



Technical Specification
of
1.31 μ m MQW-DFB Laser Diode
with Aspherical Lens Cap

SLT1230 Series



1. General

SLT1230 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 an aspherical lens 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
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	300	—	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
SLT1230	Type A	4	13.5±0.5mm
SLT1231	Type B	4	13.5±0.5mm
SLT1236	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.: SLT1230 / □□□□

(Customize code)

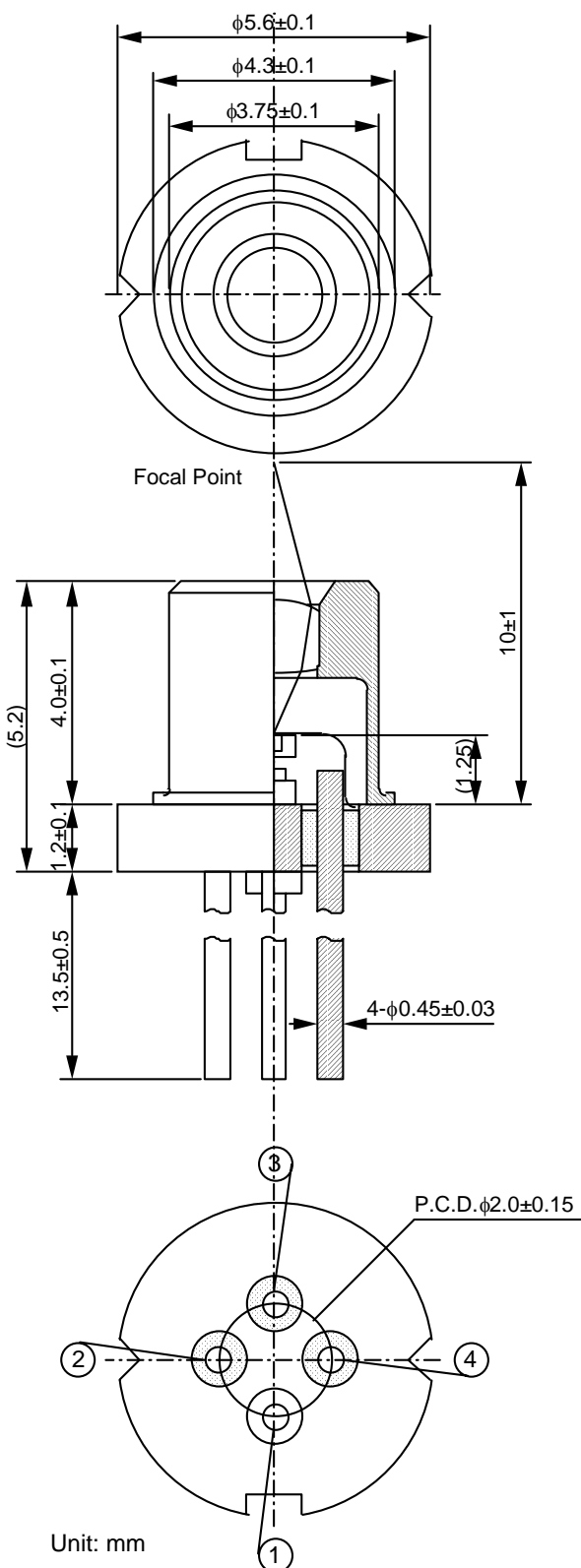
Code	Pin assignment	Pin length (L1)
0	Type A	13.5±0.5
1	Type B	13.5±0.5
6	Type C	13.5±0.5

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

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Revision Record

Document No.	Date of issue	Description	Incorporated by	Checked by	Approved by
HUW9824104-01A	Feb./22/99	Initial issue.	T. Nakanishi	M. Yoshimura	T. Fujitani
HUW9824104-01B	Feb./12/02	Removed SSR, tr, tf, and Im on condition of Tc=+25°C; Revised Id on condition of Tc=-40~+85°C from max. 30nA to max. 100nA; Revised the condition of C from Tc=-40~+85°C to Tc=+25°C; Corrected the distance from the top facet of chip to the surface of PKG.	T. Nakanishi	Y. Yamasaki	M. Yoshimura
HUW9824104-01C	May/21/02	Added Se on condition of Tc=+25°C and Tc=-40~+85°C; Revised the tolerance of Focal Point from ±2mm to ±1mm.	T. Nakanishi	Y. Yamasaki	M. Yoshimura
HUW9824104-01D	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.	Y. Yamasaki	N. Kushida	M. Yoshimura