

Sumitomo Electric Industries, Ltd.

Part No.: SLT3120 Series

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Date of issue: December 15, 1998



Technical Specification
of
1.3 μ m MQW-FP Laser Diode Module
for 2.5Gb/s transmission

SLT3120 Series



1. General

SLT3120 Series are 1.3 μ m InGaAsP/InPMQW-FP laser diode modules designed for fiberoptic communication systems. These modules are ideally suitable for short reach of 2.5Gb/s transmission applications, and have low threshold current and high performance at high temperature.

A laser diode is mounted into a coaxial package integrated with an InGaAs monitor PD, a single mode fiber pigtail.

2. Package dimension and pin assignment

(See attached appendix.)

3. Absolute maximum ratings (Tc=+25°C, unless otherwise noted.)

Parameter	Symbol	Ratings	Unit
Storage temperature	Tstg	-40~+90	°C
Operating case temperature	Top	-40~+85	°C
Forward current (LD)	IfL	150	mA
Reverse voltage (LD)	VrL	2	V
Reverse voltage (PD)	VrP	15	V
Reverse current (PD)	IrP	2	mA
Soldering temperature (<10sec.)	Stemp	260	°C

4. Electrical and optical characteristics (Pf=0.4mW, Tc=+25°C, unless otherwise noted.)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold current	Ith	CW	—	6	15	mA
		CW, Tc=-40~+85°C	—	—	40	
Optical output power	Pf	CW, If=Ith+20mA	0.20	0.40	1.00	mW
		CW, If=Ith+20mA, Tc=-40~+85°C	0.10	—	—	
Operating voltage	Vf	CW, Tc=-40~+85°C	—	—	1.6	V
Slope efficiency	Se	CW, Average(Ith to Ith+20mA)	0.010	—	—	mW/mA
Central wavelength	λ_c	CW	1290	1310	1330	nm
		CW, Tc=-40~+85°C	1266	—	1360	
Spectral width	$\Delta\lambda$	CW, RMS, Tc=-40~+85°C	—	2	4	nm
Tracking error	ΔPf	Im hold(@Pf=0.4mW(25°C)), CW Tc=-40~+85°C	-1.0	—	1.0	dB
Rise time	tr	Ib=Ith, 20-80%, Tc=-40~+85°C, (*1)	—	0.10	0.15	nsec.
Fall time	tf	Ib=Ith, 80-20%, Tc=-40~+85°C, (*1)	—	0.20	0.25	nsec.
Extinction ratio	Er	10log(0.4mW/Pf(Ith)) Tc=-40~+85°C	10	—	—	dB
Monitor current	Im	CW, VrP=5V, Tc=-40~+85°C	150	—	1500	μA
Monitor dark current	Id	VrP=5V	—	1	10	nA
Monitor capacitance	C	VrP=5V, f=1MHz	—	—	10	pF

Note: *1. Measured with SEI's LD driver.

5. Fiber pigtail specification

Parameter	Min.	Typ.	Max.	Unit
Type	Single Mode			—
Mode field diameter	8.5	9.5	10.5	μm
Cladding diameter	122	125	128	μm
Outer jacket diameter	0.8	0.9	1.0	mm
Bending radius	40	—	—	mm

6. Ordering Information

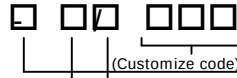
Part number	Pin assignment	Connector type	Flange type (hole pitch)
SLT3120-CN	Type A	SC/PC	Flangeless
SLT3120-CP			Vertical (12mm)
SLT3120-CS			Horizontal (12.7mm)
SLT3120-DN		FC/PC	Flangeless
SLT3120-DP			Vertical (12mm)
SLT3120-DS			Horizontal (12.7mm)
SLT3120-VN		FC/Ultra PC	Flangeless
SLT3120-VP			Vertical (12mm)
SLT3120-VS			Horizontal (12.7mm)
SLT3120-XN		No connector	Flangeless
SLT3120-XP			Vertical (12mm)
SLT3120-XS			Horizontal (12.7mm)

7. Precaution

- (1) Radiation emitted by laser devices can be dangerous to the eyes. Avoid eye or skin exposure to direct or scattered radiation.
- (2) The modules should be handled in the same manner as ordinary semiconductor devices to prevent the electro-static damages. For safe keeping and carrying, the modules should be packaged with ESD proof material. To assemble the modules on PCB, the workbench, the soldering iron and the human body should be grounded.
- (3) The stress to the fiber pigtail may cause the damage on the performance. The fiber pigtail may snap off by dropping the module.
- (4) Please pay special attention to the atmosphere condition because the dew on the module may cause some electrical damages.
- (5) Under such a strong vibration environment as in automobile, the performance and reliability are not guaranteed.

