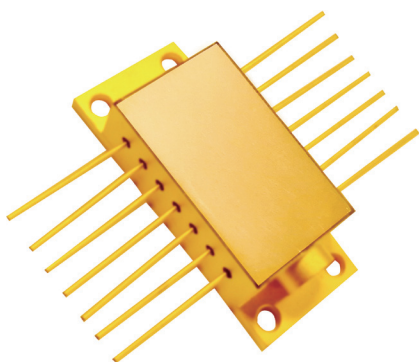


# 14SBTF Free Space Diode Laser Components



14SBTF Free Space Diode Laser Components, are featured products of RealLight's NL product line, utilizing wavelength-locking technique with volume Bragg gratings (VBG) and TE cooling, delivering stabilized power output, high Side-Mode Suppression Ratio, low temperature dependence of the lasing wavelength and various wavelengths.

## Key Features

- ◆ Compact design
- ◆ High stability
- ◆ Excellent reliability

## Applications

- Medical application
- Spectrum analysis
- Scientific research

## Technical Specifications (25°C)

Package Type		14SBTF (Free Space)						
Center Wavelength (nm)		532*	638	785	808	830	976	1064
Optical	CW Output Power / P <sub>op</sub> (mW)	100	500	600	600	600	800	800
	Wavelength Tolerance (nm)	±0.5						
	Spectral Width / Δλ (nm)	<0.1	<0.1	<0.1	<0.3	<0.1	<0.3	<0.1
	Temperature Drift of Wavelength / Δλ/ΔT (nm/°C)	0.01						
	Temperature Drift of Current / ΔI/ΔI <sub>op</sub> (nm/A)	0.05						
	SMSR	-	>35	>40				
Electrical	Threshold Current / I <sub>th</sub> (A)	0.6	0.5	0.4	0.3	0.4	0.3	0.2
	Operating Current / I <sub>op</sub> (A)	1	1.1	1.1	1	1.2	1.2	1.5
	Operating Voltage / V <sub>op</sub> (V)	2.1	2.2	2	2	1.8	1.5	1.8
	Slope Efficiency / η <sub>es</sub> (W/A)	-	0.8	0.9	0.9	0.8	0.9	0.6
	PD Parameter / I <sub>pd</sub> (μA)	-	<2000					
	Thermistor / Rt (kΩ/β (25°C))	10%±5/3930						
	TEC Max Current I <sub>max</sub> (A)	2.5						
TEC Max Voltage V <sub>max</sub> (V)	6.3							

1. \*532nm is diode pumped solid-state laser.

2. 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.

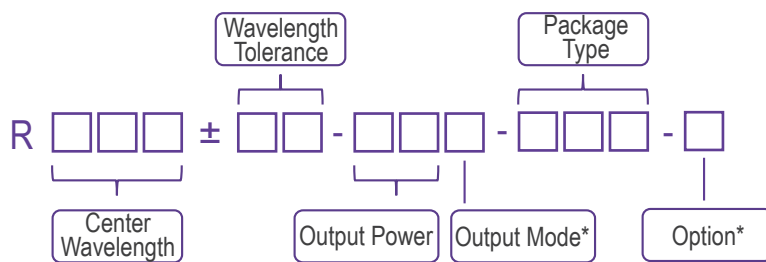
## Other Parameters

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

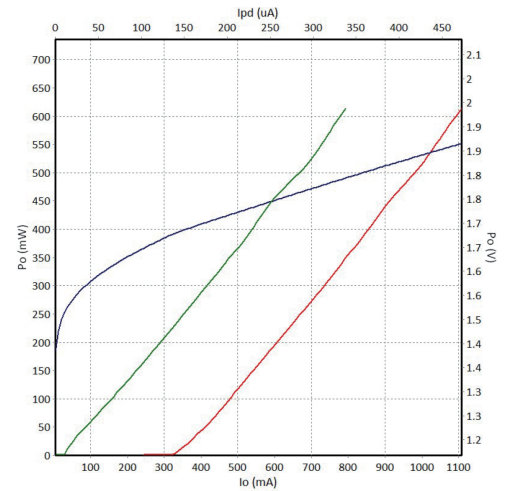
Package	Wavelength (nm)	Output Power (mW)	Part Number
14SBTF	532	100	R532±0.5-100mWW-14SBTF-TG
	638	500	R638±0.5-500mWW-14SBTF-TG
	785	600	R785±0.5-600mWW-14SBTF-TG
	808	600	R808±0.5-600mWW-14SBTF-TG
	830	600	R830±0.5-600mWW-14SBTF-TG
	976	800	R976±0.5-800mWW-14SBTF-TG
	1064	800	R1064±0.5-800mWW-14SBTF-TG

## Part Numbering Schema

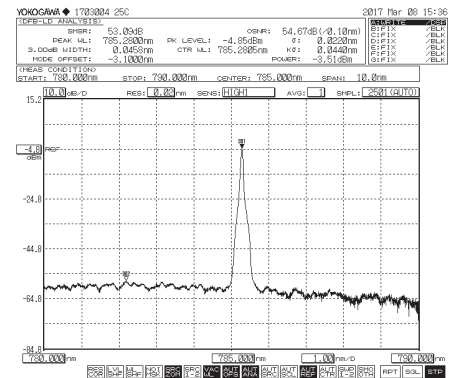


\*Output Mode: W - Free Space

\*Option: G - Narrow Linewidth  
T - TEC

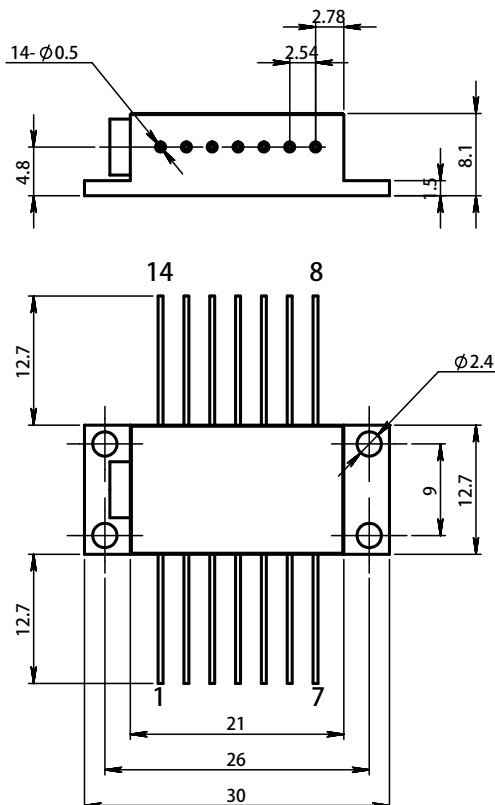


785nm P-I-V Graph



785nm Spectrum (SMSR>40dB)

## Mechanical Drawings (in mm)



Pin	Function	Pin	Function
1	TEC (+)	8	-
2	Thermistor	9	-
3	PD(P)	10	Laser (+)
4	PD(N)	11	Laser (-)
5	Thermistor	12	-
6	-	13	Case
7	-	14	TEC (-)

