JDS Uniphase

Product Bulletin

RPU Series
Raman Amplification Pump Unit

The JDS Uniphase RPU Series is a family of integrated systems incorporating polarization and wavelength multiplexed laser diodes to provide distributed Raman gain in optical transmission fibers. Three versions are available, covering the C band, L band or both C plus L bands.

The wavelengths chosen for the standard products provide flat gain operation; alternative wavelengths are possible for specific applications. The standard unit comes with simple drive electronics and an analog interface. An optical output monitor is included for ease of integration.

Key Features
- High power pump source
- Optical output monitor
- Integrated isolator
- Integrated pump/signal MUX
- Low effective noise figure

Applications
- Ultra-long haul DWDM systems
- High channel count systems
- High data rate systems
- Increasing spans between signal regeneration

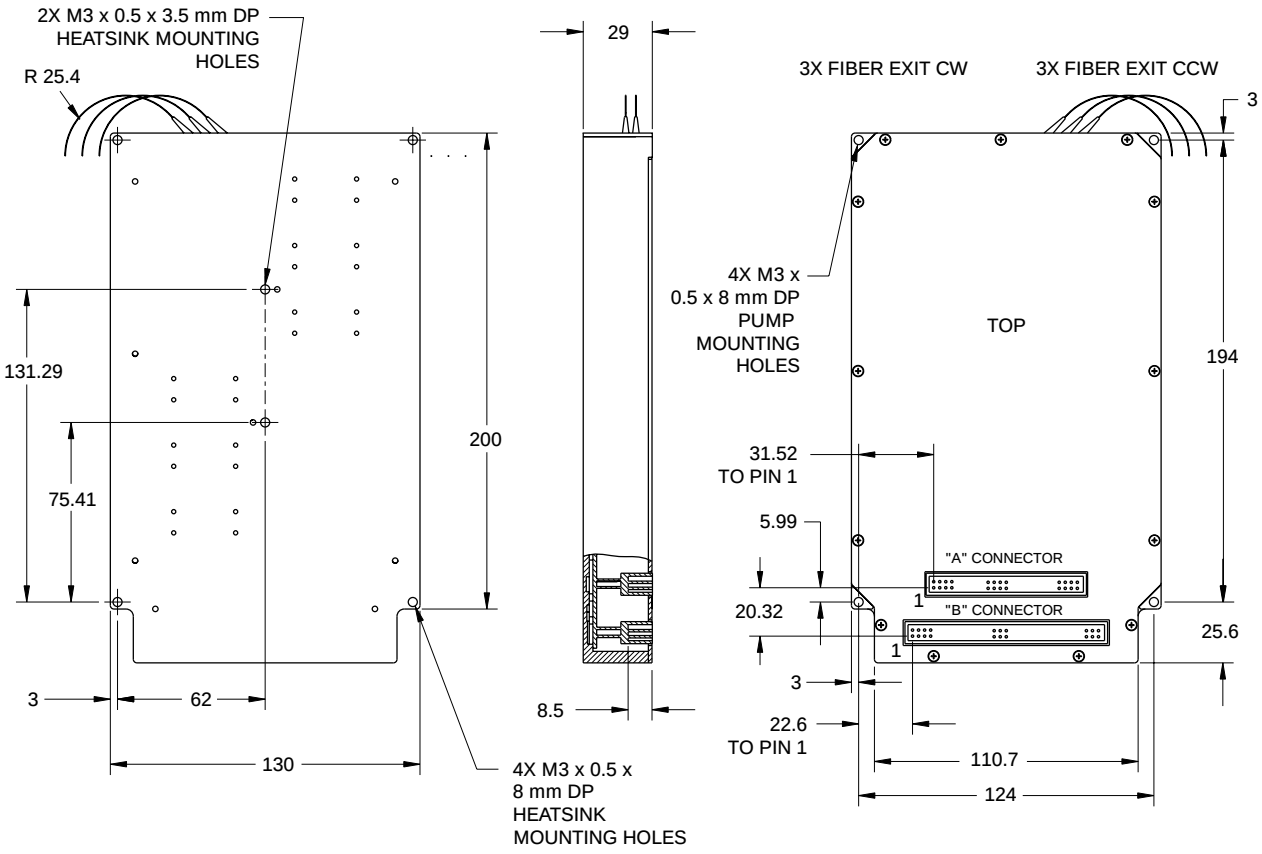
Raman Pump Unit Performance Specifications

Characteristic	X-RPU-C (C-band) Min	Nom	Max	X-RPU-L (L-band) Min	Nom	Max	X-RPU-CL (C+L band) Min	Nom	Max	Units
Wavelength Range	1528	-	1562	1570	-	1612	1528	-	1612	nm
Pump Power Output	550	-	-	550	-	-	750	-	-	mW
Pump Degree of Polarization	-	5.0	7.5	-	5.0	7.5	-	5.0	7.5	%
Insertion Loss Over C-band	-	0.8	1.1		na		-	0.8	1.1	dB
Insertion Loss Over L-band		na		-	0.8	1.1	-	0.8	1.1	dB
Change in Insertion Loss Over T	-	-	0.2	-	-	0.2	-	-	0.2	dB
Change in Insertion Loss Over I	-	-	0.2	-	-	0.2	-	-	0.2	dB
Polarization Dependent Loss	-	-	0.2	-	-	0.2	-	-	0.2	dB
Polarization mode dispersion	-	-	0.1	-	-	0.1	-	-	0.1	ps
Gain in SMF-28		10 – 13			10 – 13			10 – 13		dB
Gain in LEAF		14 – 18			14 – 18			14 – 18		dB
Gain in TW-RS		16 – 22			16 – 22			16 - 22		dB
Effective Noise Figure in SMF-28		0 to –1			–1 to –2			0 to –2		dB
Effective Noise Figure in LEAF		–1 to –2			–2 to –3			–1 to –3		dB
Effective Noise Figure in TW-RS		–1 to –3			–3 to –4			–1 to –4		dB
Number of Pump Lasers		4			4			6		
Power Dissipation, BOL	-	30	50	-	30	50	-	40	60	W
Operating Case Temperature	–5	-	70	–5	-	70	–5	-	70	°C
Storage Temperature	–40	-	85	–40	-	85	–40	-	85	°C

Package Dimensions

Dimensions in millimeters except where indicated

Standard Tolerances
mm: x.x = ±0.5
x.xx = ±0.25



User Safety

Safety and Operating Considerations

The laser light emitted from this laser system is invisible and will be harmful to the human eye. Proper laser safety eyewear must be worn during operation.

Device degradation accelerates with increased temperature and therefore careful attention to minimize the case temperature is advised.

CAUTION: USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

Notice

This product is intended as an OEM component (subsystem) to laser based optical fiber communications systems, and as such is not fully compliant to 21 CFR 1040 nor IEC 60825-1, -2 without further additions or modifications. See manual for instructions on these safety requirements.

Ordering information

For more information on this or other products and their availability, please contact your local JDS Uniphase sales representative or JDS Uniphase directly at 408 943-4200, or by fax 408 943-4252, or via email at sales.ca@us.jdsuniphase.com. Visit our Web site at www.jdsuniphase.com.

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