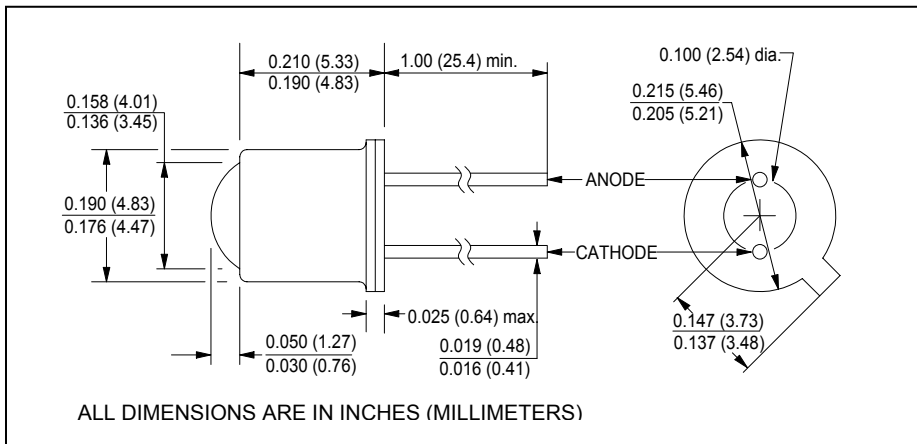
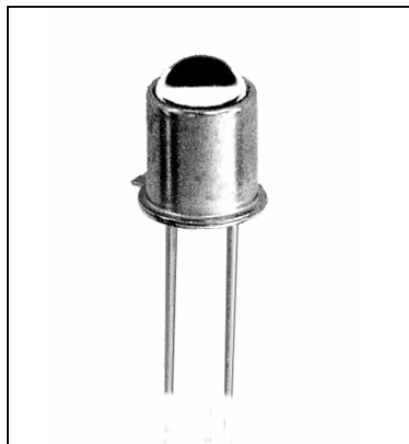


# CLE230, CLE231, CLE232, CLE233

## 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 .....	$-55^\circ\text{C}$ to $+150^\circ\text{C}$
operating temperature .....	$-55^\circ\text{C}$ to $+125^\circ\text{C}$
lead soldering temperature <sup>(1)</sup> .....	$240^\circ\text{C}$
maximum continuous current <sup>(2)</sup> .....	100mA
peak forward current (10 $\mu\text{s}$ 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  $260^\circ\text{C}$  if wave soldering.
2. Derate linearly 1.0mA/ $^\circ\text{C}$  from  $25^\circ\text{C}$  free air temperature to  $T_A = +125^\circ\text{C}$ .
3. Derate linearly 1.7mW/ $^\circ\text{C}$  from  $25^\circ\text{C}$  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 <sup>(1)</sup>	CLE230	1.0	-	-	mW/cm <sup>2</sup>	$I_F = 100\text{ma}$
		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	$\mu\text{A}$	$V_R = 3.0\text{V}$
$\lambda_P$	Peak emission wavelength		-	880	-	nm	$I_F = 100\text{ma}$
BW	Spectral bandwidth at half power points		-	80	-	nm	$I_F = 20\text{ma}$
$\Theta_{HP}$	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.