

PM DFB 10mW ITU Grid Butterfly Laser Diodes

Features

- High output power($\geq 10\text{mW}$)
- High-performance
- Industry-standard, 14-pin butterfly package
- Built-in TEC and optical isolator
- λ_c of $\text{XXXX}\pm 0.2\text{nm}$

Applications

- Fiberoptic sensors
- DWDM systems
- Laser sources
- CATV systems

This laser covers customer selection of large wavelengths range from 1530nm to 1610nm which are fabricated in a hermetically sealed 14-pin butterfly package. The laser diodes contains thermoelectric cooler (TEC), thermistor, monitor photodiode, optical iso to secure high quality laser performance. The Laser Diodes wavelength of $\text{XXXX.XX}\pm 0.2\text{nm}$, Output power: $\geq 10\text{mW}$
 Pigtail Type: PM fiber with 900um loose tube, 1.0m, FC/APC connector.
 Our laser products are Telcordia GR-468 qualified, and in compliance with RoHS Directives.

Specifications

Parameters	Unit	Values	Symbol	Test Conditions
Center Wavelength	nm	See Center Wavelength Table	λ_c	TL=15~35°C, CW
Peak Optical Output Power	mW	≥ 10	P _o	P=P _o (CW)
Spectral Linewidth	MHz	≤ 5	LW	FWHM
Sidemode Suppression Ratio	dB	≥ 40	SMSR	CW
Polarization Extinction Ratio	dB	≥ 20	PER	
Optical Isolation	dB	≥ 30		
Relative Intensity Noise	dB/Hz	-145	RIN	20-1000MHz
Wavelength Drift (EOL)	nm	± 0.1	$\Delta\lambda$	Tested over 25Y lifetime
Wavelength Temperature Coefficient	nm/°C	0.09(Typ.)	$\Delta\lambda/\Delta T$	TEC temperature 15~35°C
Wavelength Current Coefficient	nm/mA	0.01(Typ.)	$\Delta\lambda/\Delta I$	
Threshold Current	mA	≤ 35	I _{TH}	
Slope Efficiency	mW/mA	0.05~0.2	η	P _o =10mW(CW)
Operating Current	mA	≤ 150	I _{op}	P _o =10mW(CW)
TEC Set Temperature	°C	15~35	T _s	
Laser Forward Voltage	V	≤ 3	V _F	P _o =10mW(CW)
Monitor PD Current	μA	10~2500	I _{MPD}	P _o =10mW(CW)
Monitor Dark Current	μA	≤ 0.1	I _D	I _F =0mA, V _{RPD} =5V
Thermistor Current	μA	10~100	I _{TC}	
Thermistor Resistance	KΩ	9.5~10.5	R _{TH}	T _L =25°C
TEC Current	A	-1.5~+1.5	I _{TEC}	T _L =25°C, T _C =65°C
TEC Voltage	V	-3.5~+3.5	V _{TEC}	T _L =25°C, T _C =65°C
TEC Capacity	°C	≤ 50	ΔT	T _C =65°C
Thermistor Temperature	°C	≤ 100		
Laser Forward Current	mA	≤ 200	I _F	CW
Laser Reverse Voltage	V	≤ 2	V _R	
PD Forward Current	mA	≤ 5	I _{FPD}	
PD Reverse Voltage	V	≤ 10	V _{RPD}	
Operating Temperature	°C	-20 ~ +65	T _{op}	
Storage Temperature	°C	-40 ~ +85	T _s	

