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**1550 nm LASER DIODES****FL-5100S SERIES**  
\*\*\*\*\***2.5 Gbps UNCOOLED MQW-FP LASER DIODES**  
\*\*\*\*\***FEATURES**

- 2 1550 nm typical emission wavelength
- 2 High reliability, long operation life
- 2 Build-in InGaAs monitor
- 2 Complies with Bellcore TA-NWT-000983
- 2 Up to 2.5 Gb/s Operation
- 2 Flat Window Cap Package (FL-510XS)
- 2 Ball Lens Cap Package (FL-511XS)
- 2 Aspherical Lens Cap Package (FL-512XS)
- 2

**APPLICATION**

Optical communication system

**DESCRIPTION**

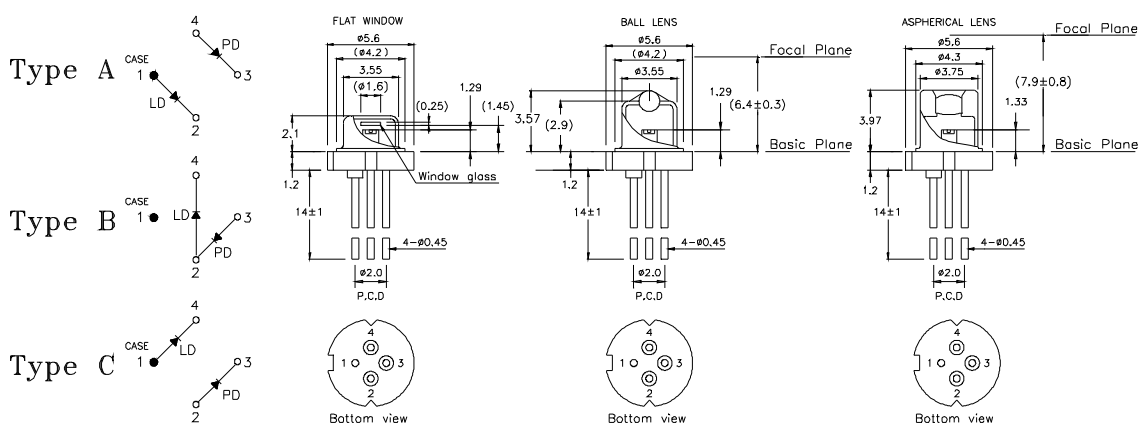
FL-5100S series are MQW-FP laser diodes that provide a durable, single transverse mode oscillation with emission wavelength of 1550 nm. FL-5100 series are hermetically sealed devices with the build-in photodiode for output monitoring.

<b>ELECTRICAL AND OPTICAL CHARACTERISTICS (T<sub>C</sub>=25 °C)</b>						
<b>Symbol</b>	<b>Parameter</b>	<b>Test Conditions</b>	<b>Min.</b>	<b>Typ.</b>	<b>Max.</b>	<b>Unit</b>
I <sub>th</sub>	Threshold Current	CW		12	15	mA
V <sub>OP</sub>	Operating Voltage	CW, Po=5mW		1.2	1.5	V
η	Slope Efficiency Part No.: FL-510XS FL-511XS FL-512XS	CW, Po=5mW	0.2 0.15 0.15	0.25 0.2 0.2		mW/mA
λ <sub>c</sub>	Center Wavelength	CW, Po=5mW	1520	1550	1580	nm
Δλ	Spectral Width	CW, Po=5mW, RMS (σ)			3	nm
θ <sub>  </sub>	Beam Divergence (Parallel)	CW, Po=5mW, Flat Window		20		deg.
θ <sub>⊥</sub>	Beam Divergence (Perpendicular)	CW, Po=5mW, Flat Window		35		deg.
t <sub>r</sub> , t <sub>f</sub>	Rise And Fall Times	I <sub>F</sub> =I <sub>th</sub> , Po=5mW, 20~ 80%			150	ps
I <sub>m</sub>	PD Monitor Current	CW, Po=5mW, V <sub>RD</sub> =1V	100			μA
I <sub>D</sub>	PD Dark Current	V <sub>RD</sub> =5V			0.1	μA
C <sub>t</sub>	PD Capacitance	V <sub>RD</sub> =5V, f=1MHz		10	15	pF
P <sub>f</sub>	Fiber Coupled Power Part No.: FL-511XS FL-512XS	CW, I <sub>th</sub> +20mA, SM fiber	0.4 1.5	0.6		mW

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

Remark: \* applied for ball-lens type only

## MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT



**Note:** Specifications subject to change without notice.

## ORDER INFORMATION

Part No.: F L - 5 1 ☐ ☐ ☐

Code	Cap Type
0	Flat Window
1	Ball Lens
2	Aspherical Lens

Code	Speed
Blank	1.25 Gbps
S	2.5 Gbps

Code	Pin Assignment
0	Type A
5	Type B
8	Type C