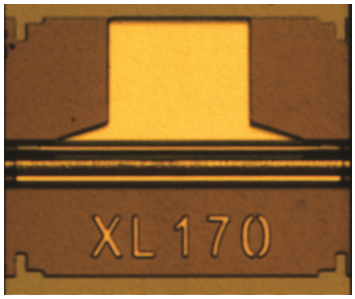
G1033-024, 1310 nm GPON DFB Laser Chip

DATASHEET | SEPTEMBER 2015 FIBER OPTICS



EMCORE's G1033-024, 1310 nm GPON DFB laser diode chip is designed to provide the source laser for uncooled PON applications for triple-play for voice, video and data applications. It is designed to perform the O/E and E/O conversion in a PON or GPON system.

Applications

- Uncooled PON Applications
- FTTx Networks

Features

- Advanced Digital Chip Design
- Wide Operating Temperature Range: -25 to +85°C
- Telcordia Technologies™ 468 Compliant
- RoHS Compliant

Performance Highlights

Parameter	Min	Typical	Max	Units
Wavelength		1310		nm
Operating Temperature Range	-25	+25	+85	°C
Optical Output Power	-	-	50	mW
Side Mode Suppression Ratio (SMSR)	52	-	-	dB

Absolute Maximum Ratings

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated for extended periods of time may effect device reliability.

Parameter	Symbol	Condition	Min	Max	Unit
Operating Temperature Range	T_{op}	Continuous	-25	+85	°C
Storage Temperature Range	T_{STG}	Continuous	-25	+100	°C
Optical Output Power	P_o	Continuous	-	50	mW
Laser Reverse Voltage	V_r	Continuous	-	1	V
Continuous Operating Current	I_{op}	Continuous	-	200	mA
ESD Susceptibility[1]	-	-	-	500	V

1 Based on human-body model of R = 1500 Ohm and C = 100 pF. In general, ESD precautions should be taken to avoid damage to the device

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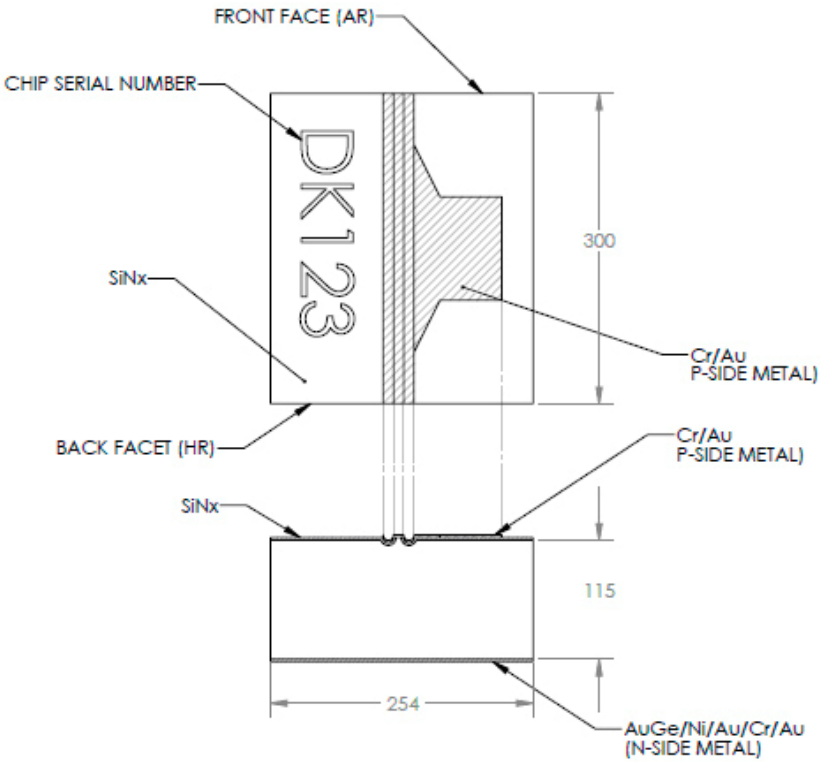
Chip Electrical/Optical Performance Characteristics

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Operating Temperature	T_{op}	-	-25	+25	+85	°C
Optical Output Power	P_O	Continuous	-	-	50	mW
Threshold Current	I_{TH}	+25°C +85°C	-	7 24	15 45	mA
Slope Efficiency	η	+25°C +85°C	0.3 0.2	0.4 -	- -	mW/mA
DC Resistance	R	+25°C	-	4.5	8.1	Ω
Operating Voltage	V_{OP}	-	-	1.3	1.5	V
Central Wavelength[1]	λ	At Ith+20mA	1290	1310	1330	nm
Side Mode Suppression Ratio	SMSR	-	30	40	-	dB
Beam Divergence Angle, Vertical	-	Full Width, Half Max		30	34	deg
Beam Divergence Angle, Horizontal	-	Full Width, Half Max	10	24	27	deg
Laser Reverse Voltage	V_r	-	1	-	-	V
Laser Operating Current[2]	I_{op}	+ 25°C	-	-	100	mA

1 Unless otherwise specified

2 DC

Outline Drawing



Ordering Information

Part number: G1033-024

Laser Safety

This product meets the appropriate standard in Title 21 of the Code of Federal Regulations (CFR). FDA/CDRH Class 1M laser product. This device has been classified with the FDA/CDRH under accession number 0220309.

All Versions of this laser are Class 1M laser product, tested according to IEC 60825-1:2007/EN 60825-1:2007

Single-mode fiber pigtail with SC/APC connectors (standard).

Wavelength = 1.5 µm.

Maximum power = 30 mW.

Because of size constraints, laser safety labeling (including an FDA class 1M label) is not affixed to the module, but attached to the outside of the shipping carton.

Product is not shipped with power supply.

Caution: Use of controls, adjustments and procedures other than those specified herein may result in hazardous laser radiation exposure.