DISTRIBUTED FEEDBACK LASER

GaAs Semiconductor Laser Diode
with integrated grating structure

DFB/DBR Laser

EYP-DFB-0852-00150-1500-SOT02-0000

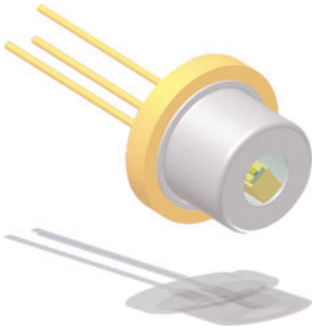
Absolute Maximum Ratings

	Symbol	Unit	min	typ	max
Operational Temperature at case	T_C	°C	–	–	50
Forward Current	I_F	mA	–	–	250
Reverse Voltage	V_R	V	–	–	0

Stress in excess of the Absolute Maximum Ratings can cause permanent damage to the device. Operation at the Absolute Maximum Rating for extended periods of time can adversely affect the device reliability and may lead to reduced operational life.

Recommended Operation Conditions

	Symbol	Unit	min	typ	max
Operational Temperature at case	T_{case}	°C	15	–	40
Forward Current	I_F	mA	–	–	230



Characteristics at T_{amb} 25°C

Parameter	Symbol	Unit	min	typ	max	Measurement Condition / Comments
Center Wavelength	λ_C	nm	850	852	854	compare images on page 3
Spectral Width (FWHM)	$\Delta\nu$	MHz		2	10	measured in homodyn-detected interferometric setup
Temperature Coefficient of Wavelength	$d\lambda/dT$	nm / K		0.06		
Output Power	P_{opt}	mW	100	150		
Slope Efficiency	η_d	W / A	0.6	0.8	1	
Threshold Current	I_{th}	mA	60	70	90	
Operational Current @ 150 mW	I_{op}	mA		230	250	
Cavity Length	L	µm		1500		
Divergence parallel (FWHM)	$\Theta_{\parallel}$	°	6	8	10	
Divergence perpendicular (FWHM)	$\Theta_{\perp}$	°	18	21	24	
Polarization				TE		Polarization in parallel plane
Spatial Mode (transversal)				TEM_{00}		Fundamental Mode
Spectral Mode (longitudinal)				Single Mode		

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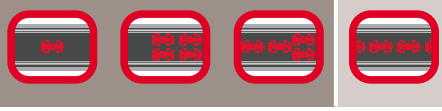
We focus on power.



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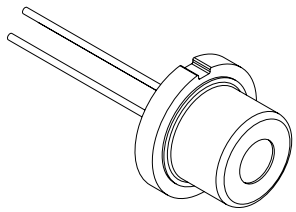
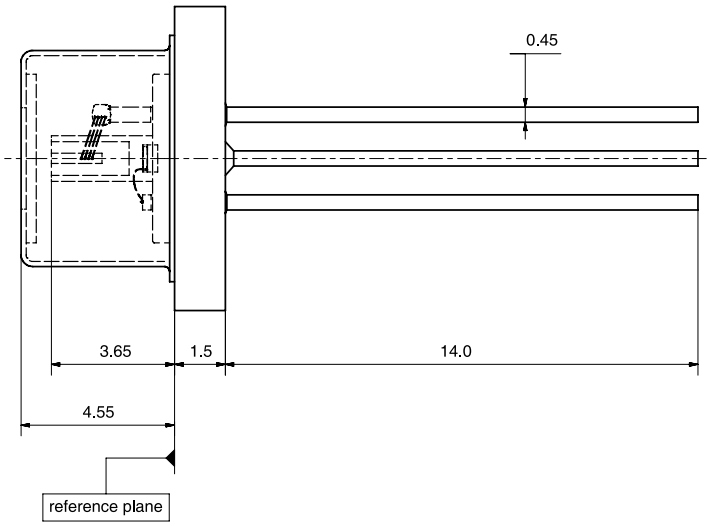
Package Information

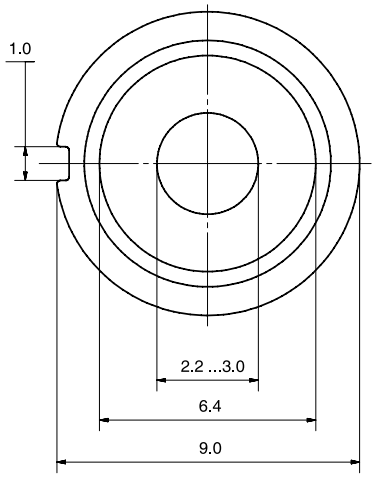
	Part No.	
sealed SOT housing with Photodiode	SOT02	available (see image)
others		on request



Package Dimensions

Emission plane	mm	3.65
Housing Dimension	mm	9





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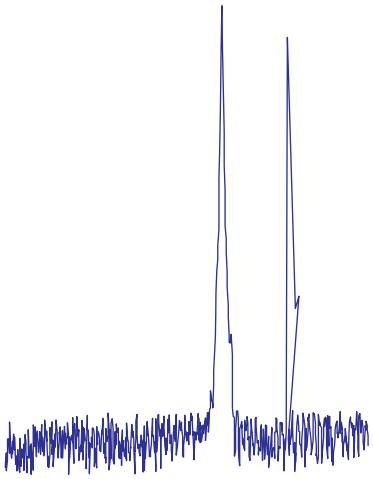
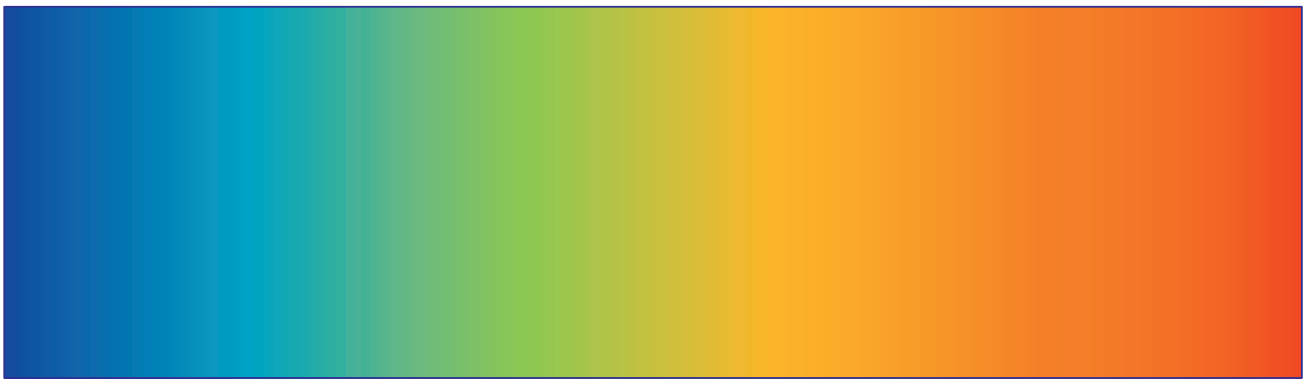
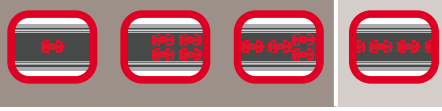
NARROW BANDWIDTHS







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Unpackaging, Installation and Laser Safety

Each laser diode will come with an individual data sheet verifying the parameters given witin this specification.

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 DFB diode type is known to be sensitive versus optical feedback, so an optical isolator may be recommendable in some cases. Operating at moderate temperatures on propper 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 thread to the human eye.

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