CFE370 Series
Fiber Optic AlGaAs IREDs

April, 2004

features
• High power output
• High speed
• Optimized for fiber-optic applications
• TO-18 header with plastic lens
• RoHS compliant

description
The CFE370 series contain 850nm AlGaAs IREDs mounted on TO-18 headers. The devices are designed to self-align in the 0.228" (5.79mm) bore of a standard fiber-optic receptacle. Three crush ribs on the outside of the case provide press-fit installation and precise alignment.

absolute maximum ratings (T_A = 25°C unless otherwise stated)
storage temperature .............................................. -55°C to +115°C
operating temperature .............................................. -40°C to +100°C
lead soldering temperature^{(1)} ..................................... 260°C
reverse voltage .............................................................. 1.0VDC
continuous forward current^{(2)} ......................................... 100mA

notes:
1. 1/16" (1.6mm) from case for 5 seconds maximum.
2. Derate linearly 1.07mA/°C from 25°C free air temperature to T_A = +100°C.

electrical characteristics (T_A = 25°C, V_{DC} = 5VDC unless otherwise noted)

<table>
<thead>
<tr>
<th>symbol</th>
<th>parameter</th>
<th>min</th>
<th>typ</th>
<th>max</th>
<th>units</th>
<th>test conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>P_O</td>
<td>Total power output</td>
<td>CFE370A</td>
<td>25</td>
<td>29</td>
<td>-</td>
<td>μW</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CFE370B</td>
<td>15</td>
<td>20</td>
<td>-</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>CFE370C</td>
<td>5</td>
<td>10</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>V_F</td>
<td>Forward voltage</td>
<td>-</td>
<td>1.7</td>
<td>2.2</td>
<td>V</td>
<td>I_f = 100mA</td>
</tr>
<tr>
<td>λ_P</td>
<td>Peak emission wavelength</td>
<td>-</td>
<td>850</td>
<td>-</td>
<td>nm</td>
<td>I_f = 100mA</td>
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<tr>
<td>BW</td>
<td>Spectral bandwidth at half power points</td>
<td>-</td>
<td>35</td>
<td>-</td>
<td>nm</td>
<td>I_f = 100mA</td>
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<tr>
<td>t_r</td>
<td>Output rise time</td>
<td>-</td>
<td>5.0</td>
<td>8.0</td>
<td>ns</td>
<td>I_f = 100mA, 10% - 90%^{(4)}</td>
</tr>
<tr>
<td>t_f</td>
<td>Output fall time</td>
<td>-</td>
<td>5.0</td>
<td>10</td>
<td>ns</td>
<td>I_f = 100mA, 90% - 10%^{(4)}</td>
</tr>
</tbody>
</table>

notes:
3. Graded index fiber, 50 μm core, N.A. = 0.20.
4. Prebias at 5mA.