAs infrared emitting diodes mounted in TO-46 hermetic packages. The narrow emission angle provides high on-axis intensity. The series are spectrally and mechanically matched to the CLT130 phototransistor series. For additional information, call Clairex.

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

storage temperature	-55°C to +150°C
operating temperature	-55°C to +125°C
lead soldering temperature ⁽¹⁾	240°C
maximum continuous current ⁽²⁾	100mA
peak forward current (10µs pulse width, 100pps)	10A
maximum power dissipation ⁽³⁾	170mW
reverse voltage	3V

notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum. Maximum temperature can be 260°C if wave soldering.
2. Derate linearly 0.80mA/°C from 25°C free air temperature to $T_A = +125^\circ\text{C}$.
3. Derate linearly 1.36mW/°C from 25°C free air temperature to $T_A = +125^\circ\text{C}$.

electrical characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
symbol	parameter		min	typ	max	units / test conditions
E_e	Irradiance ⁽¹⁾	CLE230	1.0	-	-	mW/cm ² $I_F = 100\text{ma}$
		CLE231	1.5	-	-	
		CLE232	2.6	-	-	
		CLE233	3.5	-	-	
V_F	Forward voltage		-	-	1.8	V $I_F = 100\text{ma}$
I_R	Reverse current		-	-	10	µA $V_R = 3.0\text{V}$
λ_P	Peak emission wavelength		-	880	-	nm $I_F = 100\text{ma}$
BW	Spectral bandwidth at half power points		-	80	-	nm $I_F = 20\text{ma}$
Θ_{HP}	Emission angle at half power points		-	40	-	deg. $I_F = 20\text{ma}$
t_r	Output rise time		-	700	-	ns $I_F = 100\text{ma}$
t_f	Output fall time		-	700	-	ns $I_F = 100\text{ma}$

note: 1. Measured into a 0.25" aperture, 1.20" from device lens.

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

Revised 12/01/04