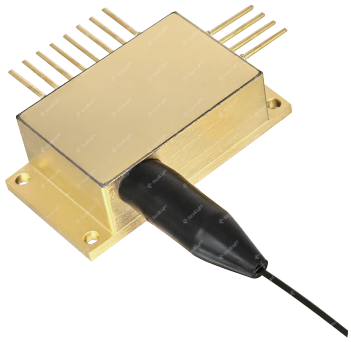
R2T Dual-wavelength Narrow Linewidth Diode Laser Components



R2T Diode Laser Components, are featured products of RealLight's NL product line, which can output two wavelengths at the same time and designed for shifted excitation Raman difference spectroscopy (SERDS). With wavelength-locking technique with volume Bragging gratings (VBG) and TE cooling, they deliver stabilized power output, high Side-Mode Suppression Ratio, and low temperature dependence of the lasing wavelength.

Key Features

- Compact design
- High stability
- Excellent reliability

Applications

Medical application

Spectrum analysis

Scientific research

Technical Specifications（25℃）

Package Type		R2T			
Center Wavelength of LD1/LD2（nm）		784.5 / 785.5		785 / 1064	
Optical	CW Output Power / P_{op} (mW)[1]	600 / 600		500 / 800	
	Wavelength Tolerance (nm)	±0.5			
	Spectral Width / △λ (nm)	<0.1			
	Temperature Drift of Wavelength / △λ/△T (nm/℃)	0.01			
Electrical	Threshold Current / I_{th}（A）	0.4	0.4	0.4	0.4
	Operating Current / I_{op}（A）	1.2	1.2	1.2	1.5
	Operating Voltage / V_{op}（V）	2	2	2	1.8
	Slope Efficiency / η_{es}（W/A）	0.7	0.7	0.7	0.7
	PD Parameter / I_{pd} (μA)	<2000			
	Thermistor / Rt (kΩ/β (25℃))	10±1%/3450			
	TEC Max Current I_{max} (A)	8.5			
	TEC Max Voltage V_{max} (V)	6.7			
Fiber	Fiber Core Diameter / dcore (μm)	105			
	Fiber Cladding Diameter / Dclad (μm)	125			
	Fiber Coating Diameter / Dbuffer (μm)	250			
	Fiber Length / L (cm)	100±10 (Customizable)			
	Numerical Aperture / NA	0.22			
	Connector	FC/PC, SMA905			

1. At output power below 200 mW, operation is near the laser threshold with degraded power stability.
2. All the data in the above table are the typical values obtained from the tests at room temperature of 25℃, and the final data is subject to the final test report.

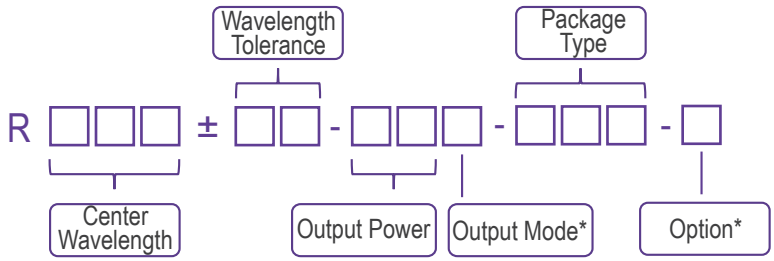
Other Parameters

Parameter	Operating Temperature /℃	Operating Relative Humidity /%	Storage Temperature /℃	Storage Relative Humidity /%	Lead Soldering Temperature (max/℃)
Min	10	-	0	-	-
Max	30	75	70	90	250(10Sec.)

Order Information

Package	Wavelength (nm)	Output Power (mW)	Part Number
R2T	784.5/785.5	600/600	R784.5/785.5±0.5-600/600mWF-R2T-TG
	785/1064	500/800	R785/1064±0.5-500/800mWF-R2T-TG

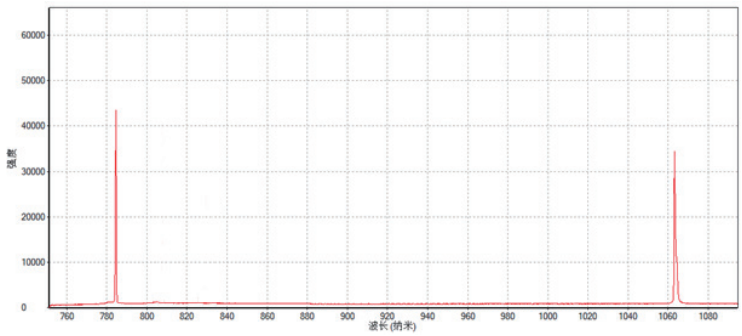
Part Numbering Schema



*Output Mode: F - Fiber Pigtailed

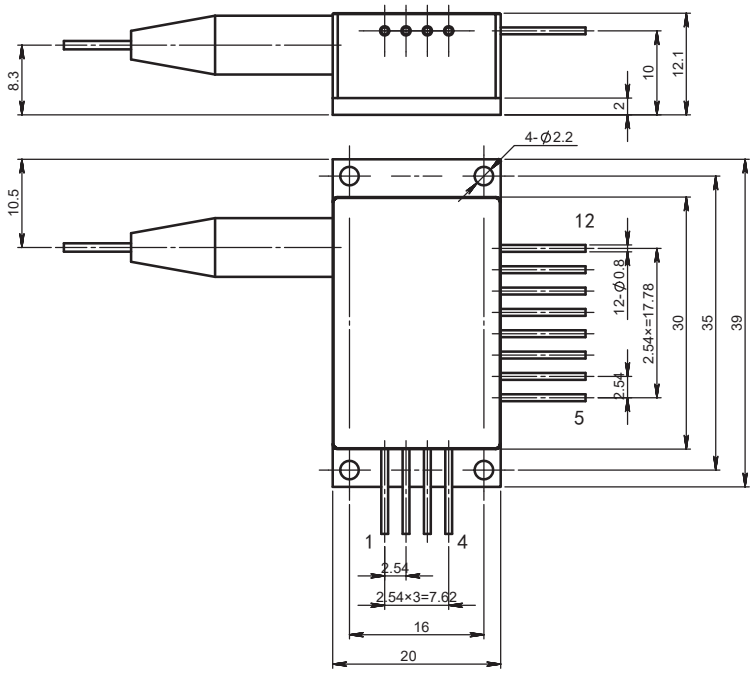
*Option： G - Narrow Linewidth

T - TEC



785&1064nm Spectrum

Mechanical Drawings (in mm)



Pin	Function	Pin	Function
1	LD 1 (+)	7	Thermistor
2	LD 1 (-)	8	TEC (+)
3	LD 2 (+)	9	PD (-)
4	LD 2 (-)	10	PD (+)
5	Thermistor	11	
6	TEC (-)	12	

