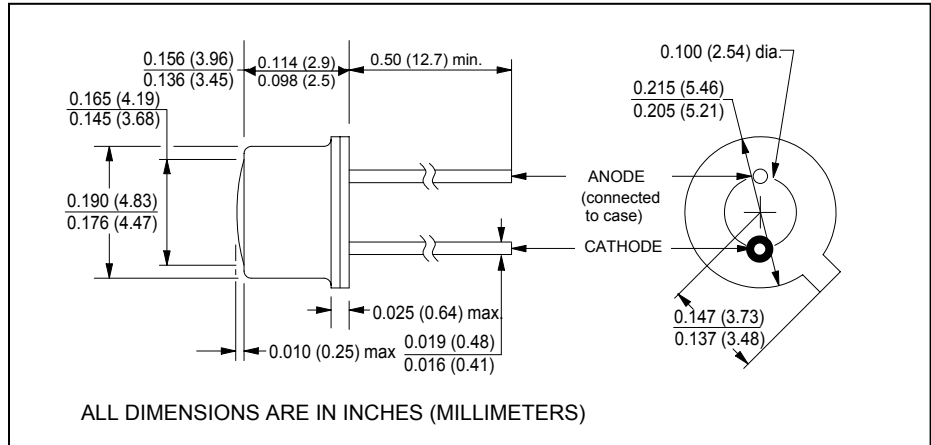


# CLE320W

## High Power Aluminum Gallium Arsenide 810nm IRED



July, 2004



### features

- anode connected to case
- wide emission angle
- excellent heat dissipation
- high speed operation
- $\pm 35^\circ$  emission angle
- RoHS compliant

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

storage temperature	-65°C to +150°C
operating temperature	-65°C to +125°C
lead soldering temperature <sup>(1)</sup>	260°C
continuous forward current <sup>(2)</sup>	100mA
peak forward current (1.0ms pulse width, 10% duty cycle)	1A
reverse voltage	5V
continuous power dissipation <sup>(3)</sup>	200mW

### description

The CLE320W contains a double heterojunction AlGaAs infrared emitting diode mounted in a low profile, flat window, TO-46 hermetic package. The wide emission angle provides even illumination over a large area. For additional information, call Clairex.

### notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum.
2. Derate linearly 0.80mA/°C from 25°C free air temperature to  $T_A = +125^\circ\text{C}$ .
3. Derate linearly 1.6mW/°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
$P_O$	Total power output	-	25	-	mW	$I_F = 100\text{mA}$
$V_F$	Forward voltage	-	-	2.5	V	$I_F = 100\text{mA}$
$I_R$	Reverse current	-	-	10	$\mu\text{A}$	$V_R = 5.0\text{V}$
$\lambda_p$	Peak emission wavelength	800	810	820	nm	$I_F = 100\text{mA}$
BW	Spectral bandwidth at half power points	-	50	-	nm	$I_F = 100\text{mA}$
$\theta_{HP}$	Emission angle at half power points	-	70	-	deg.	$I_F = 100\text{mA}$
$C_J$	Junction capacitance	-	30	-	pF	$V_R = 0\text{V}$ , $f = 1\text{MHz}$
$t_r, t_f$	Output rise and fall time	-	10	-	ns	$I_F = 50\text{mA}$

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

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