



Constellation Series Single Frequency Narrow Line Width Lasers

Plug & Play Modules

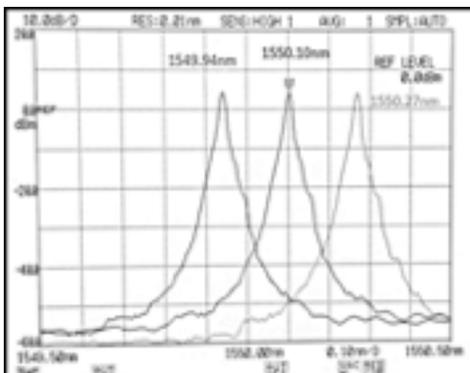
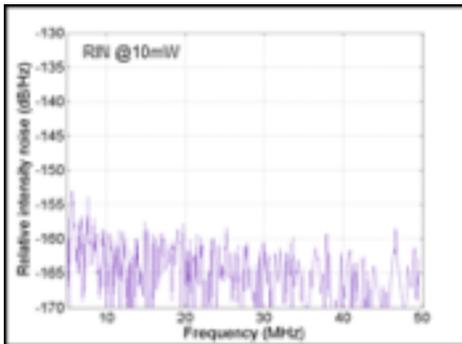
The **DL-BF9C & DL-BF18A** Constellation product series uses DenseLight's proprietary manufacturing process 14-pin butterfly package, enabling improved performance of the external cavity package to give high PER performance, high stability line width, low RIN & low phase noise performance < -160 dB/Hz, as well as SWWT – Super Wide Wavelength Tuneability.

This series features a narrow linewidth (< 6 KHz typical), single-frequency, with a output power up to 20 mW. The Constellation ILM is suitable for embedded designs or stand alone uses in a wide range of communication and sensing application. When using the Constellation series, the fiber optic systems will operate at a premium performance level



APPLICATIONS

- Acoustic Sensing
- Defense and Security
- Oil & Gas
- LIDAR
- Interferometric Sensing
- Metrology
- Coherent communication



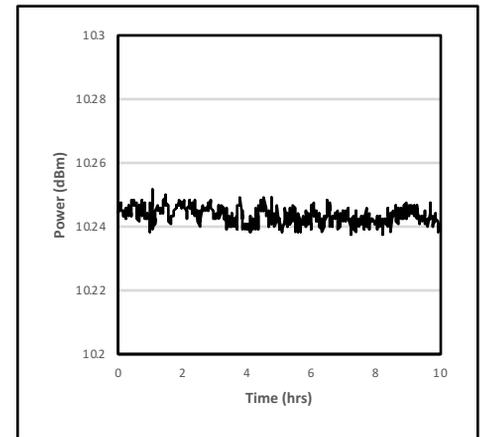
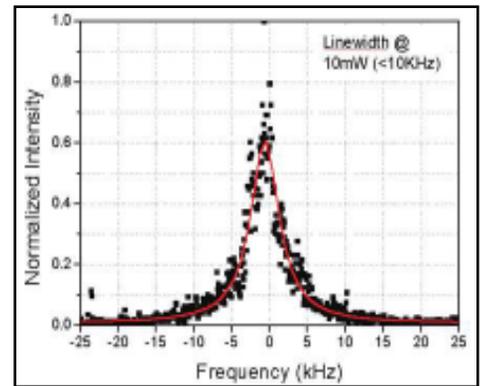
BF18A Tuning Range

FEATURES & PERFORMANCE

- Ultra-Narrow Linewidth < 6 KHz
- Excellent RIN < -155 dB/Hz (for power > 10 mW)
- High Frequency stability within ± 1 pm after 15 minutes warm-up
- Combined (SMA2 Voltage and Dial Tuning) wavelength tunability > 300 pm
- Excellent Typical SMSR > 50 dB
- **Direct frequency modulation capability**
- Typical PER > 18 dB (For PMF Options, customizable to > 20 dB)
- High power guaranteed: CW > 10 mW
- Mode-Hop-Free over operating temperature: 0°C to 50°C (customizable to 70°C)
- Integrated optical isolator, Proprietary Laser Driver and temperature controller
- Over-temperature protection and internal PCB temperature monitor

PRODUCT PERFORMANCE

Optical Parameters	Measurement Range	Min	Max	Units
Output Power		10	20	mW
Centre Wavelength	1550 nm	1548	1554	nm
Spectral Line Width	(Lorentzian)	< 6	< 50	Khz
Wavelength Tuning Range – BF9C	Thermal	30	120	pm
Wavelength Tuning Range – BF18A	Thermal	200	300	pm
PER - PMF	Typical Values	18		dB
Modulation Bandwidth	DC	DC	100	Khz
Direct Frequency modulation @ 25° C	Analog Digital	20	200	MHz
Operating Temperature Range	Standard Extended	0 -10	+ 60 +85	Deg C
Optical Isolation		45		dB



Relative Intensity Noise	Units	Frequency Ranges	Performance values
Laser output power at 10 mW	dB/Hz	1. 100 kHz – 500kHz 2. 500 kHz – 5 Mhz 3. 5 – 25 Mhz 4. 25 – 50 Mhz	1. < -130 2. < -140 3. < -155 4. < -160

PRODUCT OFFERING SPECIFICATIONS

- Customer Designs and Development available (extended performance,, selectable ITU-grid in C band etc)
- SMF or PMF with FC receptacle output
- Customize grating for specific wavelength (1260-1670nm)
- Linewidth grading (<50Khz, <25Khz, <10Khz, <5Khz)
- Telcordia qualified (GR-468-CORE)

- Dimension: L120 x W93 x H36.5 mm
- Enclosure: Metal Case
- Cooling: Air-Cooled
- Optical Output: Receptacle
- Connector Type: FC/APC
- Electronic Interface: 8-pin terminal block
- Power Supply: 5V DC