

G05 980 nm Terrestrial and Submarine Pump Laser Diode Series

Features

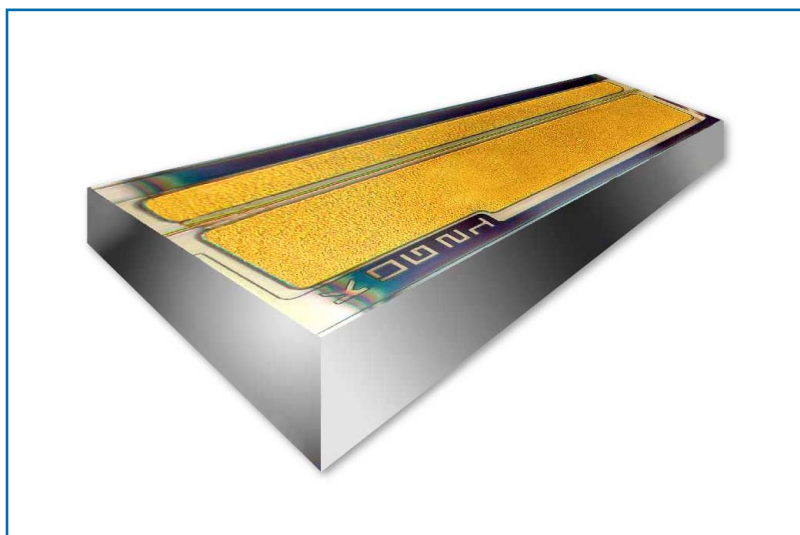
- Kink-free operations from 250 to 400 mW
- High slope efficiency of 0.9 W/A
- Rollover power in excess of 750 mW
- Failure rate below 500 FIT for an operating power up to 320 mW
- Chip versions for FBG and non-FBG modules available
- Shippable as chip or burnt-in chip on a submount

Applications

Pump modules for EDFAs, EDWAs, and other single mode high power laser diode applications

Description

The Nortel Networks Optical Components G05 980 nm Terrestrial and Submarine Pump Laser Diode Series have been designed and optimized for use as high-power, highly reliable pump sources for the latest erbium-doped fiber and waveguide amplifiers. The G05 is ideally suited for stable wavelength operation without an FBG and also for very low noise wavelength-locked operation with an FBG.



Operating Characteristics

Parameter	Comments	Min	Typical	Max	Unit
Kinkfree output power	FBG device non-FBG device	250 250	340 300		mW mW
Threshold current	FBG device non-FBG device		32 26	35 31	mA mA
Operating current	@250 mW		300	330	mA
Operating voltage	@250 mW		1.6	2	V
Power ratio	FBG device, @250 mW non-FBG device, @250 mW	80 50	110 70	165 100	
Center wavelength 1)	@250 mW	970		990	nm
Spectral width 2)	@250 mW	0.2	5	7	nm
Lateral FWHM	@250 mW	6	7	8.5	deg
Vertical FWHM	@250 mW	26	29	32	deg
Slope efficiency	FBG device non-FBG device		0.92 0.94		mW/mA
Spectral shift with temparture	measured on submount		0.3		nm/K
Spectral shift with current	measured on submount		0.02		nm/mA

1) Wavelength selectable, extended range on request (920 - 1060 nm)

2) 95% of the total spectral power

Absolute Maximum Ratings

Parameter	Comments	Min	Max	Unit
Storage temperature	in Gelpack	-40	85	°C
		-40	50	°C
Operating temperature 1)		-40	80	°C
Forward current	max. 10 sec		700	mA
Reverse voltage			2	V
Processing temperature	chip: max. 30 sec chip on submount: max. 10 sec		320 250	°C °C
ESD	Human Body Model		2000	V

1) Device reliability is a function of operating temperature & current.

Module performance of G05 chip with FBG stabilization

The G05 laser shows an excellent Bragg grating stabilization performance. Low frequency power variations of less than 0.05 dB and a -20 dB optical bandwidth below 1.5 nm are possible with properly stabilized devices. An application note for FBG stabilization is available.

