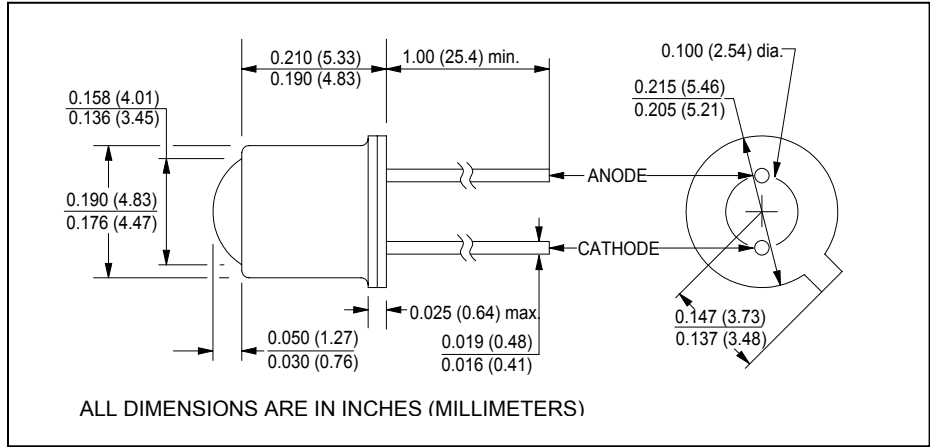
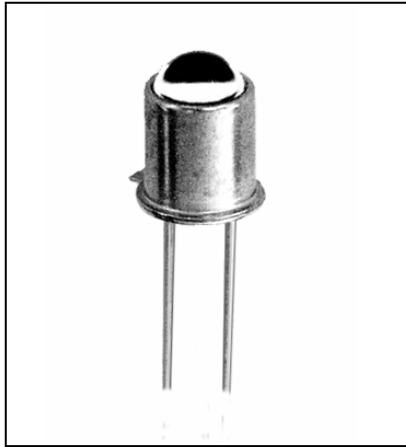


# CLE230, CLE231, CLE232, CLE233

## 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 <sup>(1)</sup> .....	240°C
maximum continuous current <sup>(2)</sup> .....	100mA
peak forward current (10µs pulse width, 100pps) .....	10A
maximum power dissipation <sup>(3)</sup> .....	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 1.0mA/°C from 25°C free air temperature to  $T_A = +125^\circ\text{C}$ .
3. Derate linearly 1.7mW/°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 <sub>e</sub>	Irradiance <sup>(1)</sup>	CLE230	1.0	-	-	mW/cm <sup>2</sup>	I <sub>F</sub> = 100ma
		CLE231	1.5	-	-		
		CLE232	2.6	-	-		
		CLE233	3.5	-	-		
V <sub>F</sub>	Forward voltage		-	-	1.8	V	I <sub>F</sub> = 100ma
I <sub>R</sub>	Reverse current		-	-	10	µA	V <sub>R</sub> = 3.0V
λ <sub>P</sub>	Peak emission wavelength		-	880	-	nm	I <sub>F</sub> = 100ma
BW	Spectral bandwidth at half power points		-	80	-	nm	I <sub>F</sub> = 20ma
Θ <sub>HP</sub>	Emission angle at half power points		-	40	-	deg.	I <sub>F</sub> = 20ma
t <sub>r</sub>	Output rise time		-	700	-	ns	I <sub>F</sub> = 100ma
t <sub>f</sub>	Output fall time		-	700	-	ns	I <sub>F</sub> = 100ma

**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.