

PowerSpectrum™

HPR – HIGH-POWER REFLECTORS FOR FIBER LASERS

TeraXion's PowerSpectrum™ High-Power Reflectors offer the highest power handling on the market and outstanding reliability and performance for laser oscillators.



The PowerSpectrum™ High-Power Reflectors (HPR) are optimized fiber Bragg grating-based mirrors especially designed for industrial high-power fiber lasers. Compatible with single-stage oscillators and MOPA configurations, they can handle up to 3 kW of pump power.

Sold as a pair comprising a high reflector (HR) and an output coupler (OC) TeraXion's HPR are highly customizable. They are an excellent solution for a variety of laser designs, and compatible with CW and QCW operating regimes.

Preventing over-heating is a primary concern for laser power scaling. TeraXion's proprietary heat dissipation package offers outstanding reliability and sustained performance in the field.

Features

- Up to 3 kW power handling
- Large selection of fibers to choose from
- Wavelength range: 1 to 2µm
- Customizable bandwidth
- RoHS compliant

Benefits

- Optimized heat dissipation
- Excellent performance
- Outstanding reliability
- Best value

TeraXion

TERAXION.COM

Standard Specifications⁽¹⁾

Parameters	Specifications		Units
Center Wavelength at Room T° ⁽²⁾	1060 to 1080		nm
Reflector Type	High Reflector	Output Coupler	
Wavelength Mismatch (OC Relative to HR)	≤ 0.2		nm
Reflection Bandwidth	0.5 to 5.0 at 95 %	0.2 to 3.0 at 50 %	nm
Reflectivity	≥ 99.5	6 to 50	%
Pigtail Length (on each side)	1	1	m
Package Type	Recoated or TeraXion's Heat Dissipation Package	Recoated or TeraXion's Heat Dissipation Package	

(1) Other wavelength ranges available upon request. Contact TeraXion for more details.

(2) Room temperature : between 20 °C and 23 °C

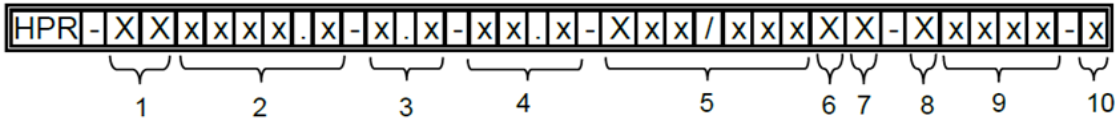
Standard Fiber Types⁽³⁾

Cladding Diameter	Standard Power Handling ⁽⁴⁾		Extended Power Handling ⁽⁴⁾	
	Pump Power	Signal Power	Pump Power	Signal Power
125 μm	400 W	300 W	800 W	600 W
250 μm	1000 W	700 W	2000 W	1400 W
400 μm	1500 W	1100 W	3000 W	2100 W
500 μm	2500 W	1800 W	3000 W	2100 W

(3) Other fiber types available upon request. Contact TeraXion for more details.

(4) Power handling specifications are met when the operating temperature is maintained between 15 °C and 40 °C.

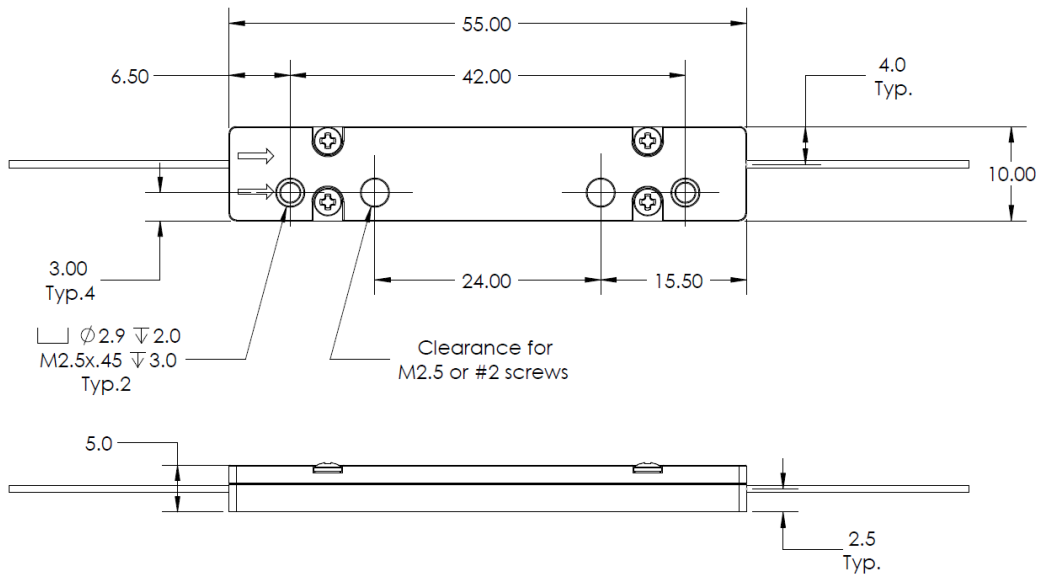
Please select your parameters when ordering custom items



