

EYP-RWL-1060-00100-0750-SOT01-0000

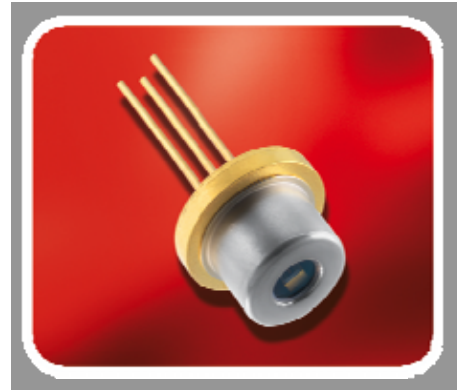


RIDGE WAVEGUIDE LASER

GaAs Semiconductor Laser Diode
Fabry-Perot Laser

General Product Information

| Product | Application |
|--|--------------|
| 1060 nm Fabry-Perot Laser with hermetic TO Housing | Spectroscopy |
| Monitor Diode | |
| | |
| | |



Absolute Maximum Ratings

| | Symbol | Unit | min | typ | max |
|---------------------------------|-----------|------|-----|-----|-----|
| Storage Temperature | T_S | °C | -20 | | 85 |
| Operational Temperature at Case | T_C | °C | -20 | | 50 |
| Forward Current | I_F | mA | | | 180 |
| Reverse Voltage | V_R | V | | | 0 |
| Output Power | P_{opt} | mW | | | 110 |

Stress in excess of the Absolute Maximum Ratings can cause permanent damage to the device.

Recommended Operational Conditions

| | Symbol | Unit | min | typ | max |
|---------------------------------|-----------|------|-----|-----|-----|
| Operational Temperature at Case | T_C | °C | 15 | | 40 |
| Forward Current | I_F | mA | | | 160 |
| Output Power | P_{opt} | mW | 10 | | 100 |

| Measurement Conditions / Comments |
|-----------------------------------|
| |
| |
| |

Characteristics at $T_{LD} = 25\text{ °C}$ at Begin Of Life

| Parameter | Symbol | Unit | min | typ | max |
|---------------------------------------|------------------|---------------|------|------|------|
| Center Wavelength | λ_c | nm | 1050 | 1060 | 1070 |
| Spectral Width (FWHM) | $\Delta\lambda$ | nm | | | 1 |
| Temperature Coefficient of Wavelength | $d\lambda / dT$ | nm / K | | 0.3 | |
| Output Power @ $I_F = 160\text{ mA}$ | P_{opt} | mW | 100 | | |
| Slope Efficiency | η_d | W / A | 0.6 | 0.8 | |
| Threshold Current | I_{th} | mA | | | 70 |
| Cavity Length | L | μm | | 750 | |
| Divergence parallel | $\Theta_{ }$ | ° | | 10 | |
| Divergence perpendicular | Θ_{\perp} | ° | | 30 | |

| Measurement Conditions / Comments |
|---|
| see images on page 4 |
| |
| total output measured with integrating sphere |
| |
| FWHM |
| FWHM |

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We focus on power.

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Characteristics at T_{amb} 25 °C at Begin Of Life cont'd

| Parameter | Symbol | Unit | min | typ | max |
|------------------------------|--------|------|-----|-------------------|-----|
| Polarization | | | | TE | |
| Spatial Mode (transversal) | | | | TEM ₀₀ | |
| Spectral Mode (longitudinal) | | | | Single/Multi Mode | |

Measurement Conditions / Comments

E field parallel to Pin 2 - Pin 3 - plane

Fundamental Mode

depending on operating conditions

Monitor Diode

| Parameter | Symbol | Unit | min | typ | max |
|-------------------------------|---------------------|--------------|-----|-----|-----|
| Monitor Detector Responsivity | I_{mon} / P_{opt} | $\mu A / mW$ | 0.5 | | 10 |
| Reverse Voltage Monitor Diode | $U_{R MD}$ | V | 3 | | 5 |

Measurement Conditions / Comments

$U_R = 5 V$, target values

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Package Dimensions

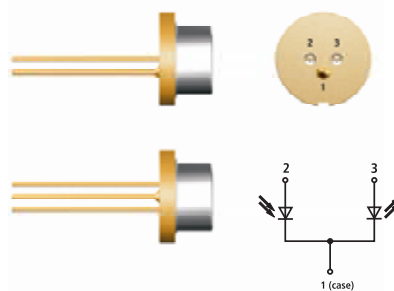
| Parameter | Symbol | Unit | min | typ | max |
|---------------------------------|-----------|------|------|------|------|
| Height of Emission Plane | d_{EP} | mm | 2.30 | 2.45 | 2.50 |
| Excentricity of Emission Center | R | mm | | | 0.12 |
| Pin Length | l_{PIN} | mm | | 14 | |

