



Technical Specification
of
1.31 μ m MQW-DFB Laser Diode
with Flat Window Cap

SLT1200 Series



1. General

SLT1200 Series are 1.31 μ m InGaAsP/InP MQW-DFB laser diodes fabricated by OMVPE entirely. These diodes 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 and a flat window cap.

2. Package dimension and pin assignment

(See attached appendix.)

3. Absolute maximum ratings

Parameter	Symbol	Ratings	Unit
Storage temperature	Tstg	-40~+100	°C
Operating case temperature	Top	-40~+85	°C
Peak optical output power	Po	20	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 (Po=5mW, 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	Po	CW, If=Ith+20mA	5.0	7.0	—	mW
		CW, If=Ith+20mA, Tc=-40~+85°C	3.0	—	—	
Operating voltage	Vf	CW, Tc=-40~+85°C	—	—	1.6	V
Slope efficiency	Se	CW	0.25	0.35	—	mW/mA
		CW, Tc=-40~+85°C	0.15	—	—	
Peak wavelength	λp	CW	1290	1310	1325	nm
		CW, Tc=-40~+85°C	1280	—	1335	
Side-mode suppression ratio	SSR	CW, Tc=-40~+85°C	30	—	—	dB
Spectral width	Δλ	CW, 20dB down, Tc=-40~+85°C	—	—	1	nm
Radiant beam angle	θ	CW, FWHM	15	—	35	deg.
	θ⊥		25	—	40	
Rise time	tr	Ib=Ith, 20-80%, Tc=-40~+85°C	—	—	0.10	ns
Fall time	tf	Ib=Ith, 80-20%, Tc=-40~+85°C	—	—	0.15	ns
Monitor current	Im	CW, VrP=5V, Tc=-40~+85°C	80	—	—	μA
Monitor dark current	Id	VrP=5V	—	—	10	nA
		VrP=5V, Tc=-40~+85°C	—	—	100	
Monitor capacitance	C	VrP=5V, f=1MHz	—	—	10	pF

5. Ordering information

Part number	Pin assignment	Number of pin	Pin length
SLT1200	Type A	4	13.5±0.5mm
SLT1206	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 laser diodes 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.: SLT1200□/□□□

(Customize code)

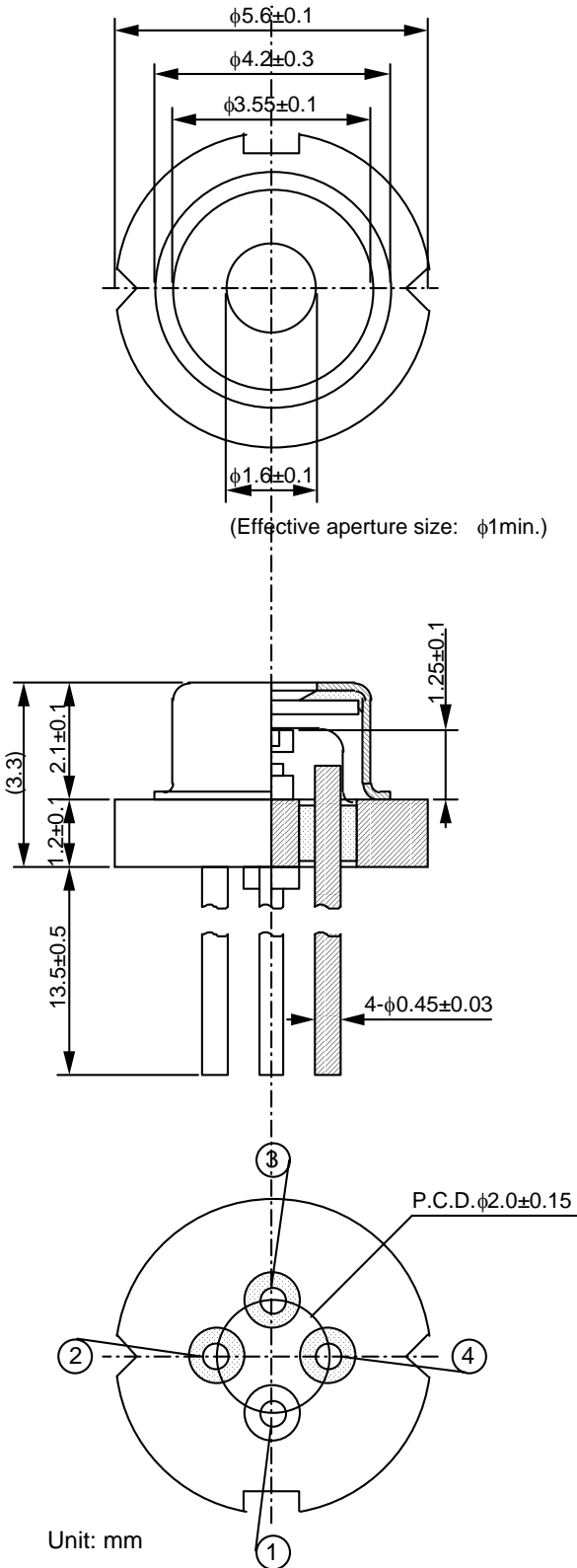
Code	Pin assignment	Pin length (L1)
0	Type A	13.5±0.5
6	Type C	13.5±0.5

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

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

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

Pin Assignment



Sumitomo Electric Industries, Ltd.
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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. (Opto-electronic Products Sales Dept.)

3-12, Moto-Akasaka 1-chome, Minato-ku Tokyo, 107-8468

Japan

Tel. (03) 3423-5031

Fax. (03) 3423-5247

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

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

Revision Record

Document No.	Date of issue	Description	Incorporated by	Checked by	Approved by
HUW0124064-01A	Feb./12/02	Preliminary issue.	T. Nakanishi	Y. Yamasaki	M. Yoshimura
HUW0124064-01B	May/21/02	Initial issue; Added Se on condition of Tc=+25°C and Tc=-40~+85°C; Removed Type B pin assignment.	T. Nakanishi	Y. Yamasaki	M. Yoshimura
HUW0124064-01C	Aug./01/02	Added the spec of $\Delta\lambda$; Revised tr from max.: 0.25ns to max.: 0.10ns; Revised tf from max.: 0.30ns to max.: 0.15ns; Corrected the tolerance of PKG diameter from +0/-0.025mm to ± 0.1 mm; Corrected the tolerance of cap diameter from ± 0.05 mm to ± 0.1 mm; Corrected the tolerance of cap height from +0.1/-0.05mm to ± 0.1 mm.	Y. Yamasaki	N. Kushida	M. Yoshimura