Center Wavelength Table

Channel	Center Wavelength(nm)		
	Min.	Typical	Max.
H62	1527.40	1527.60	1527.80
C62	1527.79	1527.99	1528.19
H61	1528.18	1528.38	1528.58
C61	1528.57	1528.77	1528.97
H60	1528.96	1529.16	1529.36
C60	1529.35	1529.55	1529.75
H59	1529.74	1529.94	1530.14
C59	1530.13	1530.33	1530.53
H58	1530.52	1530.72	1530.92
C58	1530.92	1531.12	1531.32
H57	1531.31	1531.51	1531.71
C57	1531.70	1531.90	1532.10
H56	1532.09	1532.29	1532.49
C56	1532.48	1532.68	1532.88
H55	1532.87	1533.07	1533.27
C55	1533.27	1533.47	1533.67
H54	1533.66	1533.86	1534.06
C54	1534.05	1534.25	1534.45
H53	1534.44	1534.64	1534.84
C53	1534.84	1535.04	1535.24
H52	1535.23	1535.43	1535.63
C52	1535.62	1535.82	1536.02
H51	1536.02	1536.22	1536.42
C51	1536.41	1536.61	1536.81
H50	1536.80	1537.00	1537.20
C50	1537.20	1537.40	1537.60
H49	1537.59	1537.79	1537.99
C49	1537.99	1538.19	1538.39
H48	1538.38	1538.58	1538.78
C48	1538.78	1538.98	1539.18
H47	1539.17	1539.37	1539.57
C47	1539.57	1539.77	1539.97
H46	1539.96	1540.16	1540.36
C46	1540.36	1540.56	1540.76
H45	1540.75	1540.95	1541.15
C45	1541.15	1541.35	1541.55
H44	1541.55	1541.75	1541.95
C44	1541.94	1542.14	1542.34
H43	1542.34	1542.54	1542.74
C43	1542.74	1542.94	1543.14
H42	1543.13	1543.33	1543.53
C42	1543.53	1543.73	1543.93
H41	1543.93	1544.13	1544.33
C41	1544.33	1544.53	1544.73
H40	1544.72	1544.92	1545.12
C40	1545.12	1545.32	1545.52
H39	1545.52	1545.72	1545.92
C39	1545.92	1546.12	1546.32

H38	1546.32	1546.52	1546.72
C38	1546.72	1546.92	1547.12
H37	1547.12	1547.32	1547.52
C37	1547.52	1547.72	1547.92
H36	1547.91	1548.11	1548.31
C36	1548.31	1548.51	1548.71
H35	1548.71	1548.91	1549.11
C35	1549.12	1549.32	1549.52
H34	1549.52	1549.72	1549.92
C34	1549.92	1550.12	1550.32
H33	1550.32	1550.52	1550.72
C33	1550.72	1550.92	1551.12
H32	1551.12	1551.32	1551.52
C32	1551.52	1551.72	1551.92
H31	1551.92	1552.12	1552.32
C31	1552.32	1552.52	1552.72
H30	1552.73	1552.93	1553.13
C30	1553.13	1553.33	1553.53
H29	1553.53	1553.73	1553.93
C29	1553.93	1554.13	1554.33
H28	1554.34	1554.54	1554.74
C28	1554.74	1554.94	1555.14
H27	1555.14	1555.34	1555.54
C27	1555.55	1555.75	1555.95
H26	1555.95	1556.15	1556.35
C26	1556.35	1556.55	1556.75
H25	1556.76	1556.96	1557.16
C25	1557.16	1557.36	1557.56
H24	1557.57	1557.77	1557.97
C24	1557.97	1558.17	1558.37
H23	1558.38	1558.58	1558.78
C23	1558.78	1558.98	1559.18
H22	1559.19	1559.39	1559.59
C22	1559.59	1559.79	1559.99
H21	1560.00	1560.20	1560.40
C21	1560.41	1560.61	1560.81
H20	1560.81	1561.01	1561.21
C20	1561.22	1561.42	1561.62
H19	1561.63	1561.83	1562.03
C19	1562.03	1562.23	1562.43
H18	1562.44	1562.64	1562.84
C18	1562.85	1563.05	1563.25
H17	1563.25	1563.45	1563.65
C17	1563.66	1563.86	1564.06
H16	1564.07	1564.27	1564.47
C16	1564.48	1564.68	1564.88
H15	1564.89	1565.09	1565.29
C15	1565.30	1565.50	1565.70
H14	1565.70	1565.90	1566.10
C14	1566.11	1566.31	1566.51
H13	1566.52	1566.72	1566.92