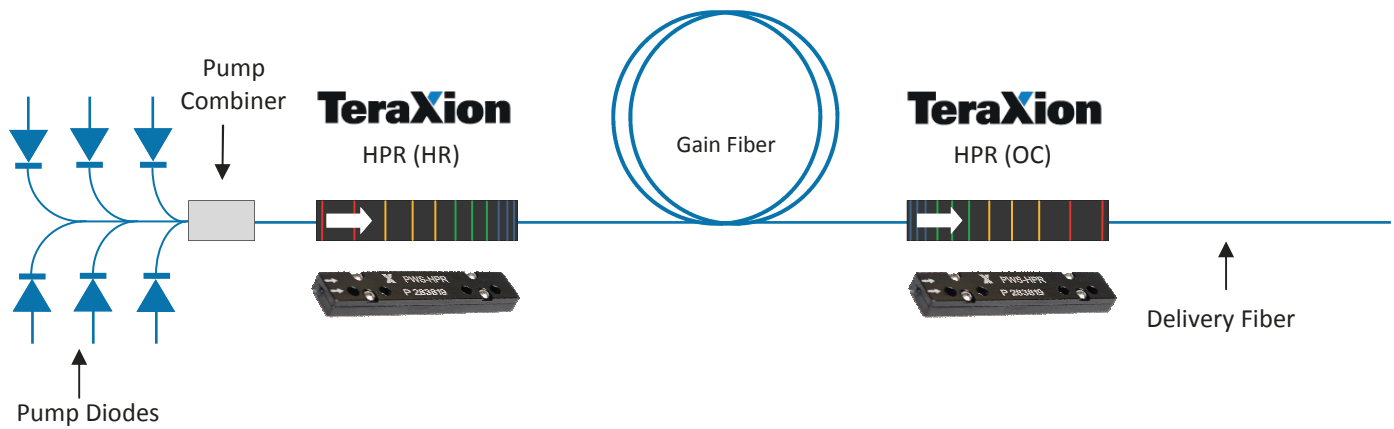
1 = Grating Type
HR = High Reflector
OC = Output Coupler
2 = Center Wavelength
xxxx.x (nm)
3 = Bandwidth
x.x (nm)
4 = Back Reflection
xx.x (%)
5 = Fiber Suppliers and Dimensions⁽¹⁾
Xxx/xxx (μm)
6 = Fiber Cladding
S = Single Clad
D = Double Clad
T = Triple Clad
7 = Fiber Type
P = PM Fiber
N = Non-PM Fiber
8 = Package
L = Low Index Coating
P = Heat Dissipation Package
9 = Power Handling
xxxx (W)
10 = Pigtail Length (Cavity Side Pigtail Length / Outside of Cavity Pigtail Length)
1 = 0.5 (m) / 0.5 (m)
2 = 1.0 (m) / 1.0 (m)
3 = 1.5 (m) / 1.5 (m)
C = x.x (m) / x.x (m)

(1) X = Fiber supplier. xx/xxx = ∅ Core / ∅ First Cladding. If needed, please specify your preferred fiber parameters and supplier. Otherwise, TeraXion will suggest the best options.

Dimensions



High Power Fiber Laser Block Diagram



MKT-FTECH-PWS-HPR 201805-6.0

Ordering information

PWS-HPR can be ordered according to customer requirements or to the standard configurations featured in this document. For orders, questions, specific requirements or to learn more about TeraXion's products, contact us at

info@teraxion.com