TeraXion

An indie Semiconductor Company

Med-2 Series High-Power Laser Reflectors for Thulium Medical Fiber Lasers

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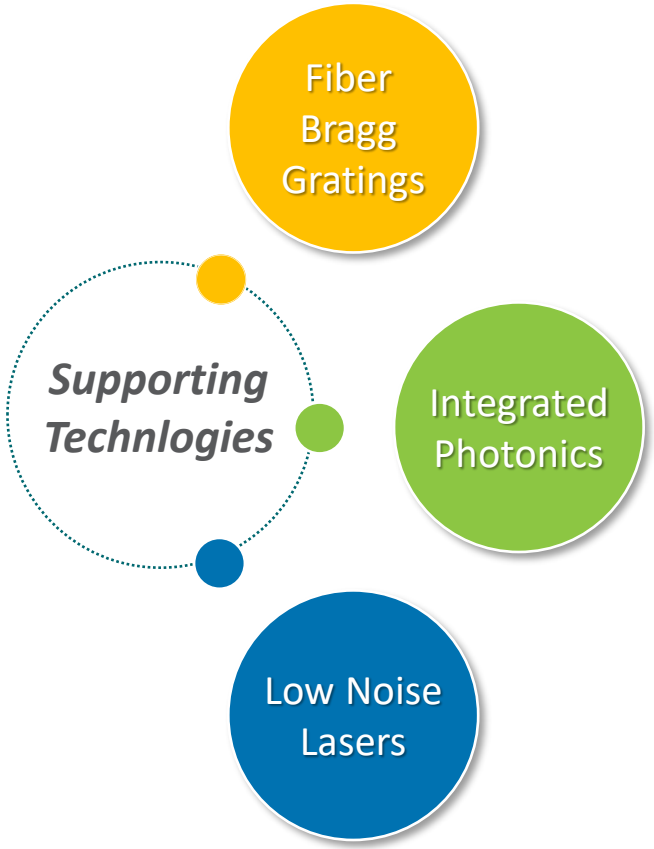
Laser Systems Director

nqa. ISO 9001 Registered Quality Management

TeraXion Overview

- TeraXion is an indie Semiconductor company
- Founded in 2000
- Designs and manufacturer of innovative photonic components
- Home to more than 170 employees
- TeraXion office based in Quebec City, Canada

Technologies, Products and Markets



Laser Systems Components

- **High-power**
- **Ultrafast**

High-power laser

Optical Sensing Components

- **Remote**
- **Fiber Optic**

Communications Components

- **Digital**
- **Analog**

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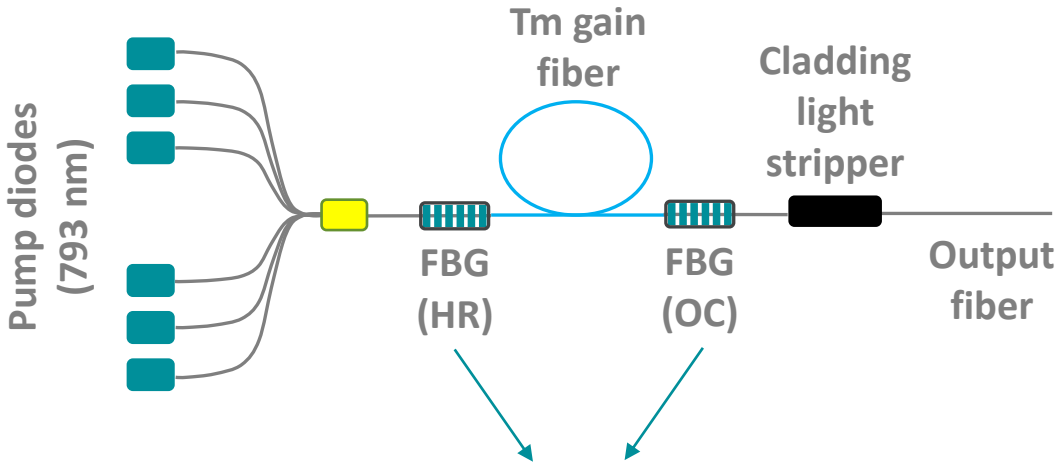
Thulium Fiber Lasers for Urology

- Pulse energy
- Pulse repetition rate
- Pulse duration and profile
- Ablation speed
- Dust size (lithotripsy)
- Retrorepulsion
- Fiber diameter
- Size, weight and power consumption

