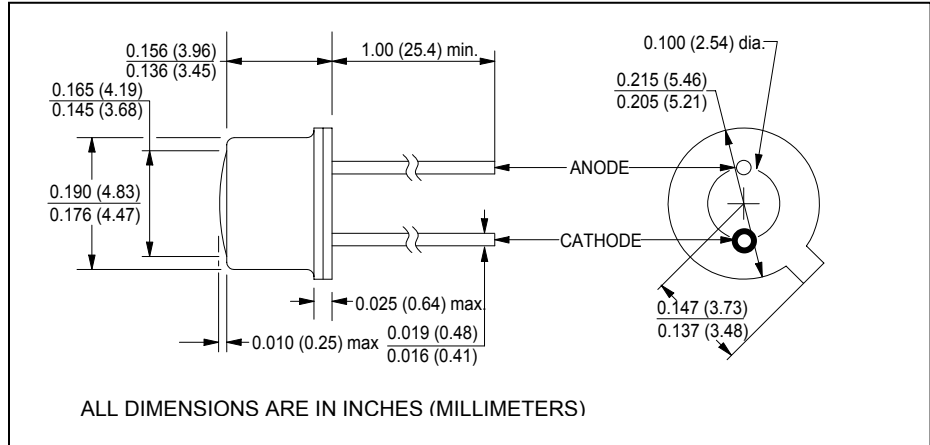


CLE230W, CLE231W, CLE232W

High Power Aluminum Gallium Arsenide IREDS



July, 2001



features

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

description

The CLE230W series are AlGaAs infrared emitting diodes mounted in flat window TO-46 hermetic packages. The wide emission angle provides even illumination over a large area. The series are spectrally and mechanically matched to the CLT130W phototransistor series. For additional information, call Clairex.

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

storage temperature	-55°C to $+150^\circ\text{C}$
operating temperature	-55°C to $+125^\circ\text{C}$
lead soldering temperature ⁽¹⁾	240°C
maximum continuous current ⁽²⁾	100mA
peak forward current (10 μs pulse width, 100pps)	10A
maximum power dissipation ⁽³⁾	200mW
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/ $^\circ\text{C}$ from 25°C free air temperature to $T_A = +125^\circ\text{C}$.
3. Derate linearly 1.6mW/ $^\circ\text{C}$ 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 ^(4,5)	CLE230W	1.5	-	-	mW/cm ²	$I_F = 100\text{mA}$
		CLE231W	3.5	-	-		
		CLE232W	5.0	-	-		
V_F	Forward voltage ^(4,5)		-	-	2.0	V	$I_F = 100\text{mA}$
I_R	Reverse current		-	-	10	μA	$V_R = 3.0\text{V}$
λ_P	Peak emission wavelength		-	890	-	nm	$I_F = 100\text{mA}$
BW	Spectral bandwidth at half power points		-	80	-	nm	$I_F = 100\text{mA}$
Θ_{HP}	Emission angle at half power points		-	70	-	deg.	$I_F = 100\text{mA}$
t_r	Output rise time		-	500	-	ns	$I_F = 100\text{mA}$
t_f	Output fall time		-	250	-	ns	$I_F = 100\text{mA}$

note: 4. E_e is a measure of irradiance (power/unit area) within a .25" (6.35mm) diameter area, centered on the mechanical axis of the device and spaced .466" (11.8mm) from the lens side of the tab. This is geometrically equivalent to a 30° cone.
5. Measurement taken at trailing edge of 100 μs pulse with a duty cycle of 0.1%.

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

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Clairex Technologies, Inc.
Phone: 972-265-4900

1301 East Plano Parkway
Fax: 972-265-4949

Plano, Texas 75074-8524
www.clairex.com