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Find the *ThorLabs ASE-FL7002* at our website: ***Click HERE***

ASE-FL7002

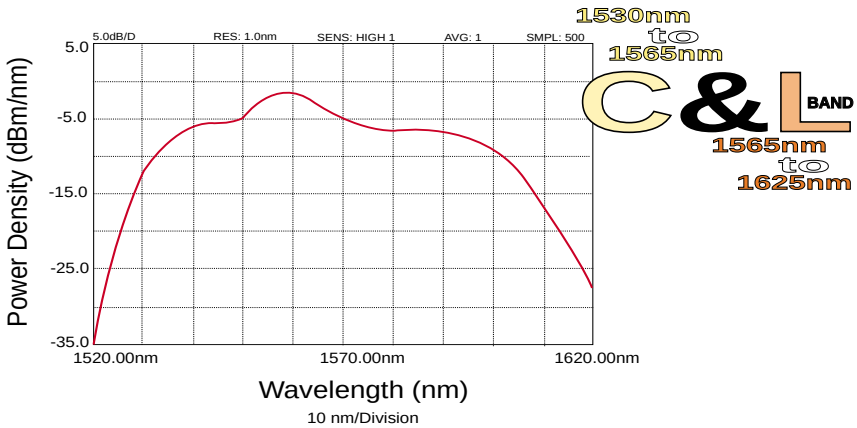
1530-1610nm ASE White Light Source

The **ASE FL7002 White Light Test Source** produces a broadband output spectrum of amplified spontaneous emission (ASE) ranging from 1520nm to 1620nm. It is constructed from a single Er-doped fluoride fiber optically pumped by a single laser diode.

These units exhibit excellent wavelength and power stability. Our power stability specification of ±0.005dB (15min.) is the best in the industry (see page 2 for detailed stability data).



Power Density vs Wavelength
ASE-FL7002



Single Channel ASE Source

ASE-FL7002 SPECIFICATIONS	
Output Fiber:	SMF28
Total Output Power:	> + 13dBm (20mW)
Power Stability (Typical):	< ±0.005dB (15min.)
Power Stability (Maximum):	< ±0.01dB (15min.)
Spectrum Density: (typical)	> -18dBm/nm @ 1530nm > -11dBm/nm @ 1540-1600nm > -18dBm/nm @ 1610nm
Size:	88mm (H) x 230mm (W) x 352mm (D)
Operation Temperature:	0˚C - 40˚C
Storage Temperature:	-10˚C - 45˚C
Warranty:	1 Year

ITEM#	PRICE	DESCRIPTION
ASE-FL7002	$19,500	1530-1610nm ASE Test Source

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ASE-FL7002

The **ASE FL7002** is a broadband white light test source for the C&L regions (1530nm to 1625nm). The FL7002 is the lowest noise C&L band test source in the industry. It has been designed to satisfy the demand for longer wavelength test equipment for the growing L-band market, while also supporting the existing market for C-Band instruments.

We have made it easy for the user to put this increased bandwidth to work in production or development testing.

This device takes advantage of an erbium doped fluoride fiber that is pumped with a single 1480nm laser diode to produce 20mW (13dBm) of broadband white light. This rare-earth fiber design allows for a higher degree of power and wavelength stability than conventional silica fibers with multiple pumping lasers. The output fiber is a standard SMF28 silica fiber.

The 7002 series ASE test sources are designed to perform well beyond the industry standard. Key features of all the ASE models include low noise, broadband output with a single pump laser, and exceptional stability. Excellent short term stability is illustrated in the plots shown on the right.

Average peak to peak noise values are typically in the 0.002dBm range for the 15 minute test and in the 0.005dBm range for the 48 hour test. Both the short term and long term stability data indicate that we clearly outperform the competition.

