

## 940nm high power laser diodes

### Description

The 940nm high power laser diodes with optimized QW structure made by cboe have a high reliability, high performance. It has several structures of emitter width. The 940nm series high power laser diodes can get 4.0W at RT and CW condition. These products can be applied to solid-state laser pumping sources, medical usage, target designation, and free space optical communication applications.

| Features  | Applications  |
|---|---|
| <ul style="list-style-type: none"> <li>● 4.0W CW Output Power</li> <li>● Typical 940nm emission wavelength</li> <li>● Variety of emitter width: 200μm</li> <li>● Optimized QW Structure</li> <li>● Package: C-mount &amp; TO Mount</li> </ul> | <ul style="list-style-type: none"> <li>● Solid-state Laser Pumping</li> <li>● Medical Usage</li> <li>● Target Designator</li> <li>● Free-space Optical Communication</li> </ul> |

### Specifications (25°C)

| Type | Unit | LD<br>940-4W |  |  |  |  |  |
|------|------|--------------|--|--|--|--|--|
|------|------|--------------|--|--|--|--|--|

### Optical Specification

|   |       |         |  |  |  |  |  |
|---|-------|---------|--|--|--|--|--|
| CW Output Power $P_o$                               | mW    | 4       |  |  |  |  |  |
| Operating Mode                                      |       | CW      |  |  |  |  |  |
| Center Wavelength $\lambda_c$                       | nm    | 940     |  |  |  |  |  |
| Wavelength Tolerance                                | nm    | ±10     |  |  |  |  |  |
| Spectral Width $\Delta\lambda$                      | nm    | ≤2.0    |  |  |  |  |  |
| Emitting Area                                       | μm    | 200×1.5 |  |  |  |  |  |
| Wavelength Temperature Coefficient                  | nm/°C | 0.3     |  |  |  |  |  |
| Beam Divergence $\theta_{\perp} \times \theta_{//}$ | Deg   | 36×7    |  |  |  |  |  |
| Polarization  |       | TE      |  |  |  |  |  |

### Electrical Specification

|                            |     |                 |  |  |  |  |  |
|----------------------------|-----|-----------------|--|--|--|--|--|
| Slope Efficiency $E_s$     | W/A | ≥1.03           |  |  |  |  |  |
| Threshold Current $I_{th}$ | A   | ≤0.35           |  |  |  |  |  |
| Operating Current $I_o$    | A   | ≤4.1            |  |  |  |  |  |
| Operating Voltage $V_f$    | V   | ≤2.3            |  |  |  |  |  |
| Series Resistance $R_d$    | Ω   | ≤0.2            |  |  |  |  |  |
| Package Style              |     | C-Mount<br>TO-3 |  |  |  |  |  |

### Absolute Maximum Ratings

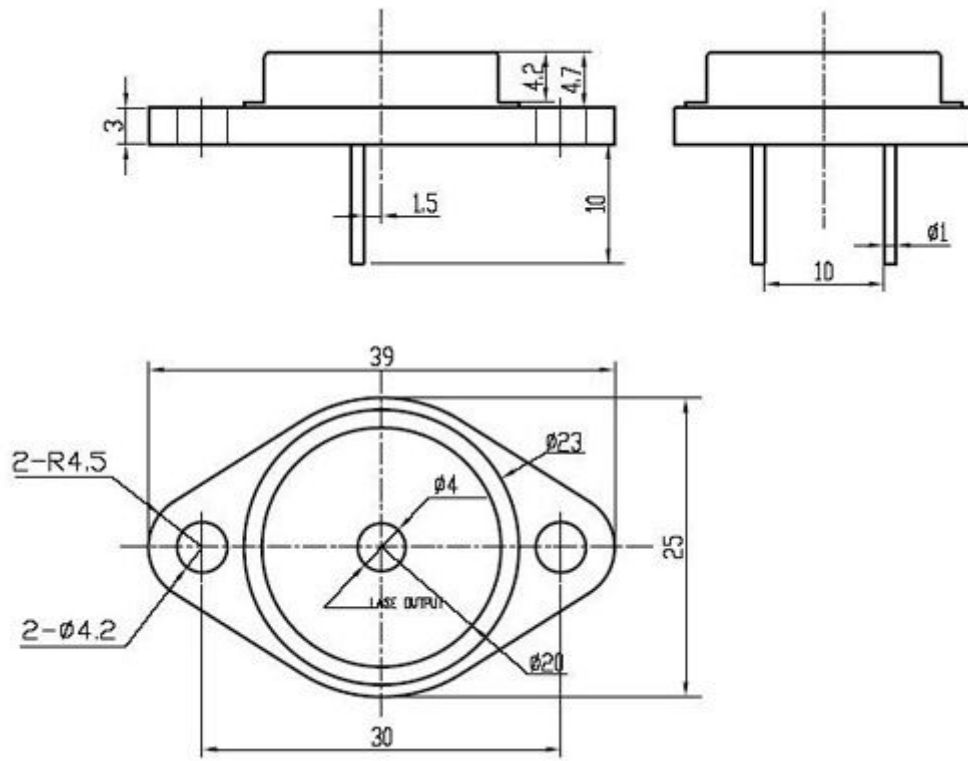
|                               |    |        |  |  |  |  |  |
|-------------------------------|----|--------|--|--|--|--|--|
| Reverse Voltage $V_r$         | V  | 2.0    |  |  |  |  |  |
| Operating Temperature $T_o$   | °C | 15-25  |  |  |  |  |  |
| Storage Temperature $T_{stg}$ | °C | -10~60 |  |  |  |  |  |

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## Package Dimensions

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TO-3 Package (Unit:mm)



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C-mount Heat Sink (Unit:mm, Heat Sink(+))

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