CLE230, CLE231, CLE232, CLE233
High Power Aluminum Gallium Arsenide IREDs

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°C unless otherwise stated)
storage temperature ................................................................. -55°C to +150°C
operating temperature .............................................................. -55°C to +125°C
lead soldering temperature(1) ........................................................... 240°C
maximum continuous current(2) ..................................................... 100mA
peak forward current (10μs 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/°C from 25°C free air temperature to T_A = +125°C.
3. Derate linearly 1.7mW/°C from 25°C free air temperature to T_A = +125°C.

electrical characteristics (T_A = 25°C unless otherwise noted)

<table>
<thead>
<tr>
<th>symbol</th>
<th>parameter</th>
<th>CLE230</th>
<th>CLE231</th>
<th>CLE232</th>
<th>CLE233</th>
</tr>
</thead>
<tbody>
<tr>
<td>E_e</td>
<td>Irradiance(1)</td>
<td>1.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>V_F</td>
<td>Forward voltage</td>
<td>-</td>
<td>1.7</td>
<td>1.8</td>
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<tr>
<td>I_R</td>
<td>Reverse current</td>
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<td>-</td>
<td>-</td>
<td>10</td>
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<tr>
<td>λ_p</td>
<td>Peak emission wavelength</td>
<td>-</td>
<td>880</td>
<td>-</td>
<td>-</td>
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<tr>
<td>BW</td>
<td>Spectral bandwidth at half power points</td>
<td>-</td>
<td>80</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>θ_HP</td>
<td>Emission angle at half power points</td>
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<td>40</td>
<td>-</td>
<td>-</td>
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<tr>
<td>t_r</td>
<td>Output rise time</td>
<td>-</td>
<td>700</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>t_f</td>
<td>Output fall time</td>
<td>-</td>
<td>700</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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.