



Preliminary Specification  
of  
1.275 $\mu$ m~1.35 $\mu$ m MQW-DFB Laser Diode Module  
for CWDM of Parallel 10Gb/s Ethernet  
SLT2270-LR-xnnnT Series  
SLT2280-LR-xnnnT Series



1. General

SLT2270 & 2280-LR-xnnnT Series are 1.275 $\mu$ m~1.35 $\mu$ m InGaAsP/InP MQW-DFB laser diode modules designed for fiber optic communication systems.

These modules are ideally suitable for CWDM of parallel 10Gb/s Ethernet applications.

A laser diode is mounted into a  $\phi$ 3.8mm coaxial package integrated with an InGaAs monitor PD, a single-mode fiber-stub, and a solid sleeve for the optical connector with  $\phi$ 1.25mm ferrule.

Especially SLT2280 Series have a single-stage optical isolator integrated inside.

2. Package dimension and pin assignment

(See attached outline drawing.)

3. Absolute maximum ratings

Parameter	Symbol	Ratings	Unit
Storage temperature	Tstg	-40~+85	°C
Operating case temperature	Top	0~+85	°C
Peak optical output power	Pf	10	mW
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 (<10s)	Stemp	260	°C

## 4. Electrical and optical characteristics (Pf=1.5mW, Tc=+25°C, BOL, unless otherwise noted.)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold current	Ith	CW	—	10	15	mA
		CW, Tc=0~+85°C	—	—	40	
Optical output power	Pf	CW, If=Ith+20mA	1.0	1.5	3.0	mW
		CW, If=Ith+20mA, Tc=0~+85°C	0.5	—	—	
Operating voltage	Vf	CW, Tc=0~+85°C	—	—	1.6	V
Slope efficiency	Se	CW, Average(Ith to Ith+20mA)	0.050	0.075	0.150	mW/mA
Peak wavelength	$\lambda_p$	CW, Tc=0~+85°C	(*1)			nm
Wavelength temperature coeff.	—	CW, Tc=0~+85°C	0.07	0.1	0.11	nm/°C
Side-mode suppression ratio	SSR	CW, Tc=0~+85°C	30	—	—	dB
Tracking error	$\Delta Pf$	Im hold (@Pf=1.5mW(+25°C)), CW, Tc=0~+85°C	-1.5	—	1.5	dB
Rise time	tr	Ib=Ith, 20-80%, Tc=0~+85°C	—	—	0.10	ns
Fall time	tf	Ib=Ith, 80-20%, Tc=0~+85°C	—	—	0.12	ns
Extinction ratio	Er	10log(1.5mW/Pf(Ith)), Tc=0~+85°C	10	—	—	dB
Connector repeatability	—	(*2)	-1.0	—	1.0	dB
Monitor current	Im	CW, VrP=5V, Tc=0~+85°C	50	—	1500	$\mu$ A
Monitor dark current	Id	VrP=5V	—	1	10	nA
Monitor capacitance	C	VrP=5V, f=1MHz	—	—	10	pF

Note: \*1. Detail of peak wavelength specification

Channel No.	Rank T			Unit
	Min.	Typ.	Max.	
-K515T	1269.0	—	1282.4	nm
-K060T	1293.5	—	1306.9	
-J625T	1318.0	—	1331.4	
-J205T	1342.5	—	1355.9	

Note: \*2. Measured with SEI's master plug and an extra receptacle.

## 5. Optical isolator specification (for SLT2280 Series))

Parameter	Condition	Min.	Typ.	Max.	Unit
Type		Single stage			—
Optical isolation	Tc=+25°C	25	—	—	dB
	Tc=0~+70°C	20	—	—	

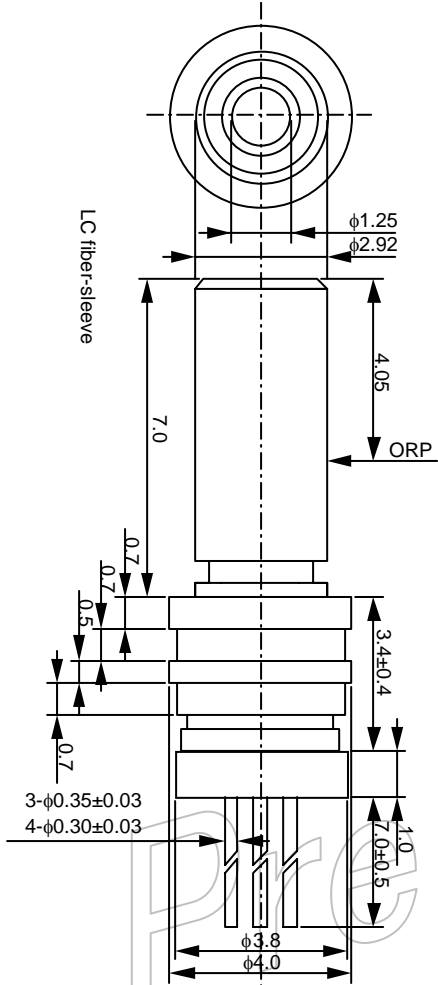
## 6. Ordering information

Part number	Pin assignment	Number of pin	Pin circle diameter
SLT2270-LR-xnnnT	TypeA	4	1.35±0.20
SLT2276-LR-xnnnT	TypeC	4	1.35±0.20
SLT2280-LR-xnnnT	TypeA	4	1.35±0.20
SLT2286-LR-xnnnT	TypeC	4	1.35±0.20

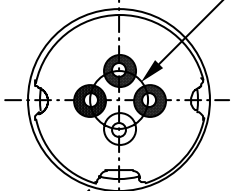
## 7. Precaution

- (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.

