



PLXXX 1310 to 1610nm CWDM DFB Series LDs

NECSEL offers its' CWDM family of DFB in fiber pigtailed coaxial style packages. The CWDM product offering includes all 16 wavelengths necessary to span the 1310nm to 1610nm range in the prescribed 20nm increments. These assemblies include integral dual stage optical isolators for stable optical performance. The addition of these isolators ensures a minimum optical isolation of 40dB at the assemblies center wavelength over the entire operating temperature range. These lasers may be operated from -40 to 85° C while maintaining all of the DFB spectral characteristics. These units are available in ready-to-use, fiber-pigtailed packages and may be terminated with all standard optical connector varieties .

The InGaAsP DFB laser diodes offered by NECSEL are of proven design and manufacture. The semiconductor lasers have been qualified as per Telcordia GR-468. The highly stable YAG Laser welded packaging ensures a low tracking error of < +/- 1.0 dB maximum over OTR -40 to 85°C .

Optional board- or panel -mount flanges are available for pigtailed devices; contact NECSEL Sales.



Features

- Internal Monitor Photodiode
- Compact, reliable, coax fiber-coupled package
- 1 to 3 mW singlemode (9/125)
- 30dB minimum side mode suppression
- 0.25 nsec rise/fall time
- 40dB optical isolation

Applications

- Fiberoptic communications
- Fiberoptic test instrumentation
- Analog Signal transmission
- Wide Bandwidth CATV

¹Examples only; most device/packaging combinations available. Changes to specifications may be made without notice. 1-25 CWDM DFB. Lasers Rev A


PLXXX 1310 to 1610nm CWDM DFB Series LDs
PLWWWPPPFCCB-0-V-LL
P = NECSEL(PD-LD) Product
L = Laser
WWW=Wavelength and Pin-out
31A = 1310nm DFB Laser with "H" pin-out
33A = 1330nm
35A = 1350nm
37A = 1370nm
39A = 1390nm
41A = 1410nm
43A = 1430nm
45A = 1450nm
47A = 1470nm
49A = 1490nm
51A = 1510nm
53A = 1530nm
55A = 1550nm
57A = 1570nm
59A = 1590nm
61A = 1610nm
PPP = Fiber-Coupled Power
002 = 2mW CW
F = Fiber Type
1= 9/125/900um SMF G.657.A1 equivalent
CC = Connector Type
00 = No connector
FA=FC/APC connector
B = Bracket Type
A = None
G= Board Mount
O= Bracket Orientation
0 = No bracket
A= Bracket shipped loose with unit
V=Version
1= Optical Isolator
LL = Length in meters
01 = 1.0m long pigtail

¹Examples only; most device/packaging combinations available. Changes to specifications may be made without notice. 1-25 CWDM DFB. Lasers Rev A



PLXXX 1310 to 1610nm CWDM DFB Series LDs

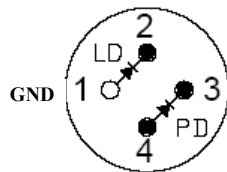
Physical Dimensions (mm) & Pin Connection

Laser Diode Schematic

Coaxial-Pigtailed Laser Diode Package

Consult NECSEL for Available Board Mount
(10181 or 10198) or Panel Mount Brackets
(10219)

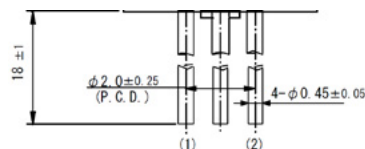
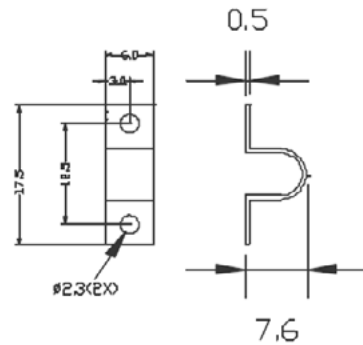
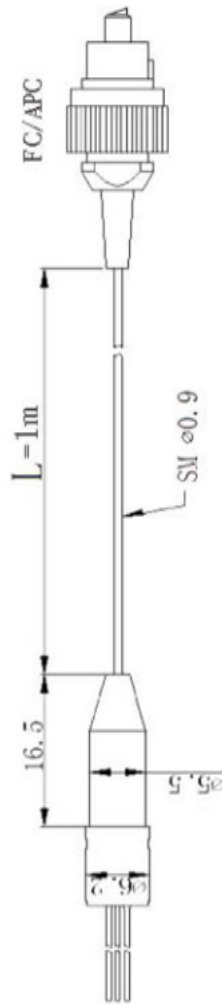
Laser Diode Pin-out: Bottom View



"H" Style Pin-out

Unit shown FC/APC connector

Board Mount Bracket Style "G",
shipped loose with pigtailed assemblies



¹Examples only; most device/packaging combinations available. Changes to specifications may be made without notice. 1-25 CWDM DFB. Lasers Rev A


PLXXX 1310 to 1610nm CWDM DFB Series LDs

Absolute Maximum Ratings (T_c=25°C)			
Parameter	Symbol	Value	Unit
Optical Output Power	P _o	5	mW
LD Reverse Voltage	V _{RLD}	2	V
LD Forward Current	I _{fl}	50	mA
PD Reverse Voltage	V _{RPD}	20	V
PD Forward Current	I _{FPD}	2	mA
Operating Temperature	T _{OPR}	-40 to 85	°C
Storage Temperature	T _{STG}	-40 to 85	°C

¹Examples only; most device/packaging combinations available. Changes to specifications may be made without notice. 1-25 CWDM DFB. Lasers Rev A


PLXXX 1310 to 1610nm CWDM DFB Series LDs
Electro-Optical Characteristics (Tc= 25°C except as noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Lasing Threshold Current	I _{th}	CW	4.0		15	mA
Lasing Threshold Current	I _{th}	85 C			35	mA
Slope Efficiency	n	2mW	0.10	0.15		W/A
LD Forward Voltage	V _f	2mW		1.1	1.6	V
Optical Output Power	P _o	I _{th} +20mA	2			mW
Optical Output Power	P _o	I _{th} +20,mA 85 C	1			mW
Wavelength	λ	2mW	λ-3	λ	λ+3	nm
Wavelength Temperature Coefficient	λ _{ct}	2mW		0.09	0.12	nm/ deg C
Side mode suppression ratio	SMSR	2mW	30	40		dB
Rise / Fall Times	t _R , t _F	2mW 20% to 80%		0.25		ns
Relaxation Oscillation Frequency	f _R	2mW	2.5			GHz
Monitor Output Current	I _m	I _f =I _{th} + 20 mA	0.05	0.3	1.0	mA
Monitor Dark Current	I _d	5V reverse bias			2	nA
Monitor Capacitance	C	5V reverse bias		10	15	pF

¹Examples only; most device/packaging combinations available. Changes to specifications may be made without notice. 1-25 CWDM DFB. Lasers Rev A