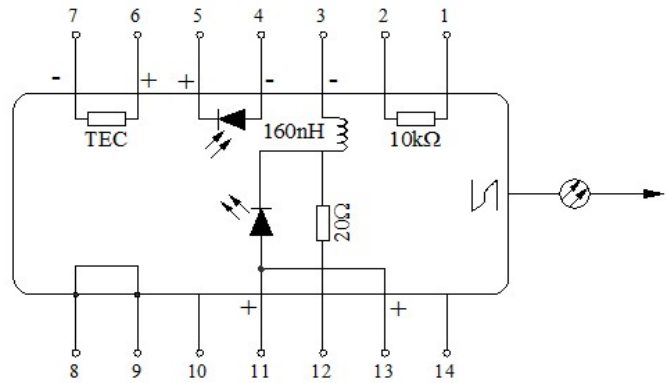
C13	1566.93	1567.13	1567.33
H12	1567.34	1567.54	1567.74
C12	1567.75	1567.95	1568.15
H11	1568.16	1568.36	1568.56
C11	1568.57	1568.77	1568.97
H10	1568.98	1569.18	1569.38
C10	1569.39	1569.59	1569.79
H09	1569.81	1570.01	1570.21
C09	1570.22	1570.42	1570.62
H08	1570.63	1570.83	1571.03
C08	1571.04	1571.24	1571.44
H07	1571.45	1571.65	1571.85
C07	1571.86	1572.06	1572.26
H06	1572.28	1572.48	1572.68
C06	1572.69	1572.89	1573.09
H05	1573.10	1573.30	1573.50
C05	1573.51	1573.71	1573.91
H04	1573.93	1574.13	1574.33
C04	1574.34	1574.54	1574.74
H03	1574.75	1574.95	1575.15
C03	1575.17	1575.37	1575.57
H02	1575.58	1575.78	1575.98
C02	1576.00	1576.20	1576.40
H01	1576.41	1576.61	1576.81
C01	1576.83	1577.03	1577.23
Q00	1577.24	1577.44	1577.64
L00	1577.66	1577.86	1578.06
Q99	1578.07	1578.27	1578.47
L99	1578.49	1578.69	1578.89
Q98	1578.90	1579.10	1579.30
L98	1579.32	1579.52	1579.72
Q97	1579.73	1579.93	1580.13
L97	1580.15	1580.35	1580.55
Q96	1580.57	1580.77	1580.97
L96	1580.98	1581.18	1581.38
Q95	1581.40	1581.60	1581.80
L95	1581.82	1582.02	1582.22
Q94	1582.24	1582.44	1582.64
L94	1582.65	1582.85	1583.05
Q93	1583.07	1583.27	1583.47
L93	1583.49	1583.69	1583.89
Q92	1583.91	1584.11	1584.31
L92	1584.33	1584.53	1584.73
Q91	1584.75	1584.95	1585.15
L91	1585.16	1585.36	1585.56
Q90	1585.58	1585.78	1585.98
L90	1586.00	1586.20	1586.40
Q89	1586.42	1586.62	1586.82
L89	1586.84	1587.04	1587.24
Q88	1587.26	1587.46	1587.66
L88	1587.68	1587.88	1588.08

Q87	1588.10	1588.30	1588.50
L87	1588.53	1588.73	1588.93
Q86	1588.95	1589.15	1589.35
L86	1589.37	1589.57	1589.77
Q85	1589.79	1589.99	1590.19
L85	1590.21	1590.41	1590.61
Q84	1590.63	1590.83	1591.03
L84	1591.06	1591.26	1591.46
Q83	1591.48	1591.68	1591.88
L83	1591.90	1592.10	1592.30
Q82	1592.32	1592.52	1592.72
L82	1592.75	1592.95	1593.15
Q81	1593.17	1593.37	1593.57
L81	1593.59	1593.79	1593.99
Q80	1594.02	1594.22	1594.42
L80	1594.44	1594.64	1594.84
Q79	1594.86	1595.06	1595.26
L79	1595.29	1595.49	1595.69
Q78	1595.71	1595.91	1596.11
L78	1596.14	1596.34	1596.54
Q77	1596.56	1596.76	1596.96
L77	1596.99	1597.19	1597.39
Q76	1597.42	1597.62	1597.82
L76	1597.84	1598.04	1598.24
Q75	1598.27	1598.47	1598.67
L75	1598.69	1598.89	1599.09
Q74	1599.12	1599.32	1599.52
L74	1599.55	1599.75	1599.95
Q73	1599.97	1600.17	1600.37
L73	1600.40	1600.60	1600.80
Q72	1600.83	1601.03	1601.23
L72	1601.26	1601.46	1601.66
Q71	1601.68	1601.88	1602.08
L71	1602.11	1602.31	1602.51
Q70	1602.54	1602.74	1602.94
L70	1602.97	1603.17	1603.37
Q69	1603.40	1603.60	1603.80
L69	1603.83	1604.03	1604.23
Q68	1604.26	1604.46	1604.66
L68	1604.68	1604.88	1605.08
Q67	1605.11	1605.31	1605.51
L67	1605.54	1605.74	1605.94
Q66	1605.97	1606.17	1606.37
L66	1606.40	1606.60	1606.80
Q65	1606.84	1607.04	1607.24
L65	1607.27	1607.47	1607.67
Q64	1607.70	1607.90	1608.10
L64	1608.13	1608.33	1608.53
Q63	1608.56	1608.76	1608.96
L63	1608.99	1609.19	1609.39
Q62	1609.42	1609.62	1609.82

