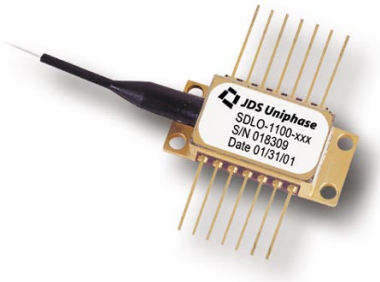
JDS Uniphase

Product Bulletin *New*



Coolerless 980 nm Pump Laser Module

The SDLO-1100 coolerless series 980 nm pump laser module provides stable, high-output power in a coolerless design. This pump module combines the advantages of coolerless design with all the well-known benefits of 980 nm EDFA pumping, including high efficiency and low noise.
Compared with conventional thermoelectric cooled pump modules, this uncooled module provides significant reductions in electrical power consumption and heat dissipation, and thus offers important advantages to systems equipment providers.

The SDLO-1100 coolerless pump module is designed to work in amplifiers located in Telcordia central-office environments. To allow for flexibility in EDFA design, the SDLO-1100 operates at case temperatures of 0 to 75 °C. High reliability is provided by the high-power capable JDS Uniphase 6540 laser chip, which is widely used in terrestrial and undersea applications, as well as by the field-proven 14-pin butterfly package. Excellent wavelength stability, power in band, and side-mode suppression ratio are achieved through the use of fiber Bragg grating wavelength stabilization.

The SDLO-1100 is currently undergoing Telcordia GR-468-CORE qualification.

Key Features

- Uncooled design for reduced power consumption and reduced heat dissipation
- JDS Uniphase 6540 laser chip for high reliability over 0 to 75 °C
- High optical output power
- Fiber Bragg grating wavelength stabilization for excellent wavelength stability
- Low noise figure relative to 1480 nm pumps

Applications

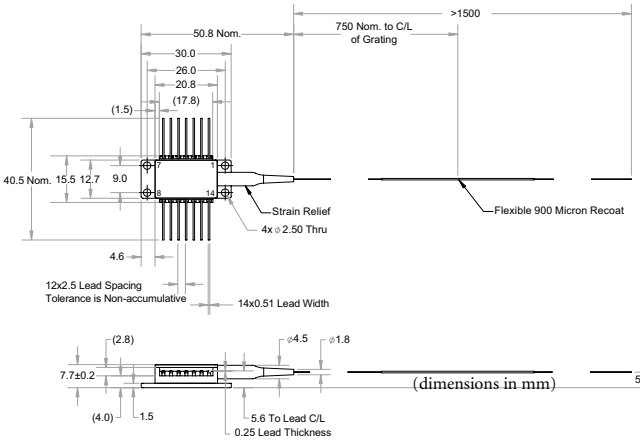
- All coolerless EDFAs
- Micro-amps
- Pre-amps

Specifications

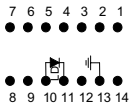
Parameter	Symbol	Condition	Minimum	Maximum
Threshold current	I_{th}			40 mA
Forward voltage	V_f	$I_f = I_{op}$		2.35 V
Operating power	P_{op}	$I_f = I_{op}$	165 mW	
Kink-free power	P_{kink}	$I_f = I_{max}$	200 mW	
Center wavelength[1]	l_m	$T_{grating}$ = room temperature	970 nm	985 nm
Power in band	P_{pump}	970 nm $<\lambda_m<$985 nm	80%	
Side-mode suppression ratio	SMSR	970 nm $<\lambda_m<$985 nm	-15 dB	
Total module power consumption	P_{Mod_Tot}	$I_f = I_{op\ BOL}$, P_{op} <100 mW		0.75 W
		$I_f = I_{op\ EOL}$, P_{op} < 100 mW		1.00 W
		$I_f = I_{op\ BOL}$, P_{op} < 165 mW		1.10 W
		$I_f = I_{op\ EOL}$, P_{op} < 165 mW		1.25 W
Absolute Maximum Ratings				
Operating case temperature	T_{op}	-	-20 °C	75 °C
Storage temperature	T_{stg}	2000 hours	-40 °C	85 °C
LD reverse voltage	V_r			2 V
LD current transient		1 µs maximum		950 mA
LD reverse current				10 µA
Electrostatic discharge (ESD)	V_{ESD} HBM[2]	C = 100 pF, R = 1.5 kΩ,		1000 V
Axial pull force		3 x 10 seconds		5 N
Side pull force		3 x 10 seconds		2.5 N
Fiber bend radius			16 mm	
Relative humidity	RH	40 °C	5%	95%
Lead soldering time				Not to equal 260 °C for more than 10 seconds

1. Wavelength selection is available. Inquire with your sales representative.
2. Human body model.

Series 1100 980 nm Pump Module (250 µm bare fiber—type A wiring)



PIN	Connection
1	N/C
2	N/C
3	N/C
4	N/C
5	N/C
6	N/C
7	N/C
8	N/C
9	N/C
10	Laser anode
11	Laser cathode
12	N/C
13	Case ground
14	N/C



Ordering Information

For more information on this or other products and their availability, please contact your JDS Uniphase account manager, or call 1-877-550-JDSU toll free in North America or visit www.jdsuniphase.com.

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