DATA SHEET

EYP-RWE-0655-00505-2000-SOT02-0000

Revision 1.00

2020-11-09

GAIN CHIPS
AR coated Fabry-Perot Laser

General Product Information

Product	Application
tunable 655 nm Fabry-Perot Laser	Spectroscopy
for use in an External Cavity Diode Laser (ECDL)	
sealed SOT Housing	
Monitor Diode	

Absolute Maximum Ratings

Parameter	Symbol	Unit	min	typ	max	Measurement Conditions / Comments
Storage Temperature	T_S	°C	-40		85	Stess in excess of the Absolute Maximum Ratings can cause permanent damage to the device.
Operational Temperature at Case	T_C	°C	0		20	
Forward Current	I_F	mA			160	
Reverse Voltage	V_R	V			0	
Output Power (extracavity)	P_{opt}	mW			30	

Recommended Operational Conditions

Parameter	Symbol	Unit	min	typ	max	Measurement Conditions / Comments
Operational Temperature at Case	T_C	°C			20	
Forward Current	I_F	mA			160	

Characteristics at T_C= at 20°C, BOL
under recommended working condition, with external cavity

Parameter	Symbol	Unit	min	typ	max	Measurement Conditions / Comments
Center Wavelength	λ_C	nm		655		The actual achieved wavelength and power are strongly influenced by the external cavity. eyP gives no guarantee on these parameters.
Tuning Range	$\Delta\lambda_{tun}$	nm	650		660	
Output Power	P_{opt}	mW		20		
Polarization				TE		E field parallel to Pin 2 - Pin 3 - plane
Spatial Mode (transversal)				TEM00		Fundamental Mode

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

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Amplified Spontaneous Emission (ASE)
without external cavity

Parameter	Symbol	Unit	min	typ	max	Measurement Conditions / Comments
Monitor Detector Responsivity	I_{mon} / P_{ASE}	µA/mW	1		40	$U_{R\ MD}$ = 5 V

Chip Parameter

Parameter	Symbol	Unit	min	typ	max	Measurement Conditions / Comments
Cavity Length	L	µm		2000		
Reflectivity at Front Facet	R_{ff}			$3 \cdot 10^{-4}$	$1 \cdot 10^{-3}$	

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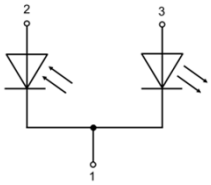
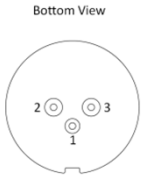
Package Dimensions

Parameter	Symbol	Unit	min	typ	max	Measurement Conditions / Comments
Height of Emission Plane	h	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		

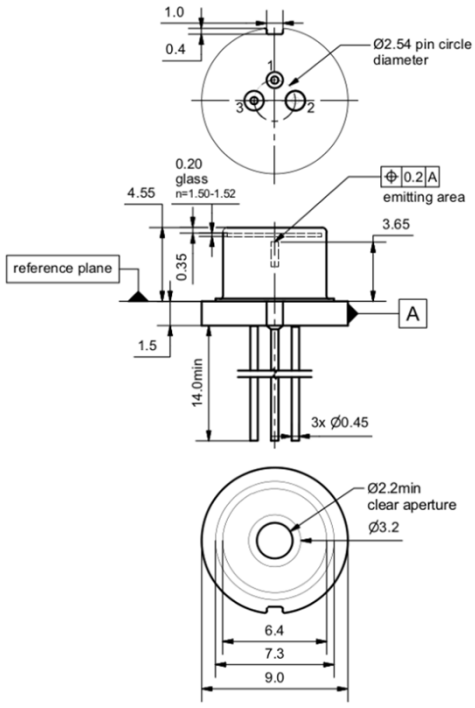
Package Pinout

1 Laser Diode Cathode, Monitor Diode Cathode, Case
2 Photo Diode Anode
3 Laser Diode Anode





Package Drawings



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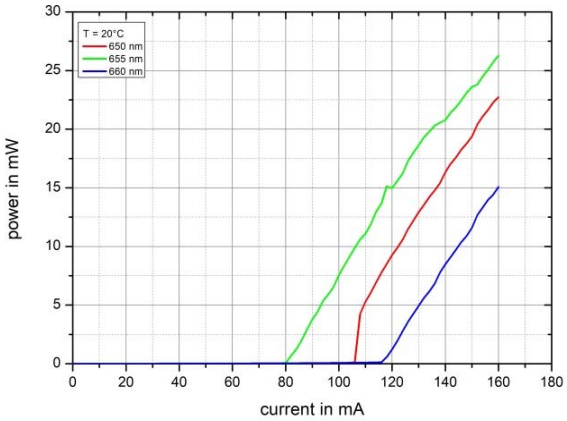
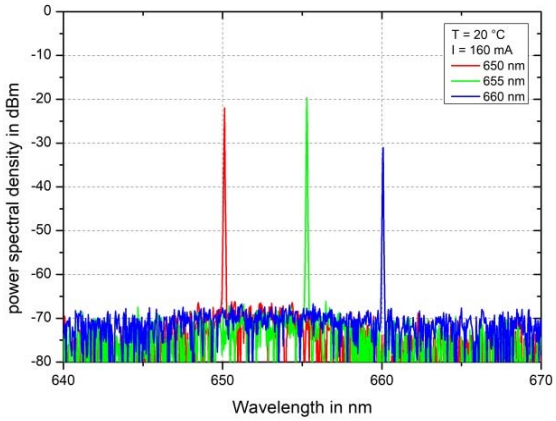
Typical Measurement Results

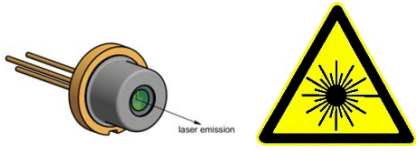




Performance figures, data and any illustrative material provided in this specification are typical and must be specifically confirmed in writing by eagleyard Photonics before they become applicable to any particular order or contract. In accordance with the eagleyard Photonics policy of continuous improvement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

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 TPA diode type is known to be sensitive against thermal stress. It should not be operated without appropriate injection from a seed laser. Operating at moderate temperatures on proper heat sinks willl contribute to a long lifetime of the diode. The chip should be protected against moisture. A water vapor content below 5000 ppm is recommended for applications with high reliability requirements.

IEC-60825-0

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.

Complies with 21 CFR 1040.10 and 1040.40

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