

Multi-Mode Module OEM U-Type



Features

- Wavelength Stabilized Spectrum
- Narrow Spectral Linewidth (< 0.15 nm FWHM)
- High Power Multi-Mode Fiber Coupled Output
- Temperature Stabilized Spectrum (< 0.007 nm/ $^{\circ}$ C)
- Low Power consumption (< 5.5 W)
- 40 dB SMSR Typical
- 3" x 2.5" x 0.69" Package Weighing < 4 oz

Available Wavelengths

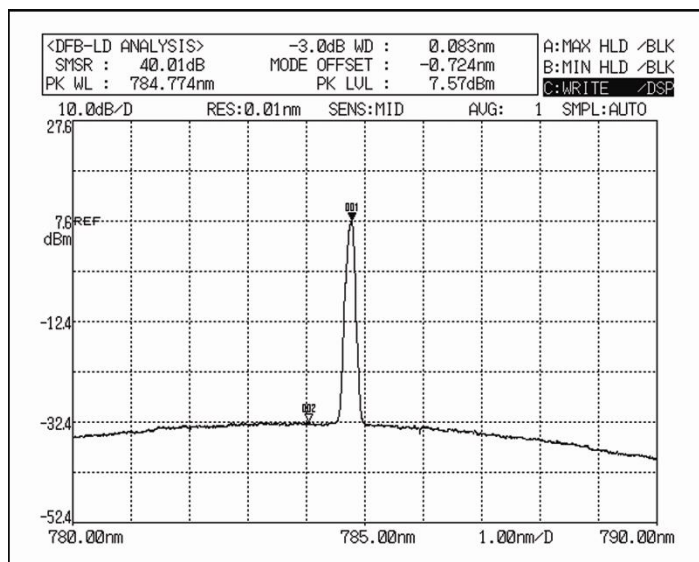
- 647 nm
- 785 nm
- 808 nm
- 830 nm
- 1064 nm

RPMC's proprietary Wavelength Stabilized Laser features high output power with narrow spectral bandwidth. The laser's stabilized peak wavelength remains "locked" regardless of case temperature (-10 to +55 deg. C).

Devices can be spectrally tailored to suit application needs and offer side mode suppression ratios (SMSRs) better than 40 dB, thereby providing extremely high signal to noise ratio and making these sources ideal for Raman spectroscopy and pump laser applications. The laser is integrated with high performance laser drive and temperature control electronics in a compact package weighing less than 4 oz.

In addition to integration into systems, RPMC's OEM U-Type module is designed to "drop in" to our UL/CE and IEC certified turnkey modules to offer wavelength flexibility at a lower cost.

Typical Spectral Plot



Optical Performance Specifications:

Parameter	Unit	Min	Typ	Max	Notes
Output power stability	%		± 1		
Peak wavelength	nm	-0.5		0.5	
3 dB bandwidth (FWHM)	nm		0.1	0.15	
Peak wavelength drift	nm			± 0.10	over life
Optical signal-to-noise ratio (SMSR)	dB	35	45		
Modulation Rate		CW		1KHz	
Warm-up time	sec			10	from cold start
	sec			1.5	from warm start

Physical Specifications:

Parameter	Unit	Value
Optical Fiber	type	100-105/125 micron multimode fiber, 0.22 NA*
Connector	type	FC/PC, SMA905 or FC/APC
Electical connector	type	10-pin, Molex #53014-1010 (mating connector: 51004-1000)
Module dimensions	inch	3.0 x 2.5 x 0.69
Module weight	g (oz)	100 (3.5)
Case material	type	Anodized aluminum
Operating temperature	deg. C	+10 to +35 deg. C
Cooling air flow (internal)	LFM	100 LFM with attached heatsink
Environment	%	0-80% Humidity, non condensing
Storage temperature range	deg. C	-10 to +55 deg. C

* Available with 62.5 micron core fiber upon request, but output power will be affected

Electrical Requirements:

Parameter	Unit	Min	Typ	Max	Notes
Supply voltage	V	4.9	5	5.1	
Power consumption	W		3.5	5.5	
Photo diode current	uA		30		
Laser setpoint control (LD SET)	V	0	0.9	1.0	when pin 2 grounded

Standard Multi-Mode U-type Product Configurations

647 nm - 150 mW

Part number	Output Power		Laser Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R0647MU0150MF	150 mW	175 mW	Class 3B	FC/PC	105 micron
R0647MU0150MS				SMA	105 micron
R0647MU0150MA				FC/APC	105 micron

