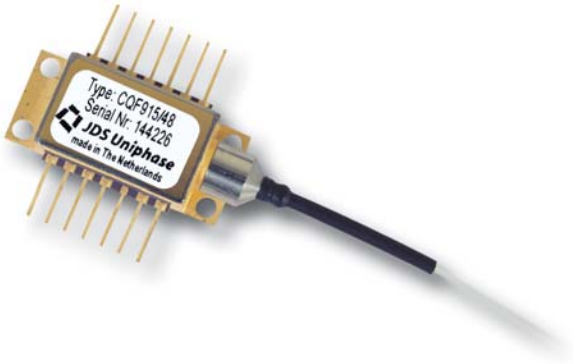
JDS Uniphase

Product Bulletin



1550 nm WDM DFB Lasers for Direct Digital Modulation

CQF915/208 Series

The CQF915/208 is a high-power, directly modulated laser source in a butterfly package for metro WDM systems up to 100 km. The laser is pigtailed with a single-mode fiber and shows excellent thermal stability (e.g. wavelength drift with case temperature is much better than 1 pm/°C). Dependence of the optical isolation on case temperature is minimized by a cooled isolator. The internal bias-T network and built-in monitor diode enable simple DC-bias conditioning and output power stabilization of the laser diode. Under small signal modulation conditions, the bandwidth of the device exceeds 3 GHz. Due to the intrinsic low chirp characteristic of the DFB laser, the device is especially suitable for digital transmission at 1550 nm. Based on standard single-mode fiber with non-zero dispersion, the maximum dispersion penalty at BER = 10^{-10} is less than 1.5 dB, for a total dispersion of up to 1800 ps/nm at 1550 nm. Long-term wavelength stability has been established by wavelength drift tests.

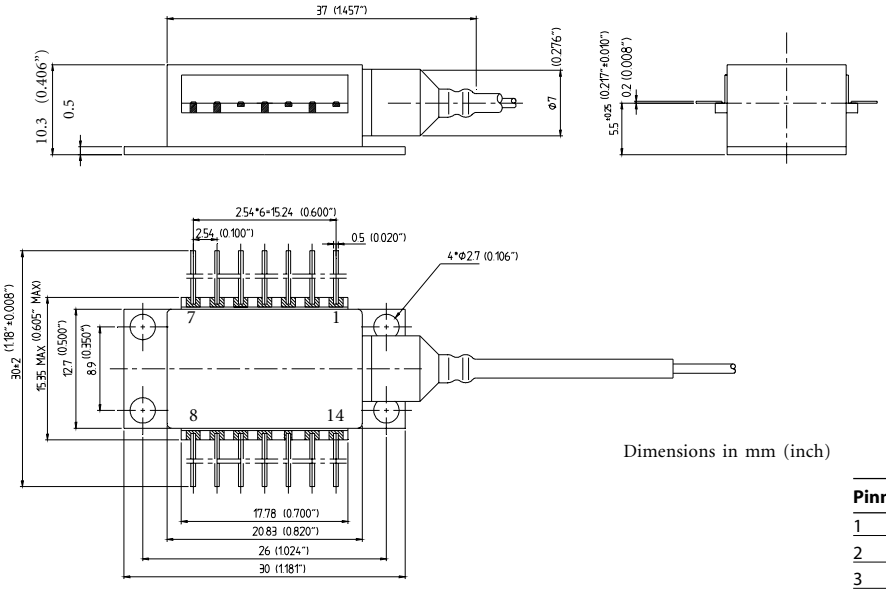
Key Features

- 1550 nm (WDM) DFB laser diode
- 2.5 Gb/s suitable for OC-48/STM-16
- Built-in cooled optical isolator
- Wavelengths available from 1527 to 1610 nm (C and L bands)
- 25 Ω electrical impedance matching
- 100 km distance (1800 ps/nm dispersion at 1550 nm)

Characteristics (R_{th} = 10 kΩ)

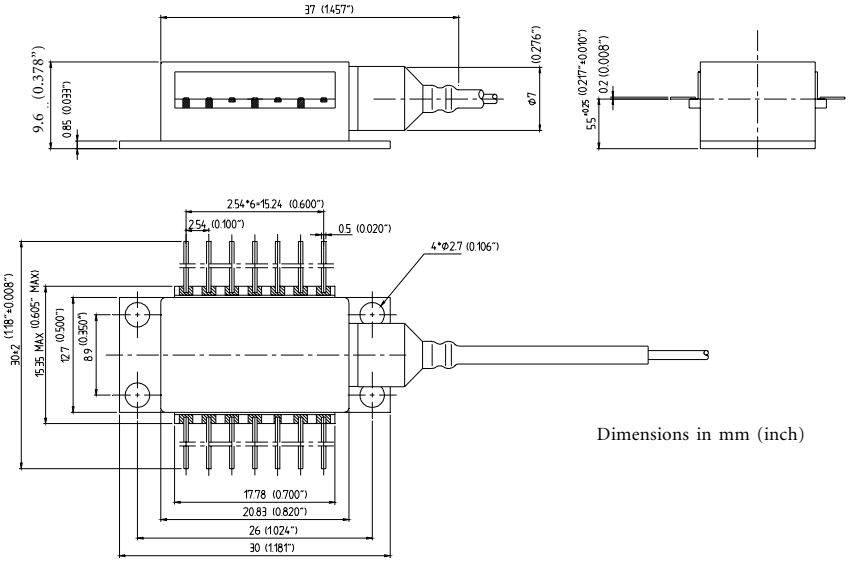
Symbol	Parameter	Minimum	Typical	Maximum
I_{th}	Threshold current		25 mA	35 mA
λ_c	Central wavelength (ITU grid)	1527 nm		1610 nm
T_λ	Laser set temperature for λ_c	20 °C		35 °C
P_{avg}	Average output power		7 dBm	
η	Differential efficiency	0.1 mW/mA		0.25 mW/mA
B_{-3dB}	Bandwidth (-3 dB)	3 GHz		
D	Dispersion at λ = 1550 nm	1800 ps/nm		

