

1550 nm LASER DIODES
UNCOOLED MQW-FP LASER DIODES

FL-5100 SERIES

FEATURES

- 2 1550 nm typical emission wavelength
- 2 High reliability, long operation life
- 2 -40 °C ~+85 °C operation without active cooling
- 2 Up to 2.5 Gb/s Operation
- 2 Build-in InGaAs monitor
- 2 Complies with Bellcore TA-NWT-000983
- 2 Flat Window Cap Package (FL-510XX)
- 2 Ball Lens Cap Package (FL-511XX)
- 2 Aspherical Lens Cap Package (FL-512XX)

APPLICATION

Optical communication system

DESCRIPTION

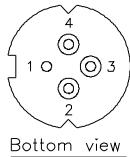
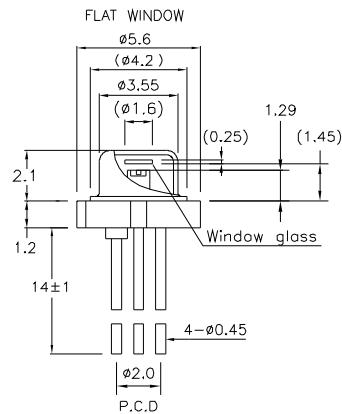
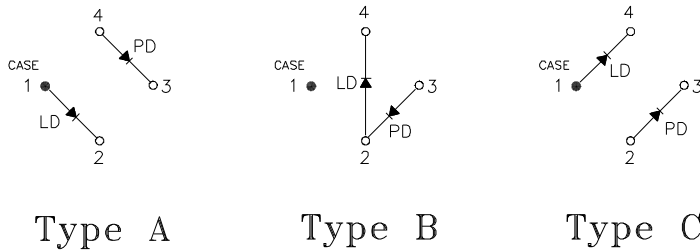
FL-5100 series are MQW-FP laser diodes that provide a durable, single transverse mode oscillation with emission wavelength of 1550 nm. FL-5100 series are hermetically sealed devices with the build-in photodiode for output monitoring.

ELECTRICAL AND OPTICAL CHARACTERISTICS (Tc=25°C, Pop=5mW, unless otherwise specified)						
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{th}	Threshold Current	CW		12	15	mA
V _{OP}	Operating Voltage	CW, Pop=5mW		1.2	1.5	V
η	Slope Efficiency Part No.: FL-510XX FL-511XX FL-512XX	CW, Pop=5mW	0.2 0.15 0.15	0.25 0.2 0.2		mW/mA
λ _c	Center Wavelength	CW, Pop=5mW	1520	1550	1580	nm
Δλ	Spectral Width	CW, RMS (σ), Pop=5mW			3	nm
θ _∥	Beam Divergence (Parallel)	CW, Flat Window		20		deg.
θ _⊥	Beam Divergence (Perpendicular)	CW, Flat Window		35		deg.
t _r , t _f	Rise And Fall Times Part No:FL-51XX FL-51XXS	I _F =I _{th} , 20~ 80%, Pop=5mW			226 150	ps
I _m	PD Monitor Current	CW, V _{RD} =1V, Pop=5mW	100		1000	μA
I _D	PD Dark Current	V _{RD} =5V			0.1	μA
C _t	PD Capacitance	V _{RD} =5V, f=1MHz		10	15	pF
P _f	Fiber Coupled Power Part No.: FL-511XX FL-512XX	CW, SM fiber, Pop=5mW	0.4 1.5			mW

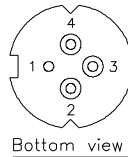
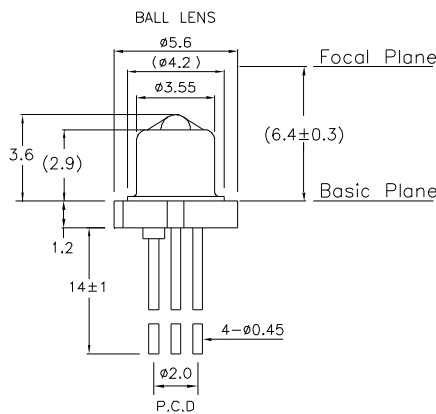
ABSOLUTE MAXIMUM RATINGS (T _C =25 °C)			
Symbol	Parameter	Ratings	Unit
P _o	Optical Output Power	7/6*	mW
V _{RL}	LD Reverse Voltage	2	V
V _{RD}	PD Reverse Voltage	15	V
I _{FD}	PD Forward Current	2	mA
T _{opr}	Operating Temperature	-40~+85	°C
T _{stg}	Storage Temperature	-40~+85	°C

Remark: * applied for ball-lens type only

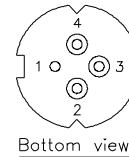
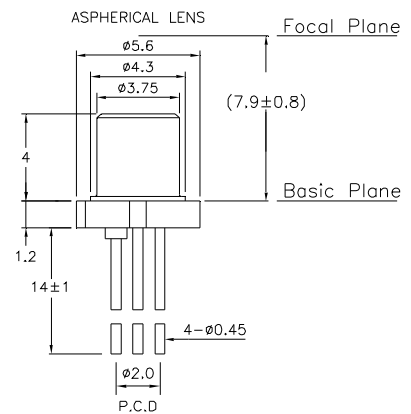
MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



FL-510XX



FL-511XX

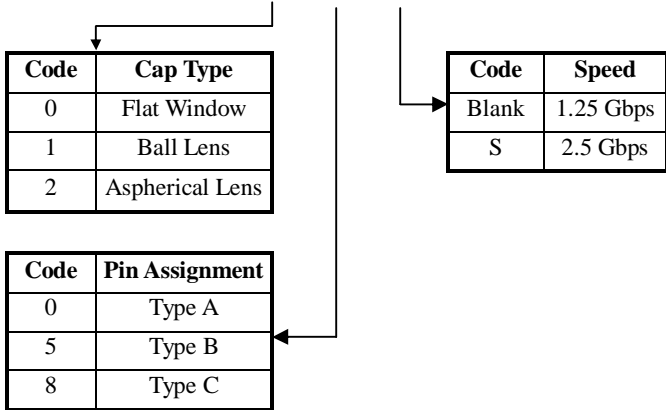


FL-512XX

Note: Specifications subject to change without notice.

ORDER INFORMATION

Part No.: F L - 5 1



Revision History

Version	Subject	Release Date
1.0	Initial datasheet	2002/8/1
2.0	Combine 1.25G and 2.5G characteristics in one data sheet	2007/12/1