Outline drawings of SLT2270-LR-xnnnT series

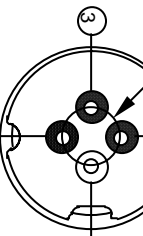


P.C.D D1 (See the table.)



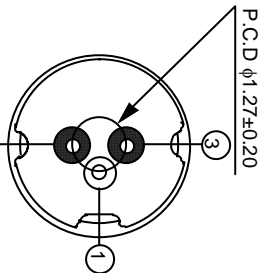
P.C.D φ1.35±0.20

Type A



P.C.D φ1.35±0.20

Type C



P.C.D φ1.27±0.20

Type E

Appendix

Part No.: SLT2270-□-□R/□□□-xnnnT

(Customize code) (Wavelength channel)

Code	Fiber-sleeve type	Code	Pin assignment	Pin circle (D1)	Pin No.	Pin function
L	LC	0	Type A	φ1.35±0.20	1	LD anode (CASE)
		6	Type C	φ1.35±0.20	2	LD cathode (CASE)
		9	Type E	φ1.27±0.20	3	PD cathode
					4	PD anode

Pin No.	Pin function
1	LD anode/PD cathode (CASE)
2	LD cathode
3	PD cathode
4	PD anode

Pin No.	Pin function
1	(CASE)
2	LD cathode
3	PD anode
4	LD anode/PD cathode

Fiber-sleeve type

Pin assignment and pin circle

Unit: mm  
Tolerance: ±0.1mm, unless otherwise noted.

Outline drawings of SLT2280-LR-xnnnT series

Appendix

Part No.: SLT2280-□-□R/□□□-xnnnT

(Customize code) (Wavelength channel)

Code	Fiber-sleeve type
L	LC

Code	Pin assignment	Pin circle (D1)
0	Type A	φ1.35±0.20
6	Type C	φ1.35±0.20
9	Type E	φ1.27±0.20

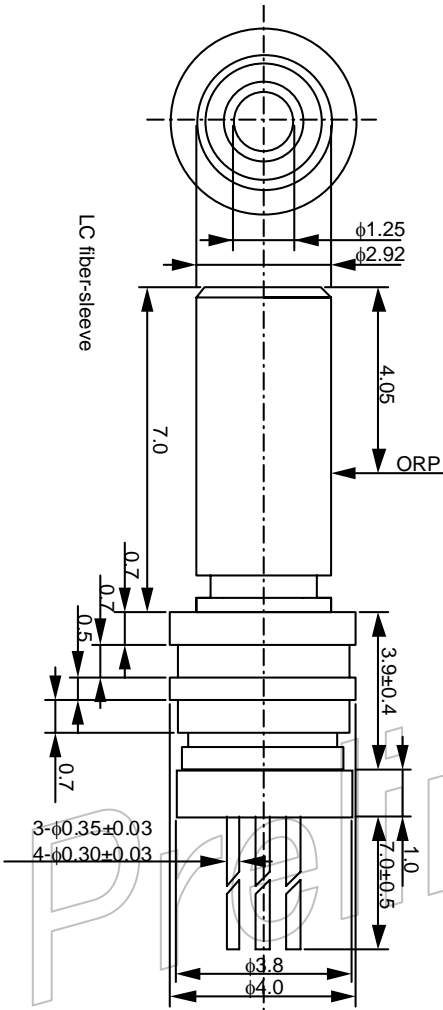
Pin No.	Pin function
1	LD anode (CASE)
2	LD cathode
3	PD cathode
4	PD anode

Pin No.	Pin function
1	(CASE)
2	LD cathode
3	PD anode
4	LD anode/PD cathode

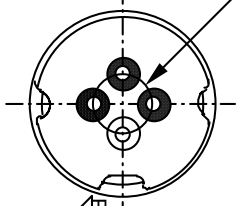
Pin No.	Pin function
1	LD anode/PD cathode
2	LD cathode
3	PD anode

Fiber-sleeve type

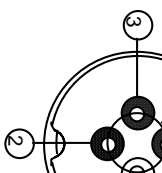
Pin assignment and pin circle



P.C.D. D1 (See the table.)

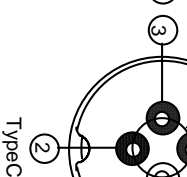


P.C.D. φ1.35±0.20



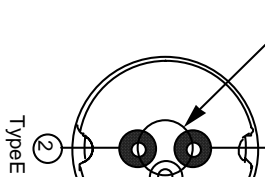
Type A

P.C.D. φ1.35±0.20



Type C

P.C.D. φ1.27±0.20



Type E

Unit: mm

Tolerance: ±0.1mm, unless otherwise noted.

Sumitomo Electric Industries, Ltd.

Part No.: SLT2270-LR-xnnnT Series

SLT2280-LR-xnnnT Series

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Preliminary