



Preliminary

Technical Specification
of
1550nm MQW-DFB Laser Diode Module:
(Transmitter Optical Sub-assembly)
in Small PKG
(mini-TOSA)

SLT2470-LN Series

Sumitomo Electric Industries, Ltd.

1. General

SLT2270-LN Series are 1550nm InGaAsP/InP MQW-DFB laser diode modules designed for fiber optic communication systems. These modules are transmitter optical sub-assemblies, and have low threshold current and high performance at high temperature. A laser diode is mounted into a 3.8mm coaxial package integrated with an InGaAs monitor PD, a single-mode fiber-stub and a split sleeve for a 1.25mm connector (e.g. LC type). This series is suitable for long reach, up to 2.5Gbps transmission applications.

2. Package dimension and pin assignment .

(See attached drawing.)

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	I _{fL}	150	mA
Reverse voltage LD	V _{rL}	2	V
Reverse voltage PD	V _{rP}	15	V
Reverse current PD	I _{rP}	2	mA
Soldering temperature (<10sec.)	Stemp	260	°C

4. Electrical and optical characteristics

(Pf=1.5mW, SMF(9.5/125μm), Tc=+25°C, unless otherwise noted.)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold current	Ith	CW	-	10	15	mA
		CW, Tc=-40~+85°C	-	-	50	
Optical output power	Pf	CW, If=Ith+20mA	1.0	1.5	-	mW
		CW, If=Ith+20mA, Tc=-40~+85°C	0.5	-	-	
Operating voltage	Vf	CW, Tc=-40~+85°C	1.0	-	1.6	V
Slope efficiency	Se	CW, Average (Ith to Ith+20mA)	0.05	0.075	-	mW/mA
Central wavelength	λc	CW	1540	1550	1565	nm
		CW, Tc=-40~+85°C	1480	-	1580	
Side Mode Suppression Ratio	SSR	CW, Tc=-40~+85°C	30	-	-	dB
Tracking error	ΔPf	Im hold(@Pf=0.4mW(25°C)) CW, Tc=-40~+85°C	-1.5	-	1.5	dB
Rise time	tr	Ib=Ith, 20-80%, Tc=-40~+85°C	-	-	0.15	nsec.
Fall time	tf	Ib=Ith, 80-20%, Tc=-40~+85°C	-	-	0.15	nsec.
Extinction ratio	Er	10log(0.4mW/Pf(Ith)) c=-40~+85°C	10	-	-	dB
Monitor current	Im	CW, VrP=5V, Tc=-40~+85°C	50	-	-	μA
Monitor dark current	Id	rP=5V	-	1	10	nA
		rP=5V, Tc=-40~+85°C	-	-	30	
Monitor capacitance	C	rP=5V, f=1 MHz	-	-	10	pF
Connector repeatability	-	(*1)	-	±0.5	±1.0	dB

Note: *1. Measured with SEI's master plug and an extra receptacle.

5. Ordering information

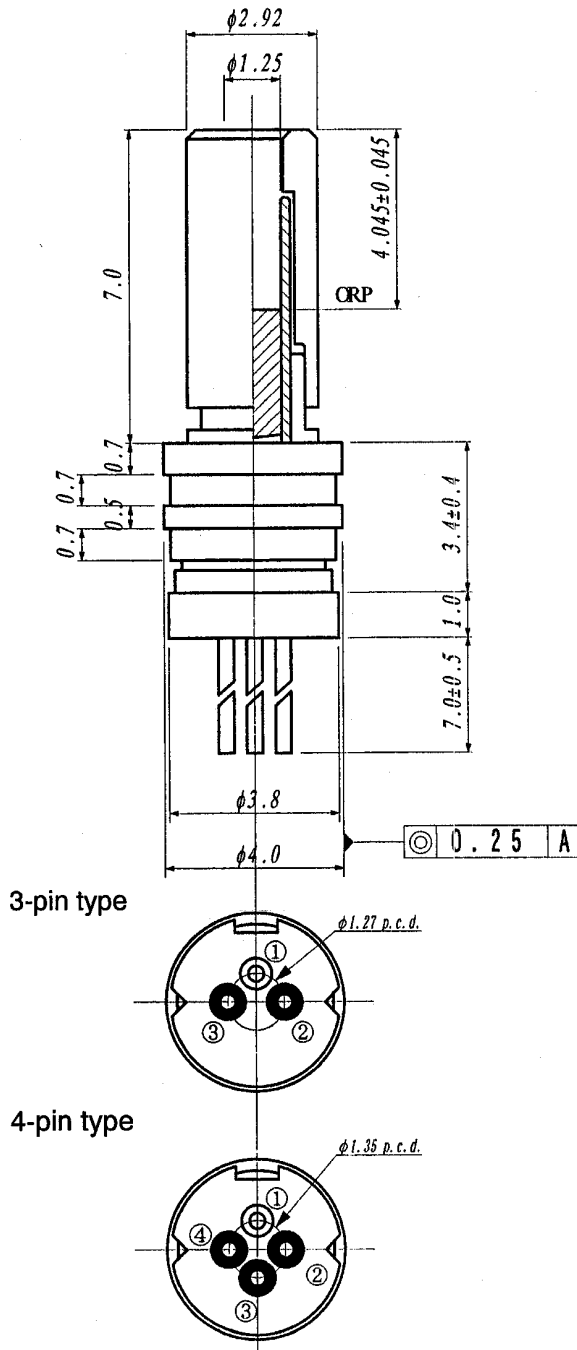
(See attached figure)

Part number	Number Of Pins	Pin Circle Diameter	Pin length
SLT2479-LN	3	1.27±0.15mm	7.0±0.5mm
SLT2470-LN	4	1.35±0.15mm	
SLT2476-LN			

6. 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 electrostatic damage. 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) Please pay special attention to atmospheric conditions, because dew on the module may cause some electrical damage.

Outline drawings (unit: mm) (Tolerance: +/- 0.1mm, unless otherwise described)



Lead Configurations

3-pin type

Pin No.	Pin Assignment
Type	SLT2479
1	Case, LD anode & PD cathode
2	LD cathode
3	PD anode

4-pin type

Pin No.	Pin Assignment
Type	SLT2470
1	Case, LD anode
2	LD cathode
3	PD cathode
4	PD anode

Type	SLT2476
1	Case
2	LD cathode
3	PD anode
4	LD anode & PD cathode

Sumitomo Electric Industries, Ltd.
Part Number: SLT2470-LN Series
Document Number: HUW9924098-01B
Date of Issue: February 25, 2000

7. For More Information

U.S.A.

Sumitomo Electric Lightwave Corp.
78 Alexander Drive
Research Triangle Park, NC 27709
U.S.A.
Tel. (919) 541-8100
Fax. (919) 541-8376
Email: info@sumitomoelectric.com
URL: www.sumitomoelectric.com

Europe

Sumitomo Electric Europe Ltd.
Unit 11, Magnolia House
Spring Villa Park, Spring Villa Road
Edgware, Middlesex, HA8 7EB
United Kingdom
Tel. (0181) 905-6167
Fax. (0181) 905-6120

Japan

Sumitomo Electric Industries, Ltd.
(International Business Division)
3-12, Moto-Akasaka 1-chome
Minato-ku Tokyo 107-8468
Japan
Tel. (03) 3423-5771
Fax. (03) 3423-5099
Email: product_info@yfocs.sei.co.jp
URL: www.sei.co.jp/Electro-optic/index_e.html