Mechanical Dimensions



Dimensions in mm (inch)

OR



Dimensions in mm (inch)

Pinning	
1	Thermistor
2	Thermistor
3	LD cathode DC input via inductance
4	PD anode
5	PD cathode
6	Cooler anode
7	Cooler cathode
8	Case GND
9	Case GND
10	Not connected
11	LD anode, case
12	LD cathode, AC input
13	LD anode, case
14	Not connected

Ordering Information

For more information on this or other products and their availability, please contact your local JDS Uniphase account manager or JDS Uniphase directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at sales@jdsu.com.

Sample: CQF915/208-19270 for wavelength 1555.75 nm

Attention: Order confirmations on this part number will be preceeded by FG' (e.g. FG'CQF915/208-19270).

CQF915/208-□□□□□

Channel Code	Optical Frequency f_c (THz)	Central Wavelength (vacuum) λ_c (nm)
19630	196.30	1527.22
19620	196.20	1527.99
19610	196.10	1528.77
19600	196.00	1529.55
19590	195.90	1530.33
19580	195.80	1531.12
19570	195.70	1531.90
19560	195.60	1532.68
19550	195.50	1533.47
19540	195.40	1534.25
19530	195.30	1535.04
19520	195.20	1535.82
19510	195.10	1536.61
19500	195.00	1537.40
19490	194.90	1538.19
19480	194.80	1538.98
19470	194.70	1539.77
19460	194.60	1540.56
19450	194.50	1541.35
19440	194.40	1542.14
19430	194.30	1542.94
19420	194.20	1543.73
19410	194.10	1544.53
19400	194.00	1545.32
19390	193.90	1546.12
19380	193.80	1546.92
19370	193.70	1547.72
19360	193.60	1548.51
19350	193.50	1549.32
19340	193.40	1550.12
19330	193.30	1550.92
19320	193.20	1551.72
19310	193.10	1552.52
19300	193.00	1553.33

Channel Code	Optical Frequency f_c (THz)	Central Wavelength (vacuum) λ_c (nm)
19290	192.90	1554.13
19280	192.80	1554.94
19270	192.70	1555.75
19260	192.60	1556.56
19250	192.50	1557.36
19240	192.40	1558.17
19230	192.30	1558.98
19220	192.20	1559.79
19210	192.10	1560.61
19200	192.00	1561.42
19190	191.90	1562.23
19180	191.80	1563.05
19170	191.70	1563.86
19160	191.60	1564.68
19150	191.50	1565.50
19140	191.40	1566.31
19130	191.30	1567.13
19120	191.20	1567.95
19110	191.10	1568.77
19100	191.00	1569.59
19090	190.90	1570.42
19080	190.80	1571.24
19070	190.70	1572.06
19060	190.60	1572.89
19050	190.50	1573.71
19040	190.40	1574.54
19030	190.30	1575.37
19020	190.20	1576.20
19010	190.10	1577.03
19000	190.00	1577.86
18990	189.90	1578.69
18980	189.80	1579.52
18970	189.70	1580.35
18960	189.60	1581.18

Channel Code	Optical Frequency f_c (THz)	Central Wavelength (vacuum) λ_c (nm)
18950	189.50	1582.02
18940	189.40	1582.85
18930	189.30	1583.69
18920	189.20	1584.53
18910	189.10	1585.36
18900	189.00	1586.20
18890	188.90	1587.04
18880	188.80	1587.88
18870	188.70	1588.73
18860	188.60	1589.57
18850	188.50	1590.41
18840	188.40	1591.26
18830	188.30	1592.10
18820	188.20	1592.95
18810	188.10	1593.79
18800	188.00	1594.64
18790	187.90	1595.49
18780	187.80	1596.34
18770	187.70	1597.19
18760	187.60	1598.04
18750	187.50	1598.89
18740	187.40	1599.75
18730	187.30	1600.60
18720	187.20	1601.46
18710	187.10	1602.31
18700	187.00	1603.17
18690	186.90	1604.03
18680	186.80	1604.88
18670	186.70	1605.74
18660	186.60	1606.61
18650	186.50	1607.47
18640	186.40	1608.33
18630	186.30	1609.19
18620	186.20	1610.06

Fiber Termination

- 1.25 mm or 2.5 mm ferrule
- FC/PC, SC/PC, and SC/APC connectors optional

JDS Uniphase

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10127496 Rev. 001 01/04