Sumitomo Electric Industries, Ltd.
Part No.: SLT1830 Series
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Technical Specification
Of
1.31μm MQW-DFB Laser Diode
with Aspherical Lens Cap

SLT1830 Series

RoHS Compliant

SUMITOMO ELECTRIC

1. General

SLT1830 Series are 1.31μm 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 to+100	°C
Operating case temperature	Top	-40 to+95	°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	3	8	15	mA
		CW, Tc=-40 to+85°C	1	—	35	
		CW, Tc=-40 to+95°C	1	—	50	
Optical output power	Po	CW, If=Ith+20mA	5.0	7.0	—	mW
		CW, If=Ith+20mA,Tc=-40 to+85°C	3.0	—	—	
		CW, If=Ith+20mA,Tc=-40 to+95°C	2.5	—	—	
Operating voltage	Vf	CW, Tc=-40 to+95°C	—	—	1.6	V
Slope efficiency	Se	CW	0.25	0.35	—	mW/mA
		CW, Tc=-40 to+85°C	0.15	—	—	
		CW, Tc=-40 to+95°C	0.125	—	—	
Peak wavelength	λp	CW	1290	1310	1325	nm
		CW, Tc=-40 to+85°C	1280	—	1330	
		CW, Tc=-40 to+95°C	1280	—	1335	
Side-mode suppression ratio	SSR	CW, Tc=-40 to+95°C	30	—	—	dB
Spectral width	Δλ	CW, 20dB down, Tc=-40to+95°C	—	—	1	nm
Rise time	tr	Ib=Ith, 20-80%, Tc=-40 to+95°C	—	—	0.15	ns
Fall time	tf	Ib=Ith, 80-20%, Tc=-40 to+95°C	—	—	0.15	ns
Monitor current	Im	CW, VrP=5V, Tc=-40 to+95°C	80	300	—	μA
Monitor dark current	Id	VrP=5V	—	—	10	nA
		VrP=5V, Tc=-40 to+95°C	—	—	100	
Monitor capacitance	C	VrP=5V, f=1MHz	—	—	10	pF

5. Ordering information

Part number	Pin assignment	Number of pin	Pin length
SLT1830	Type A	4	13.5±0.5mm
SLT1836	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.

7. RoHS Compliancy

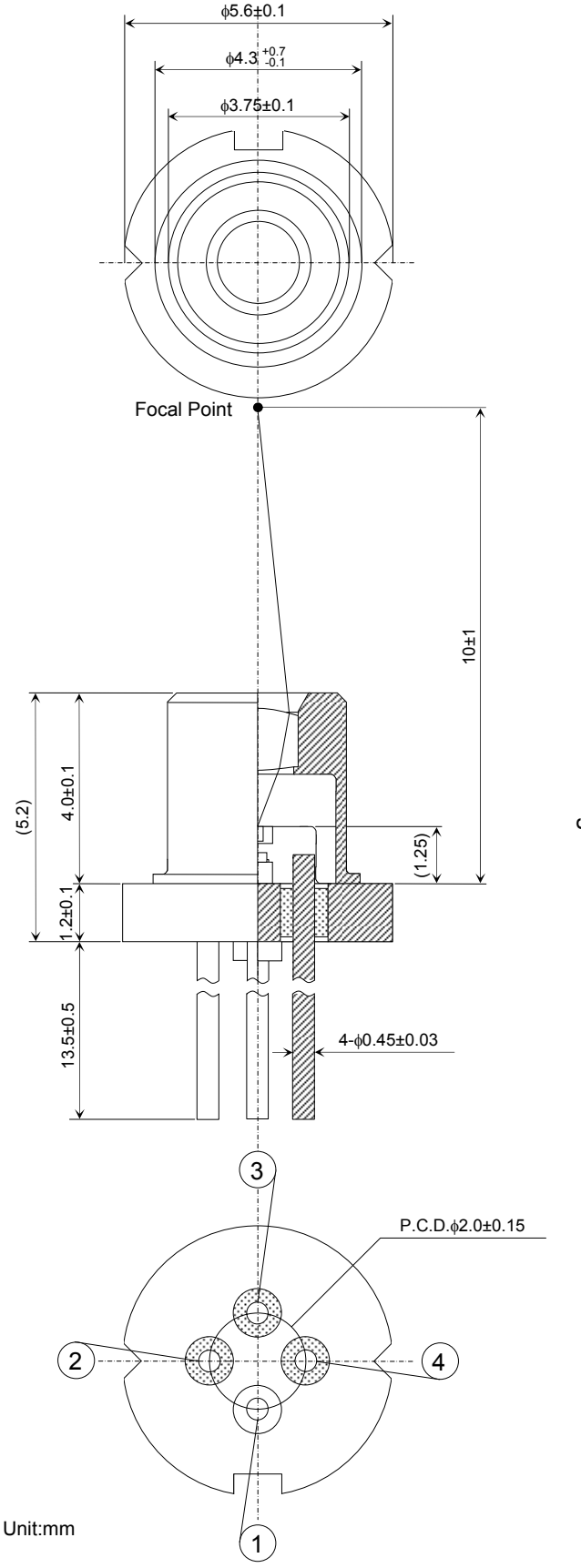
On January 27, 2003, the European Parliament and the Council of the European Union issued the directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS).

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. : SLT183□/□□□

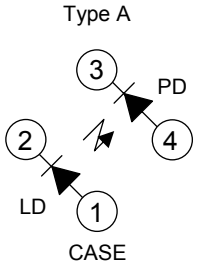
(Customize code)

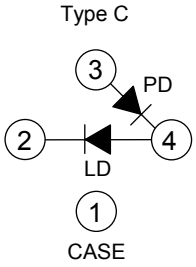
Pin No.	Pin assignment
0	Type A
6	Type C

Pin Assignment

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

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





8. For More Information

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Revision Record

Document No.	Date of issue	Description	Incorporated by	Checked by	Approved by
HUW0424140-01A	Dec./3/04	Preliminary issue.	T. Kounosu	H. Kobayashi M. Furumai	M. Yoshimura
HUW0424140-01B	Feb./13/06	Removed expression “Preliminary”.	H. Kobayashi	Y. Yamasaki	M. Yoshimura
HUW0424140-01C	Dec./25/07	Added RoHS compliancy	T. Takagi	N. Fukushima K. Mii	H. Michikoshi

Sumitomo Electric reserves the right to change the technical specifications without notice at any time.