

# EYP-RWL-0850-00100-0750-TOS52-0000

Revision 0.93

1900-01-00

## SINGLE MODE LASER Ridge Waveguide Laser



### General Product Information

Product	Application
850 nm Fabry-Perot Laser with hermetic TO Housing	Spectroscopy
	Sensing



### 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			2
Output Power	$P_{opt}$	mW			110

Stress in excess of one of the Absolute Maximum Ratings can cause permanent damage to the device. Please note that a damaging optical power level may occur although the maximum current is not reached.

### 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	$\lambda_C$	nm	840	850	860
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	$\eta_d$	W / A	0.6	0.8	
Threshold Current	$I_{th}$	mA			70
Cavity Length	L	$\mu\text{m}$		750	
Divergence parallel	$\Theta_{  }$	°		10	
Divergence perpendicular	$\Theta_{\perp}$	°		30	

#### Measurement Conditions / Comments

see images on page 4
total output measured with integrating sphere
FWHM
FWHM



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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 <sub>00</sub>	
Spectral Mode (longitudinal)				Single/Multi Mode	

### Measurement Conditions / Comments

E field parallel to Pin 2 - Pin 3 - plane  
Fundamental Mode  
depending on operating conditions

### Package Dimensions



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Parameter	Symbol	Unit	min	typ	max
Height of Emission Plane	$d_{EP}$	mm		1.60	
Diameter	D	mm		5,6	
Pin Length	$l_{PIN}$	mm	6		

Measurement Conditions / Comments

reference plane: top side of TO header

### Package Pinout

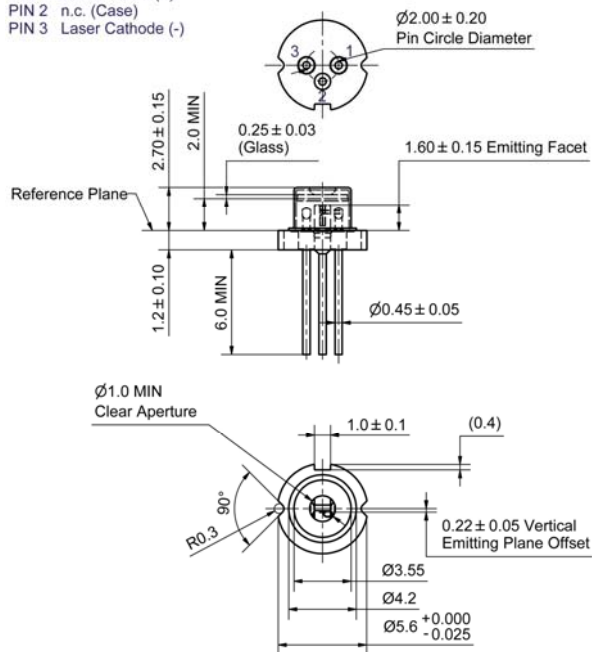
Case	2
Laser Cathode (-)	3
Laser Anode (+)	1



2 (case)

### Package Drawings

PIN 1 Laser Anode (+)  
PIN 2 n.c. (Case)  
PIN 3 Laser Cathode (-)



### Typical Measurement Results

Output Power vs. Current

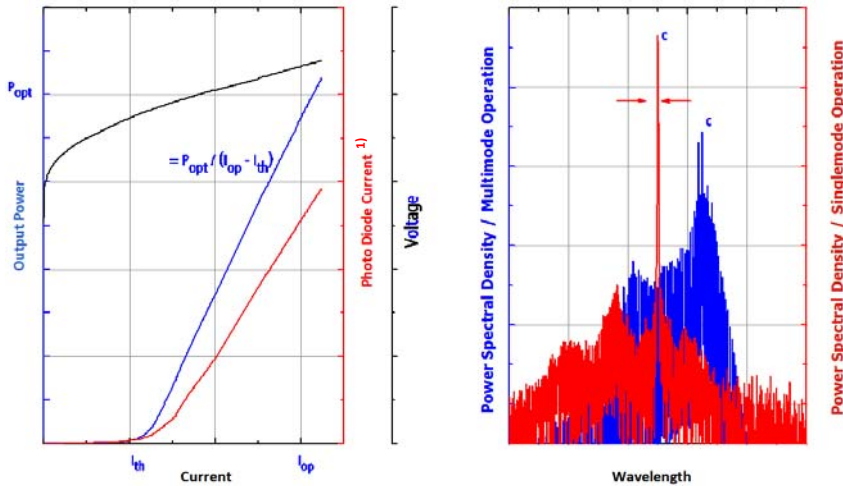
Spectra at Specified Optical Output Power

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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.

1) only applicable for variants with monitor diode

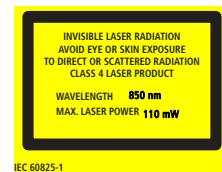
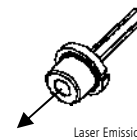
### Unpacking, Installation and Laser Safety

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.



**Ordering Information:**

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

Email orders to: [sales@xsoptix.com](mailto:sales@xsoptix.com)  
Fax orders to: 800-878-7282

