



Technical Specification
of
1.51 μ m MQW-DFB Laser Diode
with Aspherical Lens Cap
for Supervisory Channel

SLT1430-S850 Series



1. General

SLT1430-S850 Series are 1.51 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	—	10	15	mA
		CW, Tc=-40~+85°C	—	—	50	
Optical output power	Po	CW, If=Ith+20mA	3.0	4.0	—	mW
		CW, If=Ith+20mA, Tc=-40~+85°C	2.0	—	—	
Operating voltage	Vf	CW, Tc=-40~+85°C	—	—	1.6	V
Slope efficiency	Se	CW	0.15	0.2	—	mW/mA
		CW, Tc=-40~+85°C	0.1	—	—	
Peak wavelength	λp	CW	1505	1510	1515	nm
		CW, Tc=-40~+85°C	1498	—	1522	
Side-mode suppression ratio	SSR	CW, Tc=-40~+85°C	30	—	—	dB
Rise time	tr	Ib=Ith, 20-80%, Tc=-40~+85°C	—	—	0.25	ns
Fall time	tf	Ib=Ith, 80-20%, Tc=-40~+85°C	—	—	0.30	ns
Monitor current	Im	CW, VrP=5V, Tc=-40~+85°C	80	500	—	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
SLT1430-S850	Type A	4	13.5±0.5mm
SLT1431-S850	Type B	4	13.5±0.5mm
SLT1436-S850	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.: SLT1430□/□□□-S850

(Customize code)

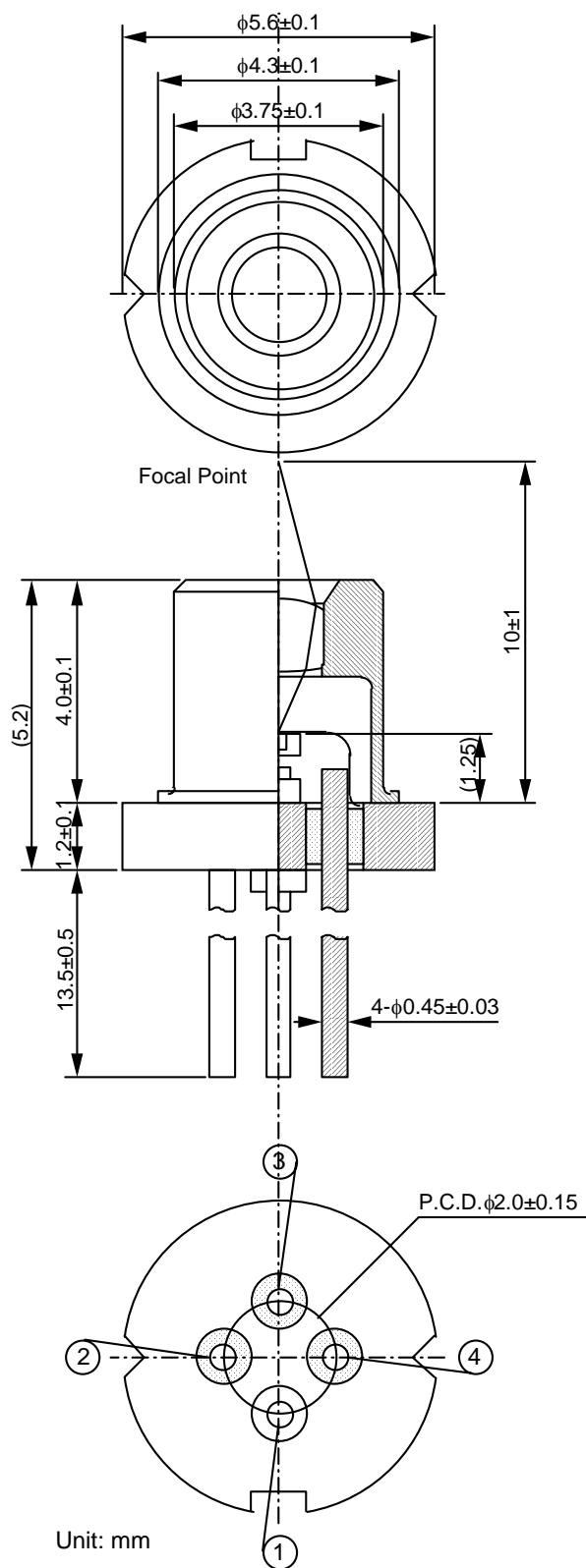
Code	Pin assignment	Pin length (L1)
0	Type A	13.5±0.5
1	Type B	13.5±0.5
6	Type C	13.5±0.5

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
HUW9924080-01A	Sep./03/99	Initial issue.	T. Nakanishi	M. Yoshimura	T. Fujitani
HUW9924080-01B	Jan./10/99	Revised λ_p on condition of $T_c=+25^\circ\text{C}$ from min.: 1500nm and max.: 1520nm to min.: 1505nm and max.: 1515nm; Revised λ_p on condition of $T_c=-40\sim+85^\circ\text{C}$ from min.: 1490nm and max.: 1530nm to min.: 1498nm and max.: 1522nm.	T. Nakanishi	M. Yoshimura	T. Fujitani
HUW9924080-01C	Feb./12/02	Removed SSR, tr, tf, and Im on condition of $T_c=+25^\circ\text{C}$; Revised the condition of C from $T_c=-40\sim+85^\circ\text{C}$ to $T_c=+25^\circ\text{C}$; Corrected the distance from the top facet of chip to the surface of PKG.	T. Nakanishi	Y. Yamasaki	M. Yoshimura
HUW9924080-01D	May/21/02	Added Se on condition of $T_c=+25^\circ\text{C}$ and $T_c=-40\sim+85^\circ\text{C}$; Revised the tolerance of Focal Point from $\pm 2\text{mm}$ to $\pm 1\text{mm}$.	Y. Yamasaki	T. Nakanishi	M. Yoshimura