Appendix

Part No.: SLT312



Code	Connector type
C	SC/PC
D	FC/PC
U	SC/Ultra PC
V	FC/Ultra PC
X	No connector

Connector type

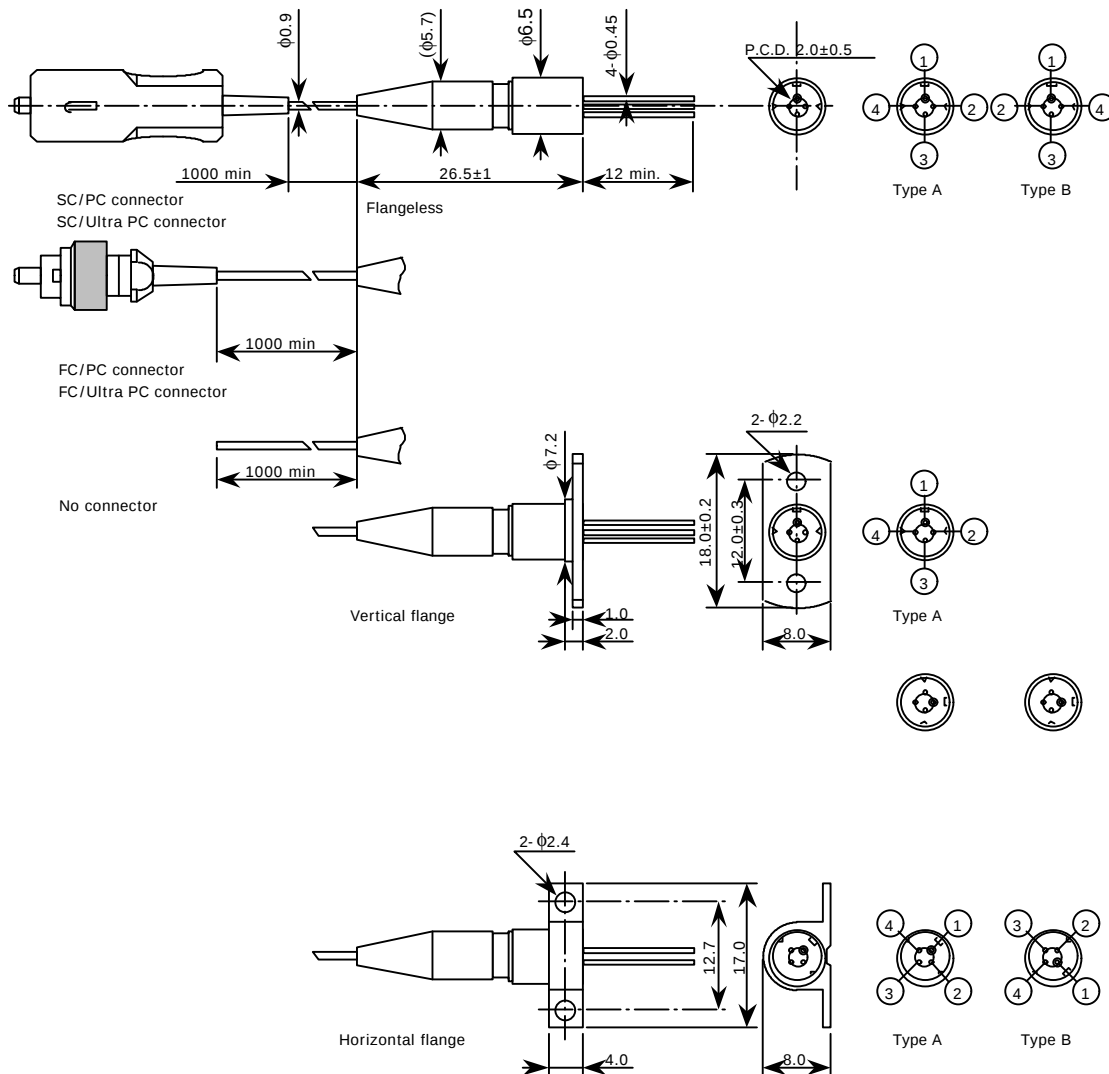
Code	Flange type
N	Flangeless
P	Vertical (12.0mm)
S	Horizontal (12.7mm)
X	(Customize)

Flange type

Code	Pin assignment
0	Type A
1	Type B

Pin No.	Pin function for typeA and typeB
1	LD anode (CASE)
2	LD cathode
3	PD cathode
4	PD anode

Pin assignment



Unit: mm

Tolerance: ± 0.1 mm, unless otherwise noted

8. For More Information

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Revision Record

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HUW9824041-01A	Nov./27/98	Initial issue.	T. Nakanishi	M. Yoshimura	T. Fujitani
HUW9824041-01B	Dec./15/98	Corrected Se from Min.: 0.016mW/mA to Min.: 0.010mW/mA.	T. Nakanishi	H. Michikoshi	T. Fujitani