

Sumitomo Electric Industries, Ltd.

Part No.: SLT2000-xN Series

Document No.: HUW9824053-01C

Date of issue: January 24, 2001



Technical Specification
of
1.3 μ m MQW-FP Laser Diode Module:
(Transmitter Optical Sub-assembly)

SLT2000-xN Series



1. General

SLT2000-xN Series are 1.3 μ m InGaAsP/InP MQW-FP laser diode modules designed for fiber optic communication systems. These modules are transmitter optical sub-assembly, and have low threshold current and high performance at high temperature.

A laser diode is mounted into a ϕ 5.6mm coaxial package integrated with an InGaAs monitor PD and a fiber sleeve for the SC optical connector.

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~+85	°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=0.16mW, SMF(9.5/125 μ m), Tc=+25°C, unless otherwise noted.)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold current	Ith	CW	—	8	15	mA
		CW, Tc=-40~+85°C	—	—	40	
Optical output power	Pf	CW, If=Ith+20mA	0.08	0.16	0.25	mW
		CW, If=Ith+20mA, Tc=-40~+85°C	0.04	—	—	
Operating voltage	Vf	CW, Tc=-40~+85°C	—	—	1.6	V
Slope efficiency	Se	CW, Average(Ith to Ith+20mA)	0.004	—	—	mW/mA
Central wavelength	λ_c	CW	1280	1310	1340	nm
		CW, Tc=-40~+85°C	1261	—	1360	
Spectral width	$\Delta\lambda$	CW, RMS, Tc=-40~+85°C	—	2	5	nm
Tracking error	ΔPf	Im hold(@Pf=0.16mW(25°C))	-1.5	—	1.5	dB
		CW, Tc=-40~+85°C	—	—	—	
Rise time	tr	Ib=Ith, 20-80%, Tc=-40~+85°C	—	—	0.3	nsec.
Fall time	tf	Ib=Ith, 80-20%, Tc=-40~+85°C	—	—	0.5	nsec.
Extinction ratio	Er	10log(0.16mW/Pf(Ith)) Tc=-40~+85°C	10	—	—	dB
Monitor current	Im	CW, VrP=5V, Tc=-40~+85°C	150	—	—	μ A
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	—	(*1)	—	± 0.5	± 1.0	dB

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

5. Ordering information

Part number	Pin assignment	Number of pin	Pin length
SLT2000-CN	Type A	4	13.5±0.5mm
SLT2006-CN	Type C	4	13.5±0.5mm

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.

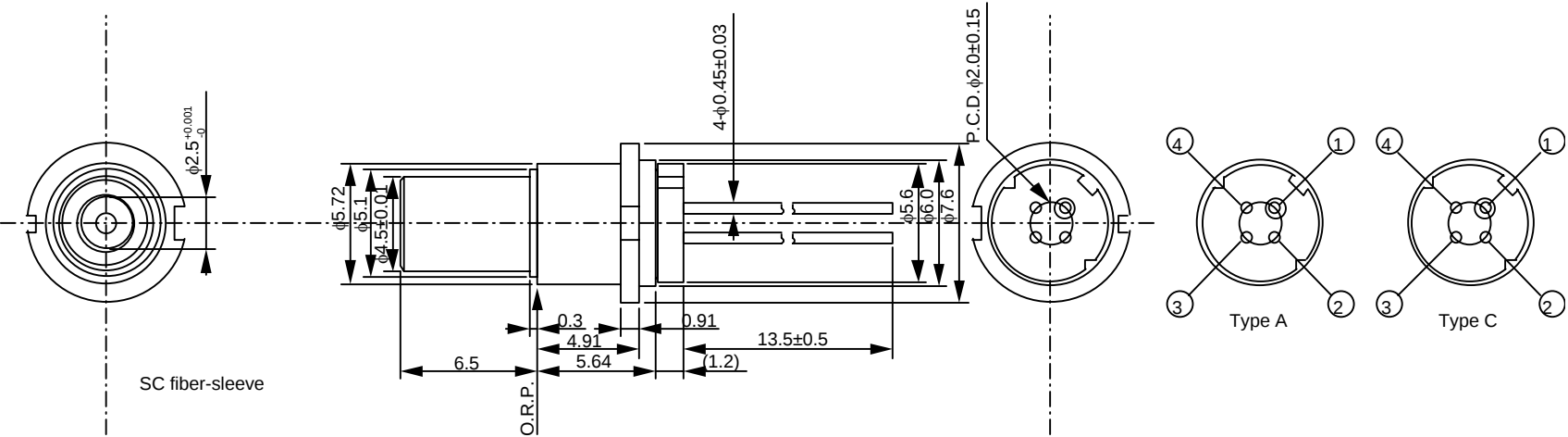
Appendix

Part No.: SLT200 □-□ N/□□□

(Customize code)

Code	Fiber-sleeve type	Code	Pin assignment	Pin length (L1)	Pin No.	Pin function for typeA	Pin No.	Pin function for typeC
C	SC	0	Type A	13.5±0.5	1	LD anode (CASE)	1	(CASE)
		6	Type C	13.5±0.5	2	LD cathode	2	LD cathode
					3	PD cathode	3	PD anode
					4	PD anode	4	LD anode/PD cathode

Fiber-sleeve typePin assignment and pin length



Unit: mm

Tolerance: ±0.1mm, unless otherwise noted.

7. For More Information

U.S.A.

ExceLight Communications Inc.

4021 Stirrup Creek Drive, Suite 200, Durham NC, 27703

U.S.A.

Tel. (919) 361-1600

Fax. (919) 361-1619

E-mail: info@excelight.com

URL: <http://www.excelight.com>

Europe

Sumitomo Electric Europe Ltd.

220 Centennial Park, Centennial Avenue, Elstree, Herts, WD6 3SL

United Kingdom

Tel. (020) 8953-8118

Fax. (020) 8207-5950

URL: <http://www.sumielectric.com>

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

E-mail: product_info@ppd.sei.co.jp

URL: http://www.sei.co.jp/Electro-optic/index_e.html

Sumitomo Electric Industries, Ltd.

Part No.: SLT2000-xN Series

Document No.: HUW9824053-01C

Date of issue: January 24, 2001

Revision Record

Document No.	Date of issue	Description	Incorporated by	Checked by	Approved by
HUW9824053-01A	Nov./26/98	Initial issue.	T. Nakanishi	H. Michikoshi	T. Fujitani
HUW9824053-01B	Sep./08/99	Revised Vf on condition of Tc=-40~+85°C from min.: 1.0V to min.: “—”; Revised Se on condition of Tc=+25°C from max.: 0.0125mW/mA to max.: “—”; Removed type E pin assignment and 18.5mm pin length in PKG option.	T. Nakanishi	M. Yoshimura	T. Fujitani
HUW9824053-01C	Jan./24/01	Corrected Tstg from -40~+90°C to -40~+85°C; Revised Id on condition of Tc=-40~+85°C from max.: 30nA to max.: 100nA; Revised the tolerance of the pin diameter from ±0.1mm to ±0.03mm; Revise the tolerance of P.C.D. from ±0.5mm to ±0.15mm; Removed type D pin assignment.	T. Nakanishi	M. Yoshimura	M. Yoshimura