Measurement Conditions / Comments

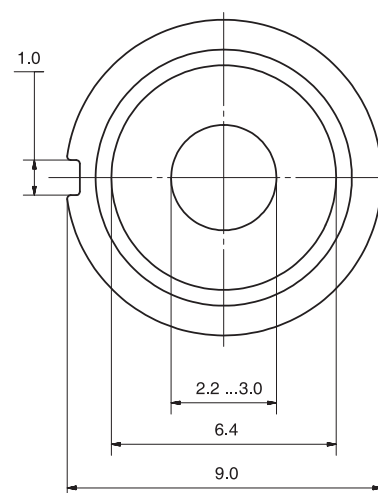
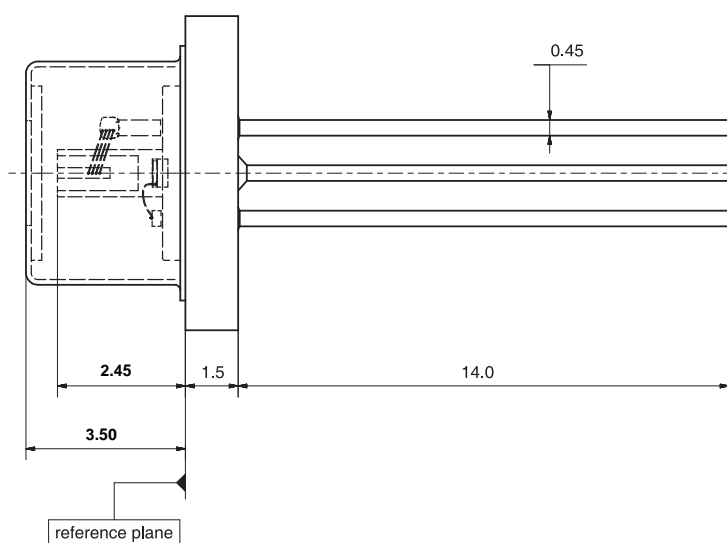
reference plane: top side of TO header
reference: center of outer diameter of header

Package Pinout

| | |
|-----------------|---|
| Ground | 1 |
| Photo Diode (+) | 2 |
| Laser (+) | 3 |



Package Drawings



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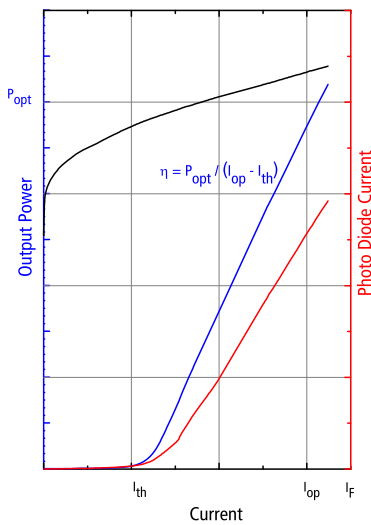
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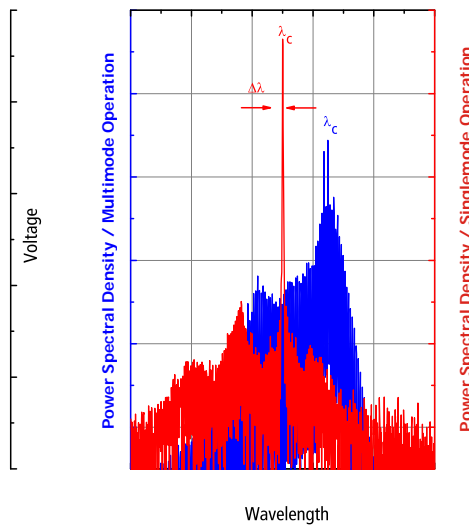


Typical Measurement Results

Output Power vs. Current



Spectra at Specified Optical Output Power



Performance figures, data and any illustrative material provided in this specification are typical and must be specifically confirmed in writing by eagleyard Photonics before they become applicable to any particular order or contract. In accordance with the eagleyard Photonics policy of continuous improvement specifications may change without notice.

Ordering Information:



800 Village Walk #316
Guilford, CT 06437
Ph: 203-401-8093

Email orders to: sales@xsoptix.com
Fax orders to: 800-878-7282

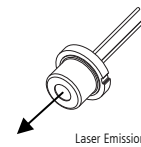
Unpacking, Installation and Laser Safety

Unpacking the laser diodes should only be done at electrostatic safe workstations (EPA). Though protection against electro static discharge (ESD) is implemented in the laser package, charges may occur at surfaces. Please store this product in its original package at a dry, clean place until final use. During device installation, ESD protection has to be maintained.

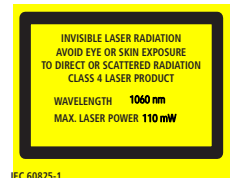
The RWL diode type is known to be sensitive against thermal stress. Operating at moderate temperatures on proper heat sinks will contribute to a long lifetime of the diode.

The laser emission from this diode is close to the invisible infrared region of the electromagnetic spectrum. Avoid direct and/or indirect exposure to the free running beam. Collimating the free running beam with optics as common in optical instruments will increase threat to the human eye.

Each laser diode will come with an individual test protocol verifying the parameters given in this document.



Laser Emission



Complies with 21 CFR 1040.10 and 1040.40