

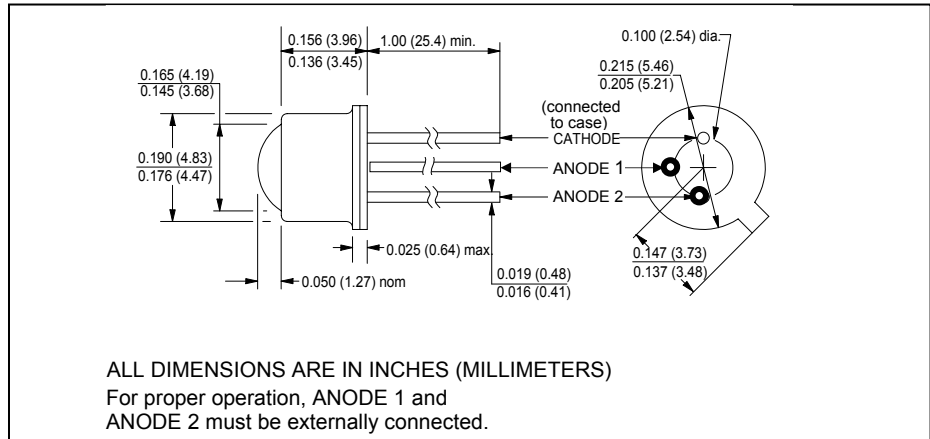
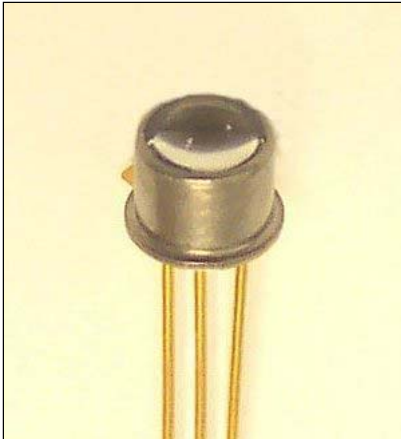
# CLE509

## Nine Element, 390nm UV LED Array Dome Lens Can, Hermetically Sealed

Preliminary



February, 2006



### features

- 390nm wavelength
- $\pm 35^\circ$  emission angle
- Cathodes connected to case
- RoHS compliant

### applications

- identifying petroleum deposits in down-hole drilling operations
- currency validation
- security
- water purification
- UV epoxy curing

### description

The CLE509 contains nine, parallel connected, 390nm LED die mounted on a TO-46 header. Custom variations are available which can contain from one to nine elements. Special lenses and multiple lead packages are also available. Call Clairex for more information.

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

storage temperature .....	$-40^\circ\text{C}$ to $+150^\circ\text{C}$
operating temperature .....	$-40^\circ\text{C}$ to $+125^\circ\text{C}$
lead soldering temperature <sup>(1)</sup> .....	$260^\circ\text{C}$
continuous forward current, each diode <sup>(2)</sup> .....	20mA
peak forward current, each diode (1.0ms pulse width, 10% duty cycle) .....	0.5A
reverse voltage .....	5.0V
continuous power dissipation <sup>(3)</sup> .....	350mW

### notes:

1. 0.06" (1.5mm) from case for 5 seconds maximum.
2. Derate linearly 0.21mA/ $^\circ\text{C}$  from  $25^\circ\text{C}$  free air temperature to  $T_A = +125^\circ\text{C}$ .
3. Derate linearly 3.73mW/ $^\circ\text{C}$  from  $25^\circ\text{C}$  free air temperature to  $T_A = +125^\circ\text{C}$ .

**Exercise caution when applying power to this unit.  
It emits high amounts of UV radiation.**

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

symbol	parameter	min	typ	max	units	test conditions
$P_O$	Total power output <sup>(4)</sup>	13.5	-	-	mW	$I_F = 180\text{mA}^{(5)}$
$V_F$	Forward voltage	-	3.0	3.9	V	$I_F = 180\text{mA}^{(5)}$
$I_R$	Reverse current (per diode)	-	-	10	$\mu\text{A}$	$V_R = 5.0\text{V}$
$\lambda_p$	Peak emission wavelength	375	390	405	nm	$I_F = 180\text{mA}^{(5)}$
$\theta_{HP}$	Emission angle at half power points	-	70	-	deg.	$I_F = 180\text{mA}^{(5)}$

- note:** 4. Measured with both anode leads connected together.  
5. This equates to 20mA per diode.

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

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