Tm Fiber Laser FBG Reflectors Requirements and Challenges



KEY TECHNICAL REQUIREMENTS

- **High-reliability**
- **Signal peak power handling**
  (at least 600W, 0.1-12 ms)
- **Pump peak power handling**
  (at least 1300 W, 0.1-12 ms)
- **λ = 1940 nm**
- **Typical fiber: 25/400 DCF**

Main challenge:
Limit the **heating** of FBGs

Conventional FBG manufacturing processes **are not** suitable

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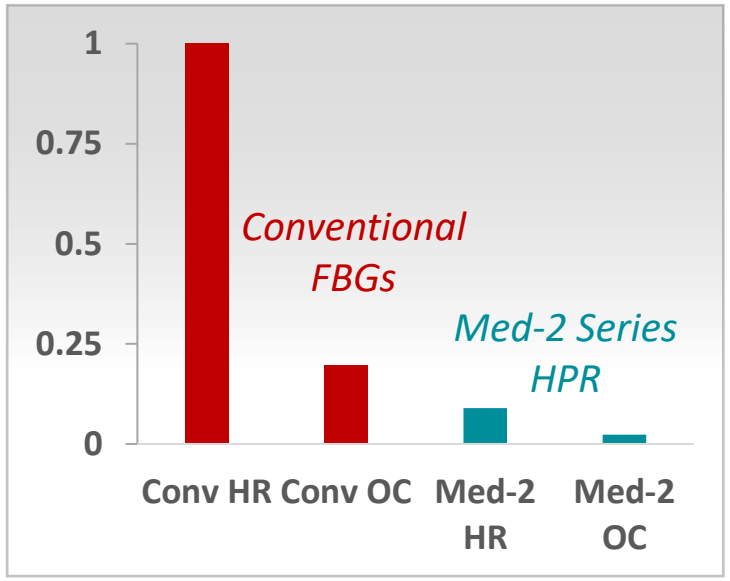
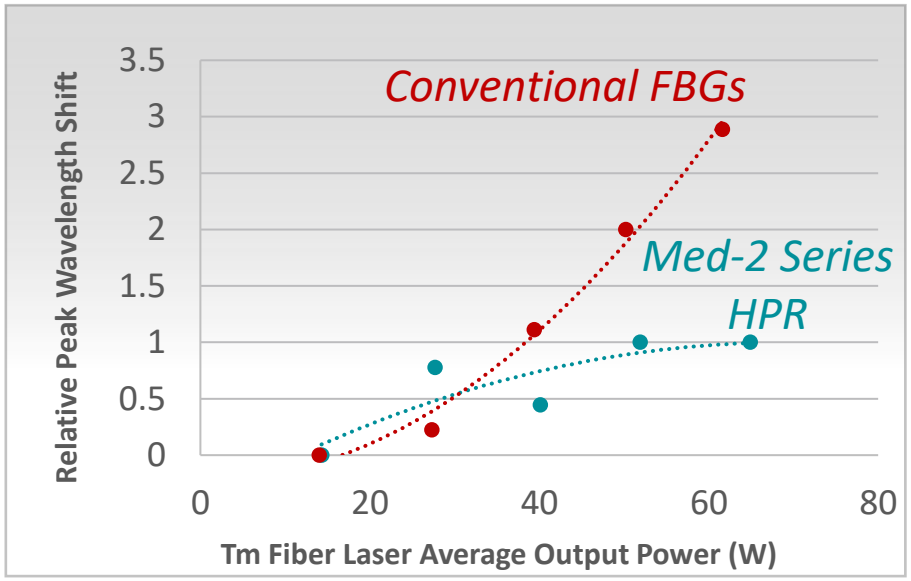
TeraXion's Solution for Thulium Medical Fiber Lasers

Relative FBG Temperature Increase



Med-2 Series HPR

Laser Peak Wavelength Shift



1940 nm

Signal average/peak power handling: 100/1 000 W

Pump average/peak power handling: 200/1 500 W

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Med-2 Series High-Power Reflector (HPR)

Very low heating	**Long-term reliable operation**
Low insertion loss	**Lower cavity losses, lasers less prone to self-pulsing**
Consistent performances	**Consistent laser output characteristics**
Flexibility	**Optimum laser performances**
Partnership	**Shorter time to market**

Contact Us Today!

Best-in-Class FBGs for Your Tm Medical Fiber Laser Applications

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