



Technical Specification
of
1.3 μ m MQW-FP Laser Diode Module
for 4.25Gb/s transmission:
(Transmitter Optical Sub-assembly in Small PKG)

SLT2A70-xR Series

RoHS Compliant



1. General

SLT2A70-xR Series are 1.31 μ m InGaAsP/InP MQW-FP laser diode modules designed for fiber optic communication systems. This module is a transmitter optical sub-assembly with low threshold current and high performance at high temperature, and is ideally suitable for a long distance at 4.25Gbps transmission applications.

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

2. Package dimension and pin assignment

(See attached the outline drawing.)

3. Absolute maximum ratings

Parameter	Symbol	Ratings	Unit
Storage temperature	Tstg	-40~+85	°C
Operating case temperature	Top	-40~+85	°C
Fiber output power	Pf	5	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=0.4mW, SMF(10/125μm), Tc=+25±2°C, unless otherwise noted.)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold current	Ith	CW	—	5	15	mA
		CW, Tc=-40~+85°C	1	—	30	
Optical output power	Pf	CW, If=Ith+20mA	0.25	0.40	0.65	mW
		CW, If=Ith+20mA, Tc=-40~+85°C	0.125	—	—	
Forward voltage	Vf	CW, Tc=-40~+85°C	—	—	1.6	V
Slope efficiency	Se	CW, Tc=-40~+85°C	0.00625	—	—	mW/mA
Peak wavelength	λp	CW, Tc=-40~+85°C	1275	—	1350	nm
Wavelength temp coef.	λct	CW, Tc=-40~+85°C	—	—	0.5	nm/°C
Spectral width	Δλ	CW, RMS	—	—	2.5	nm
Tracking error	ΔPf	Im hold(@Pf=0.4mW(25°C)) CW, Tc=-40~+85°C	-1.5	—	1.5	dB
Rise time	tr	4.25Gbps, PRBS=2 ³¹ -1,	—	—	0.08	ns
Fall time	tf	ER=6dB, 20-80%, Tc=-40~+85°C	—	—	0.08	
Monitor current	Im	CW, VrP=5V,	50	—	—	μA
Monitor dark current	Id	VrP=5V	—	1	10	nA
		VrP=5V, Tc=-40~+85°C	—	—	100	
Monitor capacitance	C	VrP=5V, f=1MHz	—	—	10	pF
Connector repeatability	—	CW, SEI master plug	-1	—	+1	dB

5. Ordering information

Part number	Pin assignment	Number of pin	Pin circle diameter
SLT2A70-LR	TypeA	4	1.35±0.20
SLT2A76-LR	TypeC	4	1.35±0.20
SLT2A79-LR	TypeE	3	1.27±0.20

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 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) Please pay special attention to the atmosphere condition because the dew on the module may cause some electrical damages.
- (4) Under such a strong vibration environment as in automobile, the performance and reliability are not guaranteed.

7. RoHS Compliancy

On January 27, 2003, the European Parliament and the Council of the European Union issued the directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS).

Member States shall ensure that, from July 1, 2006, new electrical and electronic equipment put on the market does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE).

Applications listed in the Annex are exempted.

This product is compliant with RoHS 6/6 directive with exemptions "Lead in glass of cathode ray tubes, electronic components and fluorescent tubes" and "Lead as an alloying element in steel containing up to 0.35 % lead by weight, aluminium containing up to 0.4 % lead by weight and as a copper alloy containing up to 4 % lead by weight".

Appendix

Part No.: **SLT2A7** □ - □ **R** / □ □ □ □

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

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

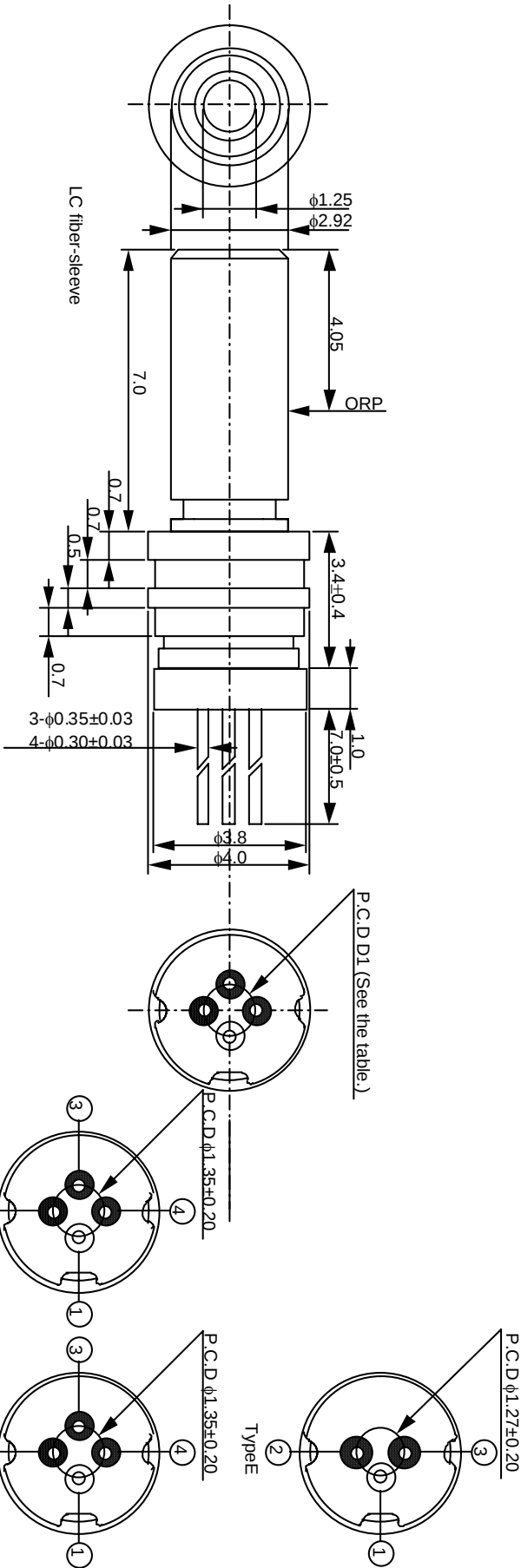
Pin No.	Pin function
1	LD anode (CASE)
2	LD cathode
3	PB cathode
4	PB anode

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

(Customize code)

Fiber-sleeve type

Pin assignment and pin circle



8. For More Information

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HUW0424144-01A	Dec./08/04	Preliminary issue.	M. Furumai	T. Kounosu Y. Yamasaki	M.Yoshimura
HUW0424144-01B	May/15/06	Added RoHS compliancy.	Y. Yamasaki	M. Furumai T. Kounosu	M.Yoshimura
HUW0424144-01C	Dec./25/07	Changed RoHS compliancy expression. Removed expression "Preliminary".	T. Takagi	N. Fukushima Y. Yamasaki	H. Michikoshi