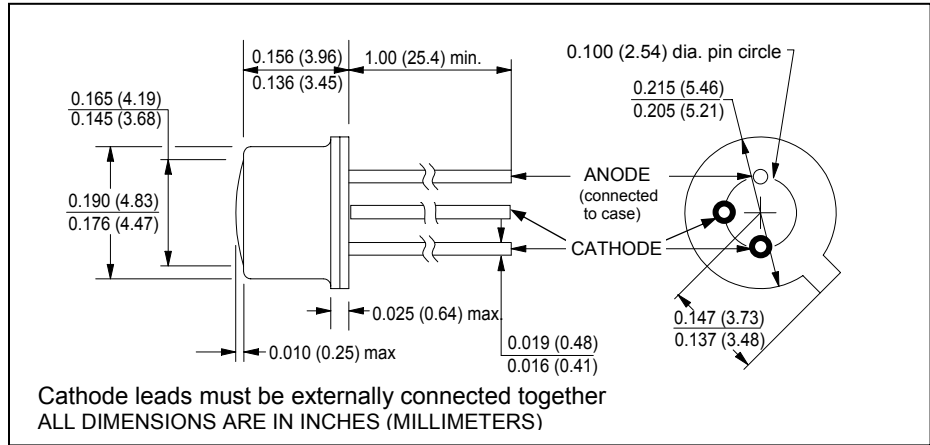


# CLE234W

## Very High Output Aluminum Gallium Arsenide Quad chip IRED Array



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### features

- wide emission angle
- 880nm wavelength
- TO-46 header with flat window can
- High power output
- RoHS compliant

### description

The CLE234W is an advanced, high efficiency, high speed AlGaAs infrared-emitting diode with four times the emitting surface of the typical AlGaAs emitter. High power output is achieved with four equally spaced cathode contacts for higher current distribution. Cathode contacts are bonded in pairs, each pair bonded to a separate lead, which need to be connected during operation. Chip size is 0.030" by 0.030". The TO-46 header provides reliable operation over a wide temperature range.

### 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)(4)</sup> .....	500mA
peak forward current (1.0ms pulse width, 10% duty cycle) .....	4A
reverse voltage .....	5V
continuous power dissipation <sup>(3)</sup> .....	500mW

### notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum.
2. Derate linearly 4.0mA/°C from 25°C free air temperature to  $T_A = +125^\circ\text{C}$ .
3. Derate linearly 4.0mW/°C from 25°C free air temperature to  $T_A = +125^\circ\text{C}$ .
4. Operation at this level requires a proper heat sink.

### electrical characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

symbol	parameter	min	typ	max	units	test conditions
$P_O$	Total power output	8.0	10	-	mW	$I_F = 100\text{mA}$
$V_F$	Forward voltage	-	1.65	1.8	V	$I_F = 100\text{mA}$
$I_R$	Reverse current	-	-	10	$\mu\text{A}$	$V_R = 5\text{V}$
$\lambda_p$	Peak emission wavelength	-	880	-	nm	$I_F = 100\text{mA}$
BW	Spectral bandwidth at half power	-	45	-	nm	$I_F = 100\text{mA}$
$\theta_{HP}$	Emission angle at half power points	-	70	-	deg.	$I_F = 100\text{mA}$
$t_r, t_f$	Radiation rise and fall time	-	700	-	ns	$I_{F(PK)} = 100\text{mA}, f = 1\text{kHz}, \text{D.C.} = 50\%$

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

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