

PRECISION ADVANTAGE™ OPTICAL COMPONENTS

AG-1 Low Phase Noise Tunable Laser

APPLICATIONS

- Interferometric interrogation systems for sensing applications
- Metro DWDM and **UDWDM** applications









FEATURES

- Non-microphonic
- Low phase noise (1000 Hz): < 60 dBre Hz²/Hz
- Center wavelengths from 1528 1570 nm
- Optional channels spacing 6.5 GHz or less
- Small integrated package
- Suited for field deployment with minimal additional isolation for thermal and acoustic immunity

TECHNOLOGY

- Sabeus proprietary Multi Variable Control System (MVCS) control feedback loop
- DFB Phase noise reduction > 30 dB
- Fully integrated package including drive circuit, optical frequency reference, frequency stabilization circuit and TEC control circuit

CONFIGURATION

- PM or SMF connectorized 1 meter cable
- Up to 3 nm tuning range

SPECIFICATIONS

OPTICAL OUTPUT	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
Optical Output Power	Pf	5 dBm Increments	5	-	17	dBm
TE/TM Extinction Ratio	ER	with PM Fiber	20	-	-	dB
Power Stability	Pc	Fixed Wavelength	-	+/- 0.1	+/- 0.25	dB
Relative Intensity Noise	RIN	10 MHz to 10 GHz @ pf f = 860 MHz, If = 350 mA	-	- 158	-	dB/Hz
ITU Channel Spacing	-	@ 12.5, 25, 50, 100 GHz	-	-	-	GHz
Tunable Range	-	-	200			GHz
Absolute Frequency Accuracy	Δfeol	Max deviation over full life and operating conditions	-	-	+/- 250 MHz	MHz
Frequency Stability	Δfc	Short Term*		+/- 5*	+/- 25	MHz
Effective Spectral Width	Δf	FWHM @ 20 mW	10	-	500	kHz
Side Mode Suppression	SMSR	@ 150 mA	30	-	-	dB
Spurious (FM Side Band)	-	+/- GHz of fc	-	-40	-35	dB
Power Consumption	W	-	-	4	5	W

Note: All specifications are referenced to 25°C unless otherwise noted.

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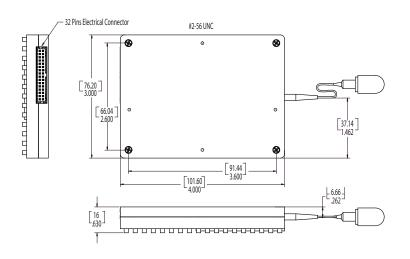
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AG-1 Low Phase Noise Tunable Laser



- Package dimensions: 76.2mm x 101.6mm x 16mm (3" x 4" x 0.63")
- Laser operating temp: 0°C to 70°C (32 to 158°F)
- Center wavelengths: from 1528 nm to 1570 nm
- Optional power levels:
 10 mW to 50 mW
- Optional channel spacing:
 @ 12.5 GHz, 25 GHz, 50 GHz, and 100 GHz
- Weight: 9.2 oz (1.26 kg)

SOFTWARE CONTROLLABLE

Software control of frequency, power, linewidth, phase noise, and output is available via RS-232 interface. The laser can be set once and the settings are retained in non-volatile memory or changed during operation.

LASER WITH EVALUATION BOARD

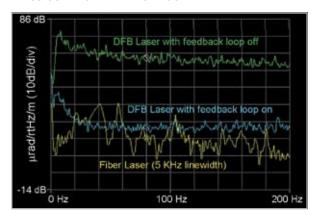
Evaluation board simplifies fiber handling, mechanical and electrical integration. Connect your power and evaluation board communicates with software for rapid integration.

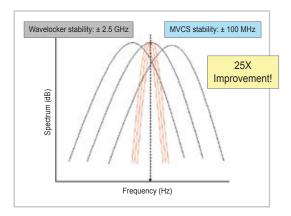
RS232

- + 5V @ 600mA supply
- 5V @ 30mA supply
- + 3.3 V @ 550 mA supply
- + 3.3 V @ 2 A supply

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MVCS CONTROL FEEDBACK LOOP





CAUTION: Use of controls, adjustments and procedures other than those specified herein may result in hazardous laser radiation exposure.





AVOID EXPOSURE – INVISIBLE LASER RADIATION IS EMMITTED FROM END OF FIBER OR CONNECTOR

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