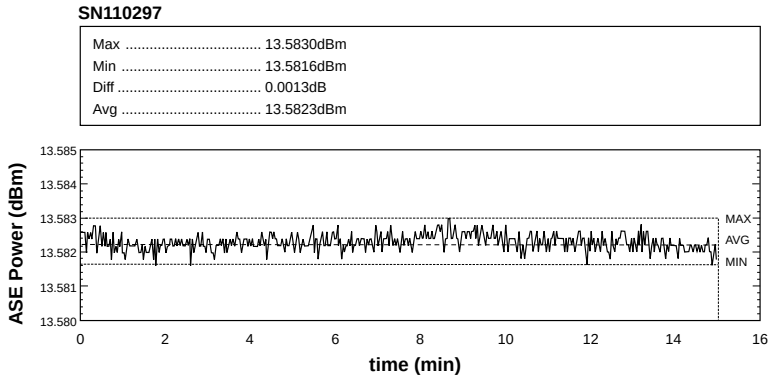


Figure I

15 Minute Power Stability

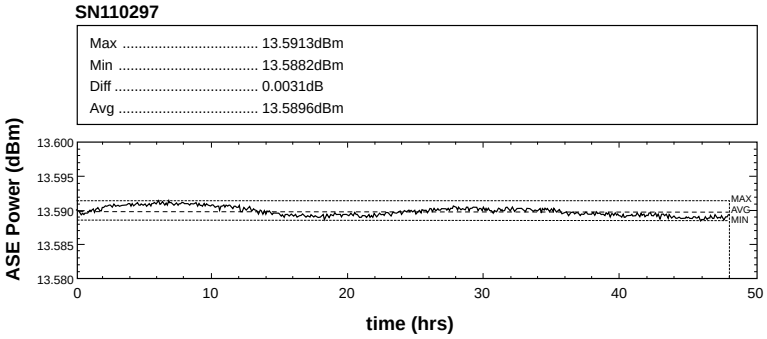


Figure II

48 Hours Power Stability

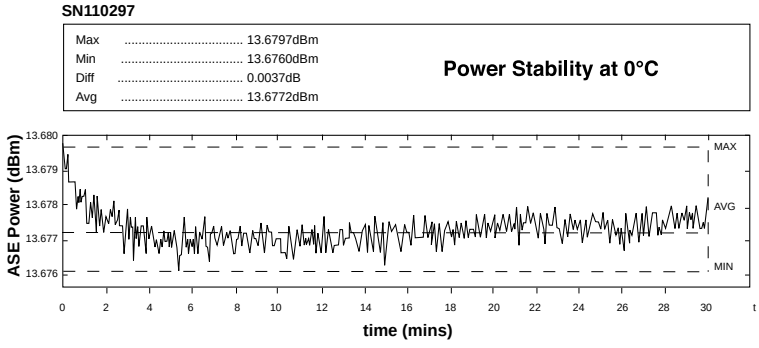


Figure III

Power Stability at 0°C

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ASE-FL7002

Each of our 7000 series ASE sources is individually tested to ensure that they meet our stringent performance standards. After an extensive burn-in period, the set up shown in Figure I is used to filter out a 2nm wide slice of the output spectrum. The output power stability of this 2nm window is then monitored to ensure the system has been optimized for the best possible wavelength stability. This additional test ensures that our ASE broadband source is the lowest noise source available.

Figure I

Measurement Setup

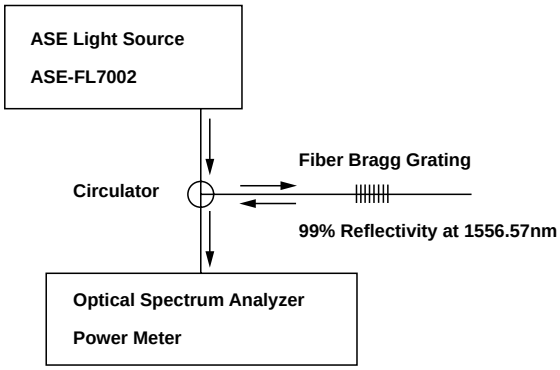


Figure II

Output Spectrum

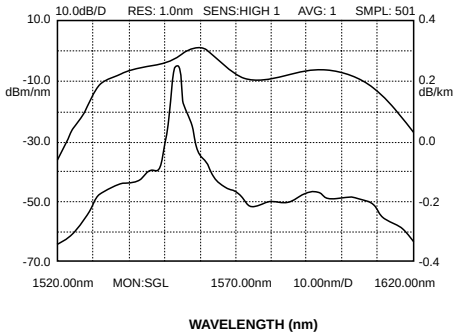


Figure III

Power Stability at 2nm Window

This data is representative of a typical unit

SN110297

T avg	20.00 ms	T total	15.00 min	Max	-3.0894dBm
Cal Factor	-20.000dB	Samples	500	Min	-3.0922dBm
Wavelength	1552.57nm			Diff	0.0028dB
				Avg	-3.0910dBm

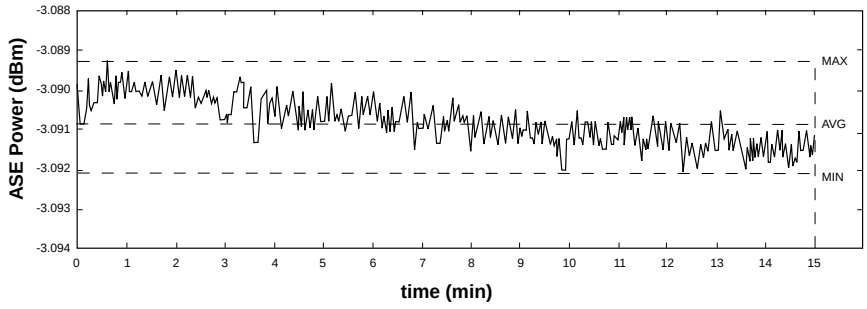


Figure I diagrams the wavelength stability test setup used in the production of our ASE Sources. The output from the ASE is sent through the optical circulator to a Bragg grating. The Bragg grating reflects back a 2nm slice of the ASE output; the circulator is then used to send this portion of the output to a optical power meter/spectrum analyzer. Figure II shows the 2nm wide spectral slice as well as the original ASE output spectrum.

Figure III shows the power stability in a 2nm window centered at 1552.57nm. From this plot the wavelength stability can be deduced. Because the 2nm window is centered on the side of a spectral peak, any wavelength shifts will result in an intensity change (per the first derivative of the output spectrum evaluated at the center of the 2nm window).

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ASE-FL7002

Light Source Data Sheet

This data is representative of a typical unit.

Serial No.: 110297

Total Output Power: 13.7dBm

Power Stability (15 min.): . . . .±0.0007dB
±0.008dB at 40ºC, 30 min.
±0.0019dB at 0ºC, 30 min.

Power Stability (48 H): . . . . . .±0.0016dB

Degree of Polarization: . . . . . .<4.9%

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