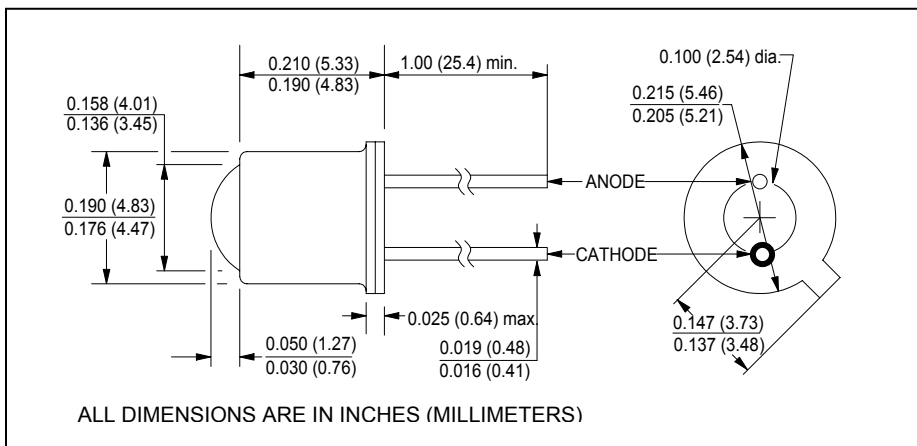
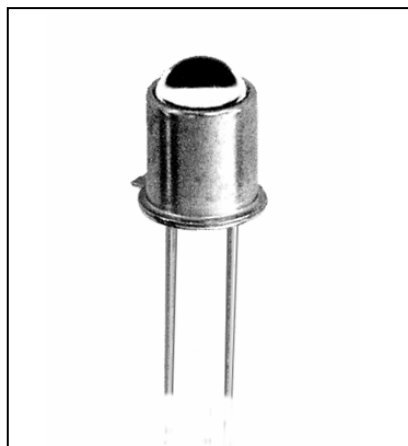


CLE130, CLE131, CLE132, CLE133

High Power Gallium Arsenide IREs



February, 2001



features

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

description

The CLE130 series are GaAs 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 $+150^\circ\text{C}$
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⁾	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/ $^\circ\text{C}$ from 25°C free air temperature to $T_A = +125^\circ\text{C}$.
3. Derate linearly 1.7mW/ $^\circ\text{C}$ 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 ⁽¹⁾	CLE130	0.3	-	-	mW/cm ²	$I_F = 100\text{ma}$
		CLE131	0.5	-	-		
		CLE132	1.0	-	-		
		CLE133	1.5	-	-		
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		-	940	-	nm	$I_F = 100\text{ma}$
BW	Spectral bandwidth at half power points		-	50	-	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.

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