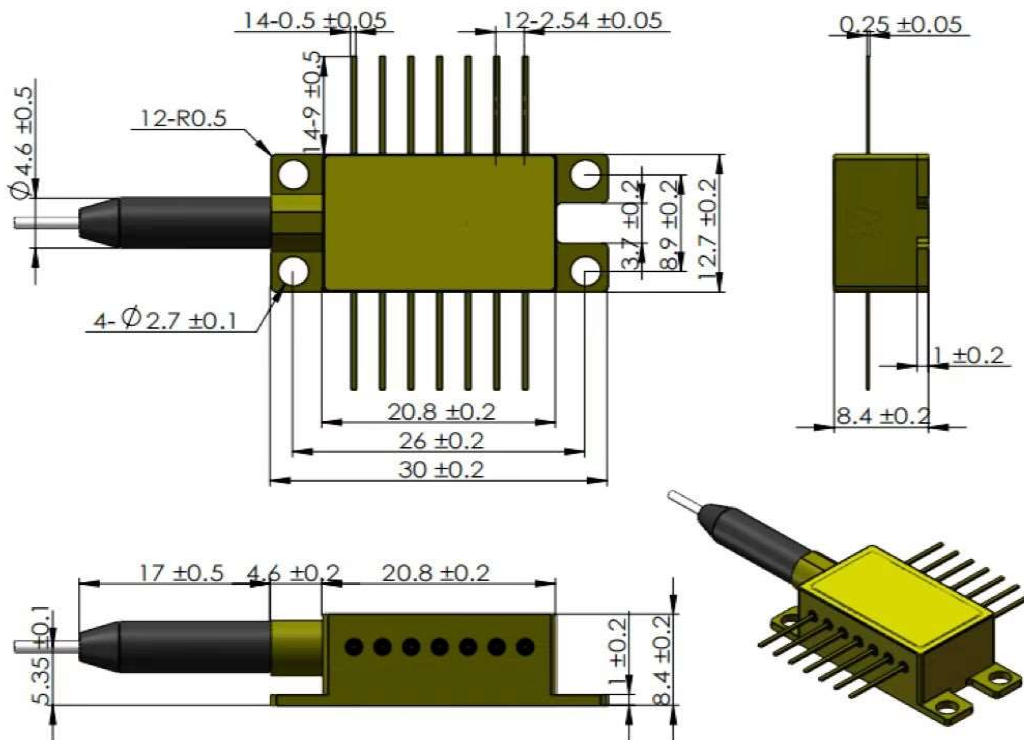
L62	1609.86	1610.06	1610.26
Q61	1610.29	1610.49	1610.69
L61	1610.72	1610.92	1611.12

Pin Assignments

1	Thermistor
2	Thermistor
3	Laser dc Bias (Cathode) (-)
4	Monitor PD Anode (-)
5	Monitor PD Cathode (+)
6	Thermoelectric Cooler (+)
7	Thermoelectric Cooler (-)
8	Case Ground
9	Case Ground
10	NC
11	Laser Anode (+), Case Ground
12	Laser RF Cathode (-)
13	Laser Anode (+), Case Ground
14	NC



Package Dimensions (mm)



Ordering Information

PMDBLD- ①①①①①①①①①②-③③③③④④④④④④④⑤-⑥⑥

①	Wavelength	XXXX.XX=Center Wavelength; 1527.60; 1527.99; ...; 1610.49; 1610.92;
②	Optical Power	1=1mW; 10=10mW; 50=50mW; 80=80mW; XX=Customization;
③	Pigtail Type	250=250μm Bare Fiber; 900=900μm Loose Tube;
④	Fiber Type	PM1550; PM1300;
⑤	Fiber Length	1=1m;
⑥	Connector	NE=None; FA=FC/APC; FC=FC/UPC; SA=SC/APC; SC=SC/UPC; LC=LC/UPC; XX=Others;