VISIBLE LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT
647 nm, 350 mW CW
EN/IEC 60825-1:2007

** Available at 50 micron and 62.5 micron core. Changes in fiber core diameter will affect output

785 nm - 350 mW

Part number	Output Power		Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R0785MU0350MF	350 mW	425 mW	Class 3B	FC/PC	105 micron
R0785MU0350MS				SMA	105 micron
R0785MU0350MA				FC/APC	105 micron

INVISIBLE LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT
785 nm, 499 mW CW
EN/IEC 60825-1:2007

** Available at 50 micron and 62.5 micron core. Changes in fiber core diameter will affect output

785 nm - 500 mW

Part number	Output Power		Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R0785MU0500MF	500 mW	650 mW	Class 4	FC/PC	105 micron
R0785MU0500MS				SMA	105 micron
R0785MU0500MA				FC/APC	105 micron

INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT
785 nm, 800 mW CW
EN/IEC 60825-1:2007

** Available at 50 micron and 62.5 micron core. Changes in fiber core diameter will affect output

808 nm - 350 mW

Part number	Output Power		Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R0808MU0350MF	350 mW	425 mW	Class 3B	FC/PC	105 micron
R0808MU0350MS				SMA	105 micron
R0808MU0350MA				FC/APC	105 micron

INVISIBLE LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT
808 nm, 499 mW CW
EN/IEC 60825-1:2007

** Available at 50 micron and 62.5 micron core. Changes in fiber core diameter will affect output

Standard Multi-Mode U-type Product Configurations (continued)

808 nm - 500 mW

Part number	Output Power		Laser Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R0808MU0500MF	500 mW	625 mW	Class 4	FC/PC	105 micron
R0808MU0500MS				SMA	105 micron
R0808MU0500MA				FC/APC	105 micron

INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
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CLASS 4 LASER PRODUCT
808 nm, 800 mW CW
EN/IEC 60825-1:2007

** Available at 50 micron and 62.5 micron core. Changes in fiber core diameter will affect output power.

830 nm - 350 mW

Part number	Output Power		Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R0830MU0350MF	350 mW	425 mW	Class 3B	FC/PC	105 micron
R0830MU0350MS				SMA	105 micron
R0350MU0350MA				FC/APC	105 micron

INVISIBLE LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT
830 nm, 499 mW CW
EN/IEC 60825-1:2007

** Available at 50 micron and 62.5 micron core. Changes in fiber core diameter will affect output power.

830 nm - 500 mW

Part number	Output Power		Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R0830MU0500MF	500 mW	650 mW	Class 4	FC/PC	105 micron
R0830MU0500MS				SMA	105 micron
R0830MU0500MA				FC/APC	105 micron

INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
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CLASS 4 LASER PRODUCT
830 nm, 800 mW CW
EN/IEC 60825-1:2007

