

Narrow Linewidth Laser Diodes Module: NLLM



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This narrow linewidth laser module integrates cooled external cavity diode laser and thermally-tuned FP filters to achieve single-mode operation at selectable wavelength. Narrow linewidth Laser Module has excellent optical performance in terms of high output power stability, high side-mode-suppression ratio (SMSR), ultra-narrow laser linewidth, low relative intensity noise (RIN), and high stable wavelength accuracy. We have options of SM fibers and PM fibers. The products are Telcordia GR-468 qualified, and in compliance with RoHS requirement.

Applications

- Interferometric fiber optic sensing
- Brillouin Distributed Temperature and Strain Sensors (DTSS)
- LIDAR
- Optical Test and Instrumentation

Features

- High output power(10~20mW)
- Center wavelength: C/L-band, ITU-T DWDM 100 GHz
- Very narrow linewidth and low RIN
- Wavelength tunability and Direct power modulation
- High stability, compact planar mechanical design

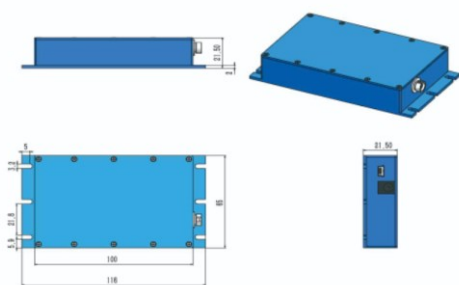
Product Photo



Optical and Electric Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit
Center Wavelength	λ	ITU grid, C/L-Band DWDM 100 GHz			nm
Optical Output Power	P_o	10	-	-	mW
Static Linewidth	LW	25	50	75	kHz
Power Stability over case temperature range(-10~60°C)	dP_{OUT}	-	-	1	%
Wavelength stability over case temperature range(-10~60°C)	$d\lambda$	-	-	10	pm
Relative Intensity Noise	RIN	-	-	-155	dB/Hz
Side-mode Suppression Ratio	SMSR	40	55	-	dB
Optical Isolation	ISO	35	-	-	dB
Polarization Extinction Ratio	PER	20	-	-	dB
Voltage Supply	V_{CC}	4.75	5	5.25	V
Operating Temperature Range	-	10	25	60	°C
Storage Temperature	T_{STG}	-40	-	85	°C
Dimension	W x L x H	65 x 116 x 21.5			mm

Mechanical Dimensions



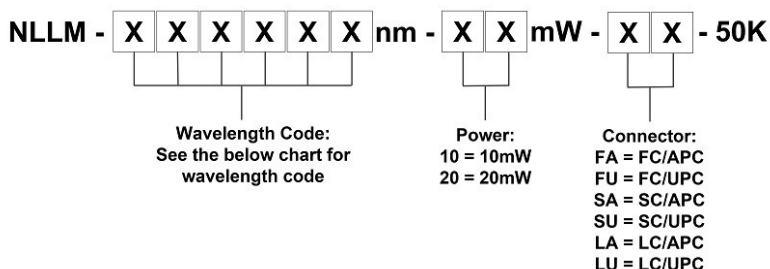
Interface connector

No.	Type
1	FC/APC connector or adaptor
2	SMA RF Modulation
3	Mini USB
4	Power supply:+5V/3A

Fiber Pigtail Specifications

Parameters	Description
Fiber Type	SM fiber or PM fiber
Jacket Type	900um loose tube
Pigtail Length	0.5m or Customized

