EYP-RWE-0840-06010-1500-SOT02-0000

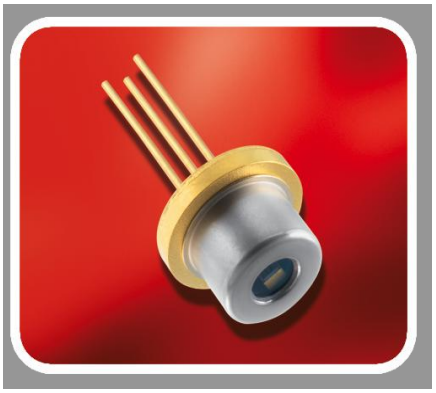
We focus on power.

RIDGE WAVEGUIDE LASER with AR-COATING

GaAs Semiconductor Laser Diode
Tunable Fabry-Perot Laser for External Cavity Operation

General Product Information

Product	Application
tunable 840 nm Fabry-Perot Laser	Spectroscopy
for use in an External Cavity Diode Laser (ECDL)	
sealed SOT Housing	
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			200
Reverse Voltage	V_R	V			-2
Output Power (extracavity)	P_{opt}	mW			100

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

Recommended Operational Conditions

	Symbol	Unit	min	typ	max	Measurement Conditions / Comments
Operational Temperature at Case	T_C	°C	15		40	
Forward Current	I_F	mA			180	

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

Parameter	Symbol	Unit	min	typ	max	Measurement Conditions / Comments
Center Wavelength	λ_C	nm		840		Tuning range and output power are estimated from the gain profile of the laser. The actual achieved wavelength and power are strongly influenced by the external cavity. Therefore eagleyard Photonics will give no guarantee on these parameters.
Tuning Range	$\Delta\lambda_{tun}$	nm	780		850	
Output Power (extracavity)	P_{opt}	mW		50		
Cavity Length	L	µm		1500		
Reflectivity at Front Facet	R_{ff}			$3 \cdot 10^{-4}$	$1 \cdot 10^{-3}$	
Polarization				TE		E field parallel to Pin 2 - Pin 3 - plane
Spatial Mode (transversal)	TEM_{00}					Fundamental Mode
Spectral Mode (longitudinal)				Single/Multi Mode		depending on operating conditions

eagleyard Photonics GmbH
Rudower Chaussee 29
12489 Berlin GERMANY
fon +49. 30. 6392 4520
fax +49. 30. 6392 4529
info@eagleyard.com
www.eagleyard.com

RIDGE WAVEGUIDE LASER with AR-COATING

GaAs Semiconductor Laser Diode

Tunable Fabry-Perot Laser for External Cavity Operation

Monitor Diode

Parameter	Symbol	Unit	min	typ	max	Measurement Conditions / Comments
Monitor Detector Responsivity	I_{mon} / P_{opt}	µA / mW	2		40	U_R = 5 V; P_{opt} intracavity
Reverse Voltage Monitor Diode	$U_{R\ MD}$	V	3		5	

eagleyard Photonics GmbH
Rudower Chaussee 29
12489 Berlin GERMANY
fon +49. 30. 6392 4520
fax +49. 30. 6392 4529
info@eagleyard.com
www.eagleyard.com

EYP-RWE-0840-06010-1500-SOT02-0000

RIDGE WAVEGUIDE LASER with AR-COATING

GaAs Semiconductor Laser Diode

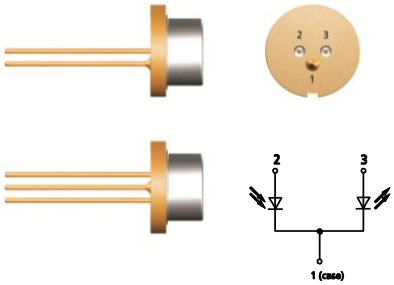
Tunable Fabry-Perot Laser for External Cavity Operation