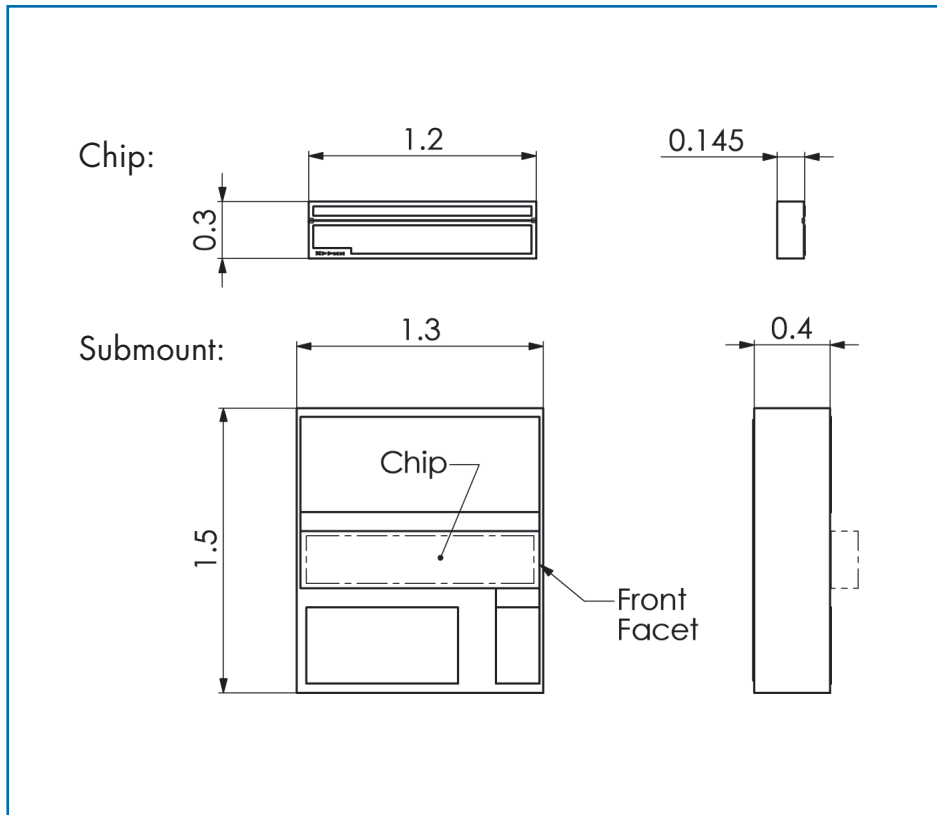


Figure 1: Dimensions

Ordering Information

Please quote the Product Code from the table below when ordering as this is the identification that appears on the part when shipped.

Product Code	Product Name
G05 FBG	980 nm Terrestrial and Submarine Pump Laser Diode Series for FBG applications
G05 non-FBG	980 nm Terrestrial and Submarine Pump Laser Diode Series for non-FBG applications
G05 FBG CoS	980 nm Terrestrial and Submarine Pump Laser Diode Series for FBG applications on submount
G05 non-FBG CoS	980 nm Terrestrial and Submarine Pump Laser Diode Series for non-FBG applications on submount

www.nortelnetworks.com/opticalcomponents

© 2002 Nortel Networks. All rights reserved.

© Nortel, Nortel Networks, the Nortel Networks corporate logo, and the globemark design are trade-marks of Nortel Networks Corporation. Any third-party trademarks are the property of their respective owners.

The information contained in this document is considered to be accurate as of the date of publication. No liability is assumed by Nortel Networks for use of any information contained in this document, or for infringement of any patent rights or any other proprietary rights of third parties that may result from such use.

No license is granted by implication or otherwise under any patent right or any other proprietary right of Nortel Networks. Nortel Networks reserves the right to change at any time the information contained in this document, including specifications and prices, without notice and without liability.



REFERENCE IEC 60825-1: 1993 including amendments 1 and 2



THIS PRODUCT COMPLIES WITH 21 CFR 1040.10



NORTEL
NETWORKS™

Nortel Networks
Optical Components
185 Corkstown Road
Ottawa, Ontario
Canada K2H 8V4

For more information, please contact your local Nortel Networks representative.

Tel: 800.4.NORTEL/800.466.7835
or outside North America 506.674.5471

Email:

sales-opticalcomponents@nortelnetworks.com