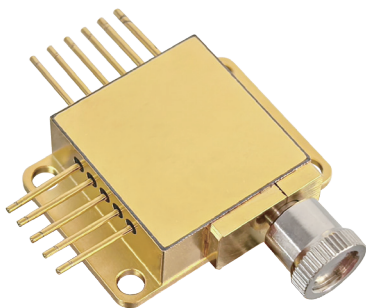




# 11RTR Diode Laser Components

11RTR diode laser components are RealLight's AW series multi-function laser modules, available in fiber detachable configuration with single emitter. Equipped with aiming beam, fiber detector, photodiode and thermistor, these lasers feature easy maintenance and high power stability.

## Key Features

- ◆ Efficient heat dissipation
- ◆ High reliability
- ◆ Superior power stability
- ◆ Excellent beam quality
- ◆ Various wavelengths

## Applications

Spectroscopic Detection  
Biomedicine  
Material Analysis  
Display&Lighting  
Laser Manufacturing

## Technical Specifications (25°C)

| Package Type           |                                                 | 11RTR      |                   |           |      |      |
|------------------------|-------------------------------------------------|------------|-------------------|-----------|------|------|
|                        |                                                 | Red Laser  | Single-wavelength |           |      |      |
| Center Wavelength (nm) |                                                 | 638        | 808               | 940 / 980 | 1064 | 1470 |
| Optical                | CW Output Power / P <sub>op</sub> (W)           | 0.5        | 10                | 15        | 10   | 5    |
|                        | Wavelength Tolerance (nm)                       | ±10        |                   |           |      |      |
|                        | Spectral Width / Δλ (nm)                        | <4         |                   |           |      |      |
|                        | Temperature Drift of Wavelength / Δλ/ΔT (nm/°C) | 0.3        |                   |           |      |      |
| Electrical             | Threshold Current / I <sub>th</sub> (A)         | 0.5        | 1.8               | 1.2       | 1.2  | 1.8  |
|                        | Operating Current / I <sub>op</sub> (A)         | 1.2        | 14                | 18        | 13   | 18   |
|                        | Operating Voltage / V <sub>op</sub> (V)         | 2.3        | 2                 | 1.8       | 1.8  | 1.5  |
|                        | Slope Efficiency / η <sub>es</sub> (W/A)        | 0.7        | 0.8               | 0.9       | 0.8  | 0.3  |
|                        | PD Parameter / I <sub>pd</sub> (μA)             | <8000      |                   |           |      |      |
|                        | Thermistor / Rt (kΩ/β (25°C) )                  | 10±1%/3930 |                   |           |      |      |
| Fiber                  | Fiber Core/Cladding Diameter Dcore (μm)         | 200 / 220  |                   |           |      |      |
|                        | 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.

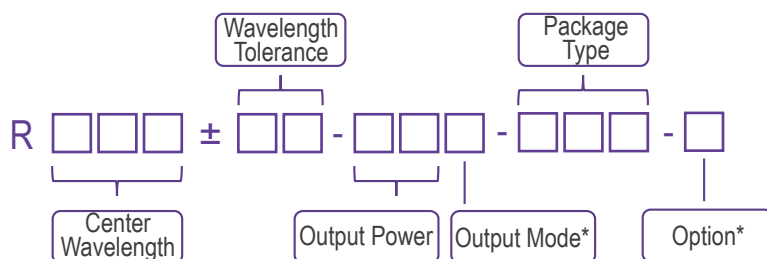
## Other Parameters

| 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                     |
|---------|-----------------|------------------|---------------------------------|
| 11RTR   | 638/808         | 0.5/10           | R638/808±10-0.5/10WD-11RTR-PFS  |
|         | 638/9xx         | 0.5/15           | R638/9xx±10-0.5/15WD-11RTR-PFS  |
|         | 638/1064        | 0.5/10           | R638/1064±10-0.5/10WD-11RTR-PFS |
|         | 638/1470        | 0.5/5            | R638/1470±10-0.5/5WD-11RTR-PFS  |

## Part Numbering Schema

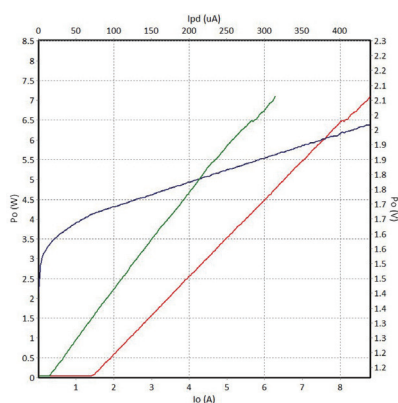


\*Output Mode: D - Fiber Detachable

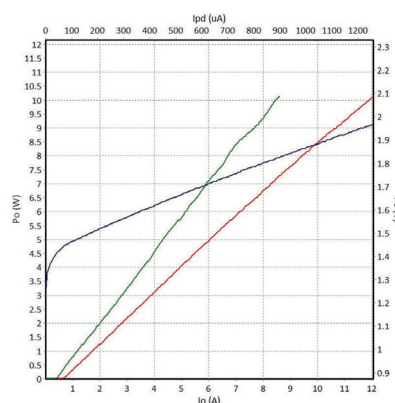
\*Option: P - Pilot Light

FS - Fiber Detector

## Product Characteristics Diagrams

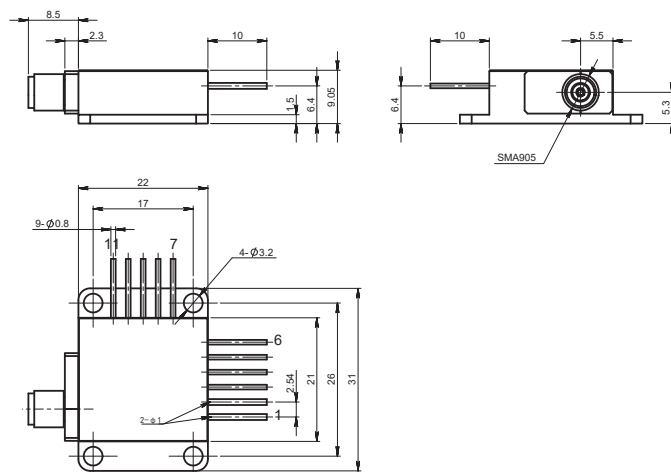


808nm P-I-V Graph



980nm P-I-V Graph

## Mechanical Drawings (in mm)



| Pin | Function         | Pin | Function    |
|-----|------------------|-----|-------------|
| 1   | Laser (+)        | 7   | Thermistor  |
| 2   | Laser (-)        | 8   | Thermistor  |
| 3   | PD (N)           | 9   | FCD PD (P)  |
| 4   | PD (P)           | 10  | FCD LED (-) |
| 5   | Red laser LD (-) | 11  | FCD LED (+) |
| 6   | Red laser LD (+) |     | FCD PD (N)  |