Package Dimensions

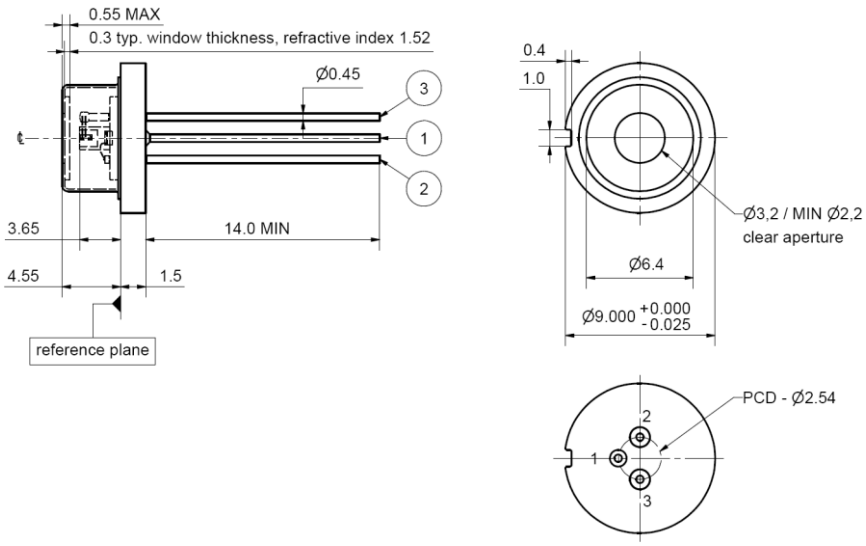
Parameter	Symbol	Unit	min	typ	max	Measurement Conditions / Comments
Height of Emission Plane	d_{EP}	mm	3.50	3.65	3.70	reference plane: top side of TO header
Excentricity of Emission Center	R	mm			0.12	reference: center of outer diameter of header
Pin Length	l_{PIN}	mm		14		

Package Pinout

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



Package Drawings



Z11-SPEC-SOT02-COM-000

eagleyard Photonics GmbH
Rudower Chaussee 29
12489 Berlin GERMANY
fon +49. 30. 6392 4520
fax +49. 30. 6392 4529
info@eagleyard.com
www.eagleyard.com

EYP-RWE-0840-06010-1500-SOT02-0000

We focus on power.

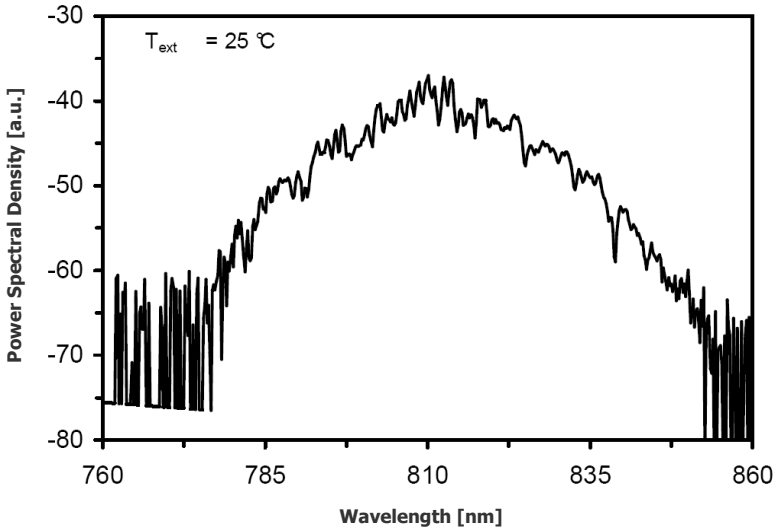
RIDGE WAVEGUIDE LASER with AR-COATING

GaAs Semiconductor Laser Diode

Tunable Fabry-Perot Laser for External Cavity Operation

Typical Measurement Results

Emission Spectrum measured without external feedback



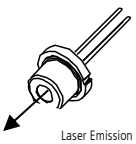
Performance figures, data and any illustrative material provided in this specification are typical and must be specifically confirmed in writing by eagleyard Photonics before they become applicable to any particular order or contract. In accordance with the eagleyard Photonics policy of continuous improvement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

Ordering Information:

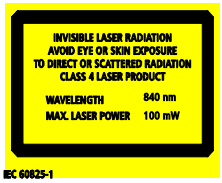
XSoptix
800 Village Walk #316
Guilford, CT 06437
Ph: 203-401-8093
Email orders to: sales@xsoptix.com
Fax orders to: 800-878-7282

Unpacking, Installation and Laser Safety

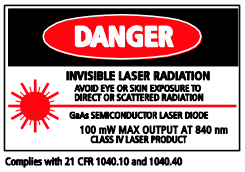
Unpacking the laser diodes should only be done at electrostatic safe workstations (EPA). Though protection against electro static discharge (ESD) is implemented in the laser package, charges may occur at surfaces. Please store this product in its original package at a dry, clean place until final use.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



The RWE diode type is known to be sensitive against thermal stress. It should not be operated without appropriate optical feedback from an external cavity. Operating at moderate temperatures on proper heat sinks willl 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.

eagleyard Photonics GmbH
Rudower Chaussee 29
12489 Berlin GERMANY
fon +49. 30. 6392 4520
fax +49. 30. 6392 4529
info@eagleyard.com
www.eagleyard.com

GL Systems Certification