** Available at 50 micron and 62.5 micron core. Changes in fiber core diameter will affect output power.

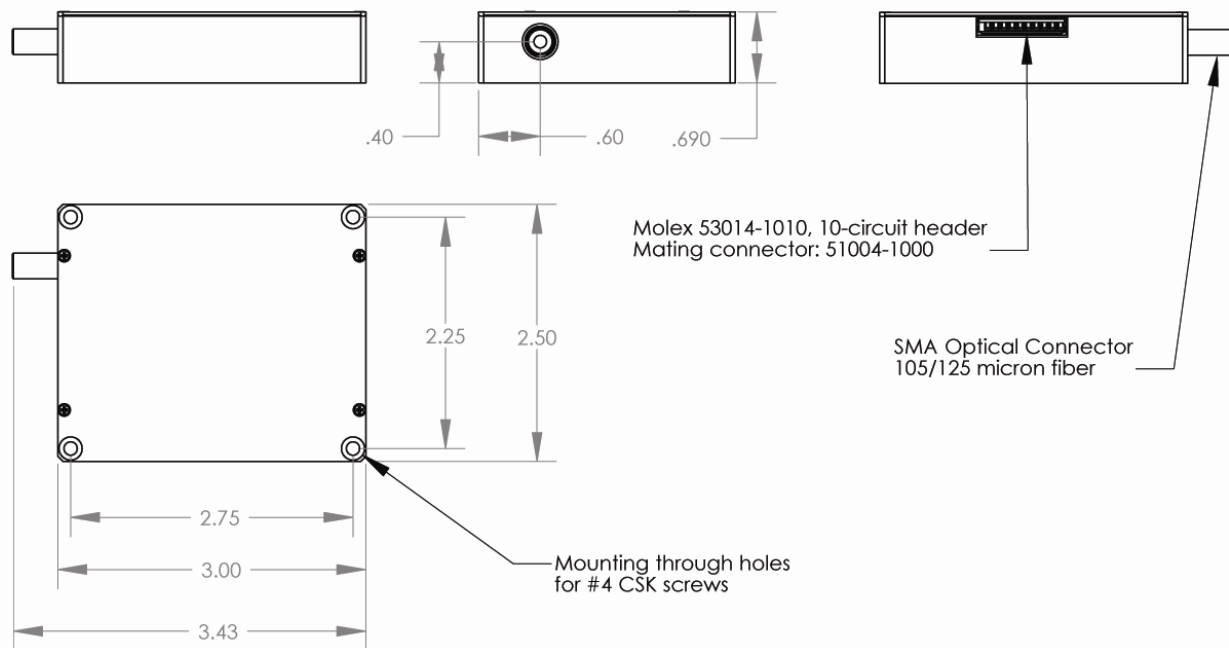
1064 nm - 500 mW

Part number	Output Power		Safety Class	Connector	Fiber Core Dia. **
	Min	Typ			
R1064MU0500MF	500 mW	650 mW	Class 4	FC/PC	105 micron
R1064MU0500MS				SMA	105 micron
R1064MU0500MA				FC/APC	105 micron

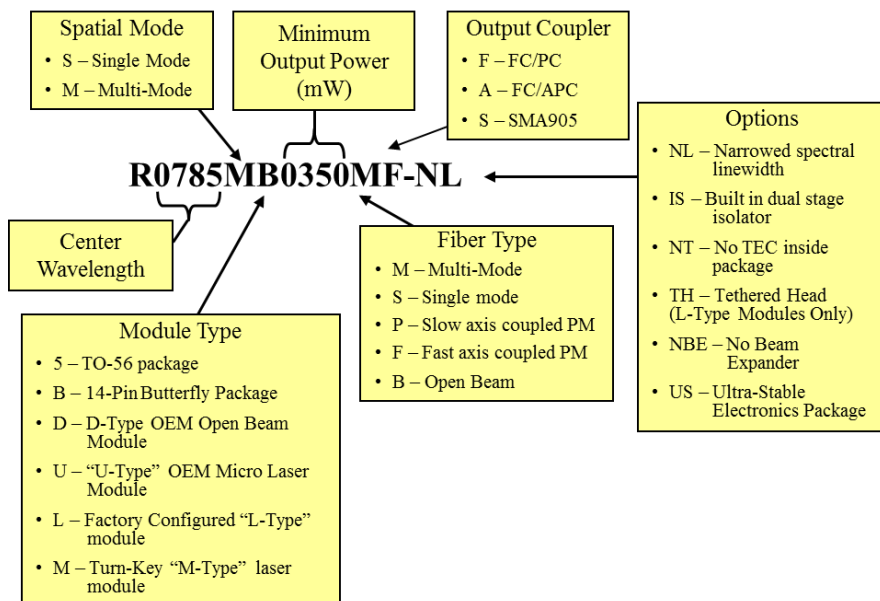
INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT
1064 nm, 800 mW CW
EN/IEC 60825-1:2007

** Available at 50 micron and 62.5 micron core. Changes in fiber core diameter will affect output power.

Mechanical Specifications:



RPMC Part Numbering Schema:



U-type Module Pin-Out:

Pin #	Symbol	Description
1	NC	Not Connected
2	Vset ENABLE	Enables 'LD SET' on pin 8 when connected to ground. If left open or set to 3-5 Volt, output power defaults to internally pre-set value.
3	T SENS	Not Connected
4	T SENS	
5	GND	Ground
6	+ 5V	4.9 to 5.1 Volt; 1 Ampere
7	ENABLE	Tie to GND to DISABLE Laser output. Leave not connected or apply 3-5 Volt to enable Laser output.
8	LD SET	Apply 0 to 1 Volt to control optical output power. Pin 2 needs to be grounded to enable this option.
9	PD +	Photodiode anode
10	PD -	Photodiode cathode

OEM Laser Product

This laser module is designed for use as a component (or replacement) part and is thereby exempt from 21 CFR1040.10 and 1040.11 provisions.