Ordering Information



Standard Wavelength Reference Table

No.	Wavelength Code	Center Wavelength			Unit	No.	Wavelength Code	Center Wavelength			Unit
		Min.	Typical	Max.				Min.	Typical	Max.	
1	1529.16	1528.96	1529.16	1529.36	nm	49	1548.11	1547.91	1548.11	1548.31	nm
2	1529.55	1529.35	1529.55	1529.75	nm	50	1548.51	1548.31	1548.51	1548.71	nm
3	1529.94	1529.74	1529.94	1530.14	nm	51	1548.91	1548.71	1548.91	1549.11	nm
4	1530.33	1530.13	1530.33	1530.53	nm	52	1549.32	1549.12	1549.32	1549.52	nm
5	1530.72	1530.52	1530.72	1530.92	nm	53	1549.72	1549.52	1549.72	1549.92	nm
6	1531.12	1530.92	1531.12	1531.32	nm	54	1550.12	1549.92	1550.12	1550.32	nm
7	1531.51	1531.31	1531.51	1531.71	nm	55	1550.52	1550.32	1550.52	1550.72	nm
8	1531.90	1531.70	1531.90	1532.10	nm	56	1550.92	1550.72	1550.92	1551.12	nm
9	1532.29	1532.09	1532.29	1532.49	nm	57	1551.32	1551.12	1551.32	1551.52	nm
10	1532.68	1532.48	1532.68	1532.88	nm	58	1551.72	1551.52	1551.72	1551.92	nm
11	1533.07	1532.87	1533.07	1533.27	nm	59	1552.12	1551.92	1552.12	1552.32	nm
12	1533.47	1533.27	1533.47	1533.67	nm	60	1552.52	1552.32	1552.52	1552.72	nm
13	1533.86	1533.66	1533.86	1534.06	nm	61	1552.93	1552.73	1552.93	1553.13	nm
14	1534.25	1534.05	1534.25	1534.45	nm	62	1553.33	1553.13	1553.33	1553.53	nm
15	1534.64	1534.44	1534.64	1534.84	nm	63	1553.73	1553.53	1553.73	1553.93	nm
16	1535.04	1534.84	1535.04	1535.24	nm	64	1554.13	1553.93	1554.13	1554.33	nm
17	1535.43	1535.23	1535.43	1535.63	nm	65	1554.54	1554.34	1554.54	1554.74	nm
18	1535.82	1535.62	1535.82	1536.02	nm	66	1554.94	1554.74	1554.94	1555.14	nm
19	1536.22	1536.02	1536.22	1536.42	nm	67	1555.34	1555.14	1555.34	1555.54	nm
20	1536.61	1536.41	1536.61	1536.81	nm	68	1555.75	1555.55	1555.75	1555.95	nm
21	1537.00	1536.80	1537.00	1537.20	nm	69	1556.15	1555.95	1556.15	1556.35	nm
22	1537.40	1537.20	1537.40	1537.60	nm	70	1556.55	1556.35	1556.55	1556.75	nm
23	1537.79	1537.59	1537.79	1537.99	nm	71	1556.96	1556.76	1556.96	1557.16	nm
24	1538.19	1537.99	1538.19	1538.39	nm	72	1557.36	1557.16	1557.36	1557.56	nm
25	1538.58	1538.38	1538.58	1538.78	nm	73	1557.77	1557.57	1557.77	1557.97	nm
26	1538.98	1538.78	1538.98	1539.18	nm	74	1558.17	1557.97	1558.17	1558.37	nm
27	1539.37	1539.17	1539.37	1539.57	nm	75	1558.58	1558.38	1558.58	1558.78	nm
28	1539.77	1539.57	1539.77	1539.97	nm	76	1558.98	1558.78	1558.98	1559.18	nm
29	1540.16	1539.96	1540.16	1540.36	nm	77	1559.39	1559.19	1559.39	1559.59	nm
30	1540.56	1540.36	1540.56	1540.76	nm	78	1559.79	1559.59	1559.79	1559.99	nm
31	1540.95	1540.75	1540.95	1541.15	nm	79	1560.20	1560.00	1560.20	1560.40	nm
32	1541.35	1541.15	1541.35	1541.55	nm	80	1560.61	1560.41	1560.61	1560.81	nm
33	1541.75	1541.55	1541.75	1541.95	nm	81	1561.01	1560.81	1561.01	1561.21	nm
34	1542.14	1541.94	1542.14	1542.34	nm	82	1561.42	1561.22	1561.42	1561.62	nm
35	1542.54	1542.34	1542.54	1542.74	nm	83	1561.83	1561.63	1561.83	1562.03	nm
36	1542.94	1542.74	1542.94	1543.14	nm	84	1562.23	1562.03	1562.23	1562.43	nm
37	1543.33	1543.13	1543.33	1543.53	nm	85	1562.64	1562.44	1562.64	1562.84	nm
38	1543.73	1543.53	1543.73	1543.93	nm	86	1563.05	1562.85	1563.05	1563.25	nm
39	1544.13	1543.93	1544.13	1544.33	nm	87	1563.45	1563.25	1563.45	1563.65	nm
40	1544.53	1544.33	1544.53	1544.73	nm	88	1563.86	1563.66	1563.86	1564.06	nm
41	1544.92	1544.72	1544.92	1545.12	nm	89	1564.27	1564.07	1564.27	1564.47	nm
42	1545.32	1545.12	1545.32	1545.52	nm	90	1564.68	1564.48	1564.68	1564.88	nm
43	1545.72	1545.52	1545.72	1545.92	nm	91	1565.09	1564.89	1565.09	1565.29	nm
44	1546.12	1545.92	1546.12	1546.32	nm	92	1565.50	1565.30	1565.50	1565.70	nm
45	1546.52	1546.32	1546.52	1546.72	nm	93	1565.90	1565.70	1565.90	1566.10	nm
46	1546.92	1546.72	1546.92	1547.12	nm	94	1566.31	1566.11	1566.31	1566.51	nm
47	1547.32	1547.12	1547.32	1547.52	nm	95	1566.72	1566.52	1566.72	1566.92	nm
48	1547.72	1547.52	1547.72	1547.92	nm	96	1567.13	1566.93	1567.13	1567.33	nm