

# R3M(H) Diode Laser Components



R3M(H) diode laser components are RealLight's AW series multi-function laser modules, providing multi-wavelength output with 3 emitters integrated. These fiber detachable lasers are equipped with fiber detector, photodiode and thermistor.

## Key Features

- ◆ Superior power stability
- ◆ Excellent beam quality
- ◆ Efficient heat dissipation
- ◆ High reliability
- ◆ Different-wavelength combinations available

## Applications

- Aesthetic medicine
- Material processing

## Technical Specifications (25°C)

Package Type		R3M(H)												
		Dual-wavelength				3-wavelength								
Center Wavelength (nm)		450/808		450/980		450/638/808			450/638/980			450/638/980		
Optical	CW Output Power / P <sub>op</sub> (W)	4	8.5	4	10	4	0.5	8.5	4	0.2	10	4	0.5	10
	Wavelength Tolerance (nm)	±10												
	Spectral Width / Δλ (nm)	<6												
	Temperature Drift of Wavelength / ΔNΔT (nm/°C)	0.3												
Aiming Beam	Output Power / P <sub>a</sub> (mW)	2				-			-			-		
	Wavelength / λ <sub>a</sub> (nm)	650±10				-			-			-		
	Voltage / V <sub>a</sub> (V)	2.2, 5.0				-			-			-		
Electrical	Threshold Current / I <sub>th</sub> (A)	0.45	1.2	0.45	0.6	0.45	0.5	1.2	0.45	0.2	0.6	0.45	0.5	0.6
	Operating Current / I <sub>op</sub> (A)	3.9	12	3.9	13	3.9	1.2	12	3.9	0.5	13	3.9	1.2	13
	Operating Voltage / V <sub>op</sub> (V)	4.7	2	4.7	2.1	4.7	2.2	2	4.7	2.4	2.1	4.7	2.4	2.1
	Slope Efficiency / η <sub>es</sub> (W/A)	1.1	0.7	1.1	0.9	1.1	0.7	0.7	1.1	0.7	0.9	1.1	0.7	0.9
	PD Parameter / I <sub>pd</sub> (μA)	<3000												
	Thermistor / R <sub>t</sub> (kΩ/β (25°C))	10±5%/3450												
Fiber	Fiber Core Diameter / d <sub>core</sub> (μm)	200,400												
	Fiber Cladding Diameter / D <sub>clad</sub> (μm)	220,440												
	Fiber Coating Diameter / D <sub>buffer</sub> (μm)	400,720												
	Numerical Aperture / NA	0.22												
	Connector	SMA905												

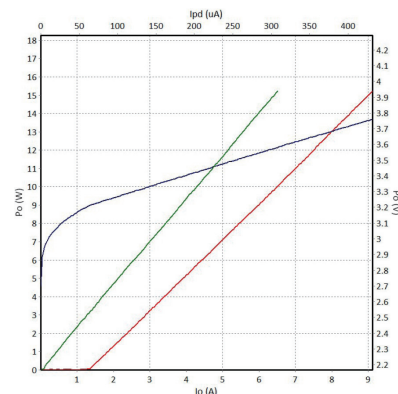
1. All the data in the above table are the typical values obtained from the tests at room temperature of 25°C, and the final data is subject to the final test report.

## Other Parameters

Parameter	Operating Temperature / °C	Operating Relative Humidity / %	Storage Temperature / °C	Storage Relative Humidity / %	Lead Soldering Temperature (max/°C)
Min	10	-	-20	-	-
Max	30	75	70	90	250(10Sec.)

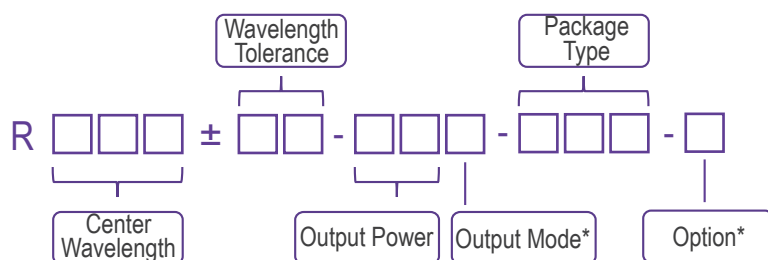
## Order Information

Package	Wavelength (nm)	Output Power (W)	Part Number
R3M(H)	450/808	4/8.5	R450/808±10-4/8.5WD-R3M(H)-PFS
	450/980	4/10	R450/980±10-4/10WD-R3M(H)-PFS
	450/638/808	4/0.5/8.5	R450/638/808±10-4/0.5/8.5WD-R3M(H)-PFS
	450/638/980	4/0.2/10	R450/638/980±10-4/0.2/10WD-R3M(H)-PFS
	450/638/980	4/0.5/10	R450/638/980±10-4/0.5/10WD-R3M(H)-PFS



PIV curve of 808nm Diode Laser Components

## Part Numbering Schema

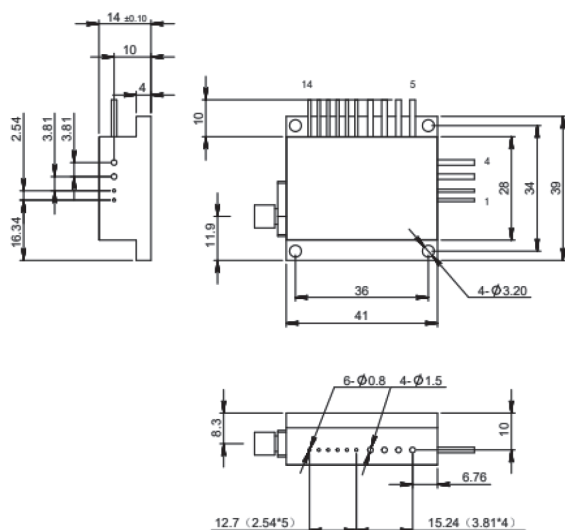


\*Output Mode: D - Fiber Detachable

\*Option: P - Pilot Light

FS - Fiber Detector

## Mechanical Drawings (in mm)



Pin	Function	Pin	Function
1	Thermistor	8	450nm LD(+)
2	Thermistor	9	PD(P)
3	980(808)nm LD (+)	10	650(638)nm LD(-)
4	980(808)nm LD (-)	11	650(638)nm LD(+) PD(N)
5	-	12	Fiber Detector PD(P)
6	-	13	Fiber Detector LED(+) Fiber Detector PD(N)
7	450nm LD(-)	14	Fiber Detector LED(-)

