PowerSpectrum™–HPR

TeraXion

High-power reflector for fiber lasers

Features

❯ **1020 to 2100 nm center wavelength**

❯ **High reflectors (>99%) with 0.5 to 3.5 nm bandwidth**

❯ **Low reflectors (3-20%) with 0.1 to 1 nm bandwidth**

❯ **Thermal slope as low as 0.1 °C/W**

❯ **Different fiber sizes available**

Benefits

❯ **Optimized heat dissipation**

❯ **Excellent performance**

❯ **Outstanding reliability**

❯ **Best in its class for quality/price ratio**

The PowerSpectrum™–HPRs are optimized Fiber Bragg Grating-based reflectors especially designed for industrial high-power fiber lasers.

In high-power fiber laser systems, the high and low reflectors are mission-critical elements that have a significant impact on the system's performance and reliability. This is why TeraXion's "no compromise" approach in the design and manufacturing of the PowerSpectrum™–HPRs makes them the best overall devices to use when it's time to make high-quality fiber laser systems. TeraXion takes great care in optimizing the design and the manufacturing process to guarantee a long life expectancy and sustained performances.
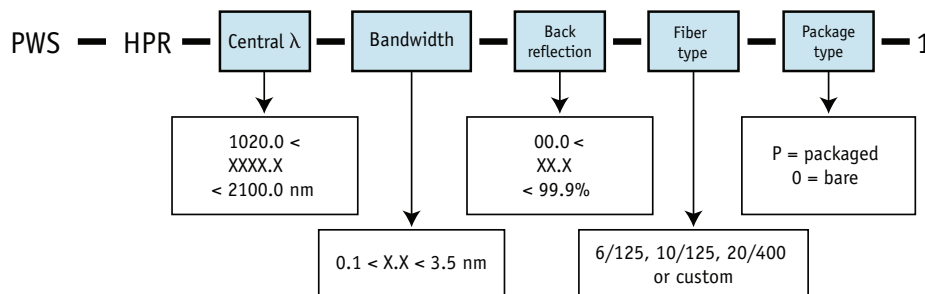
Typical fiber laser configuration

Pump diodes

Pump combiner

Gain fiber

Laser delivery fiber

High reflector
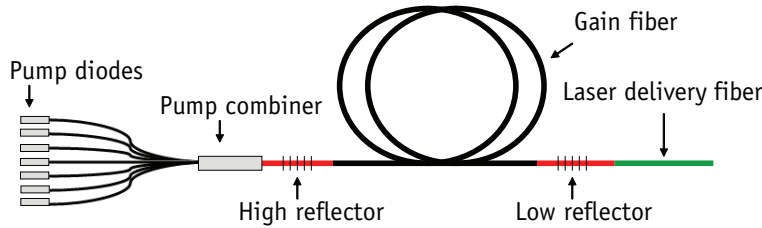
Low reflector

Specifications

			High reflector / Low reflector		
		Fiber type	6/125, NA=0.14/0.46	10/125, NA=0.08/0.46	20/400, NA=0.06/0.46
Optical specs		Center wavelength (nm)	1020-1150, 1500-1600, 1900-2100		
		Wavelength match between HR & LR (nm)	< 0.2		
		Bandwidth (nm)	0.5-3.5 / 0.1-1		0.5-1.5 / 0.1-1
		Reflectivity (%)	> 99.9 / 3-20		> 98 / 3-20
Thermal slope[1]	Bare	(Θp) Related to pump power (°C/W)	< 0.5		< 0.2
		(Θs) Related to signal power (°C/W)	< 0.2		< 0.1
	Packaged[2]	(Θp) Related to pump power (°C/W)	< 0.1		< 0.04
		(Θs) Related to signal power (°C/W)	< 0.05		< 0.025
		Dimensions LxWxH (mm)	55 x 10 x 5		

Note 1: The thermal slope is the coefficient of heat dissipation when optical power goes through the device;
The device maximum temperature can be estimated using the following formula:
Tdevice = Tambiant + [Pump power * Θp] + [Signal power * Θs] must be maintained lower than 70°C.
Note 2: Preliminary specifications.

Ordering information

PWS — HPR — Central λ — Bandwidth — Back reflection — Fiber type — Package type — 1

1020.0 < XXXX.X < 2100.0 nm

00.0 < XX.X < 99.9%

P = packaged
0 = bare

0.1 < X.X < 3.5 nm

6/125, 10/125, 20/400 or custom

Contact information

2716 Einstein Street
Québec QC G1P 4S8 Canada
Phone: 418 658-9500
Fax: 418 658-9595

propage.com

Printed in Canada

TERA042009

TeraXion

www.teraxion.com