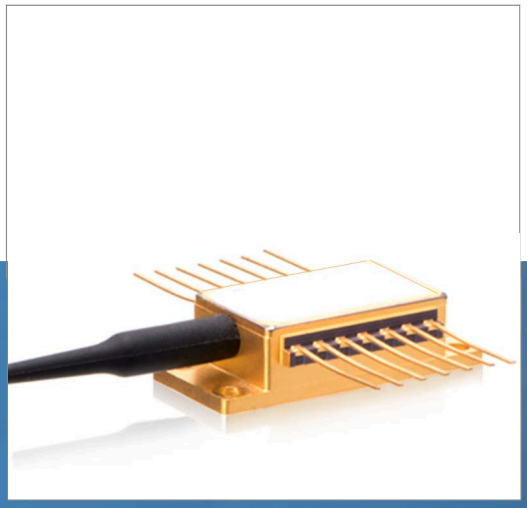


This product is sold and supported in the USA by

LASER LAB SOURCE
marketplace for **Scientists & Engineers**

contact@LaserLabSoure.com

800.887.5065

Sumitomo Electric Industries, Ltd.
Part No. : SLA56xx-xxx Series
Document No. : HUW0025091-01A
Date of issue : January 10, 2002

Technical Specification

of

1.48µm Pumping Laser Diode Module with SMF / PMF, High Power Series (210~250mW)

SLA 56xx-xxx Series

Sumitomo Electric Industries, Ltd.

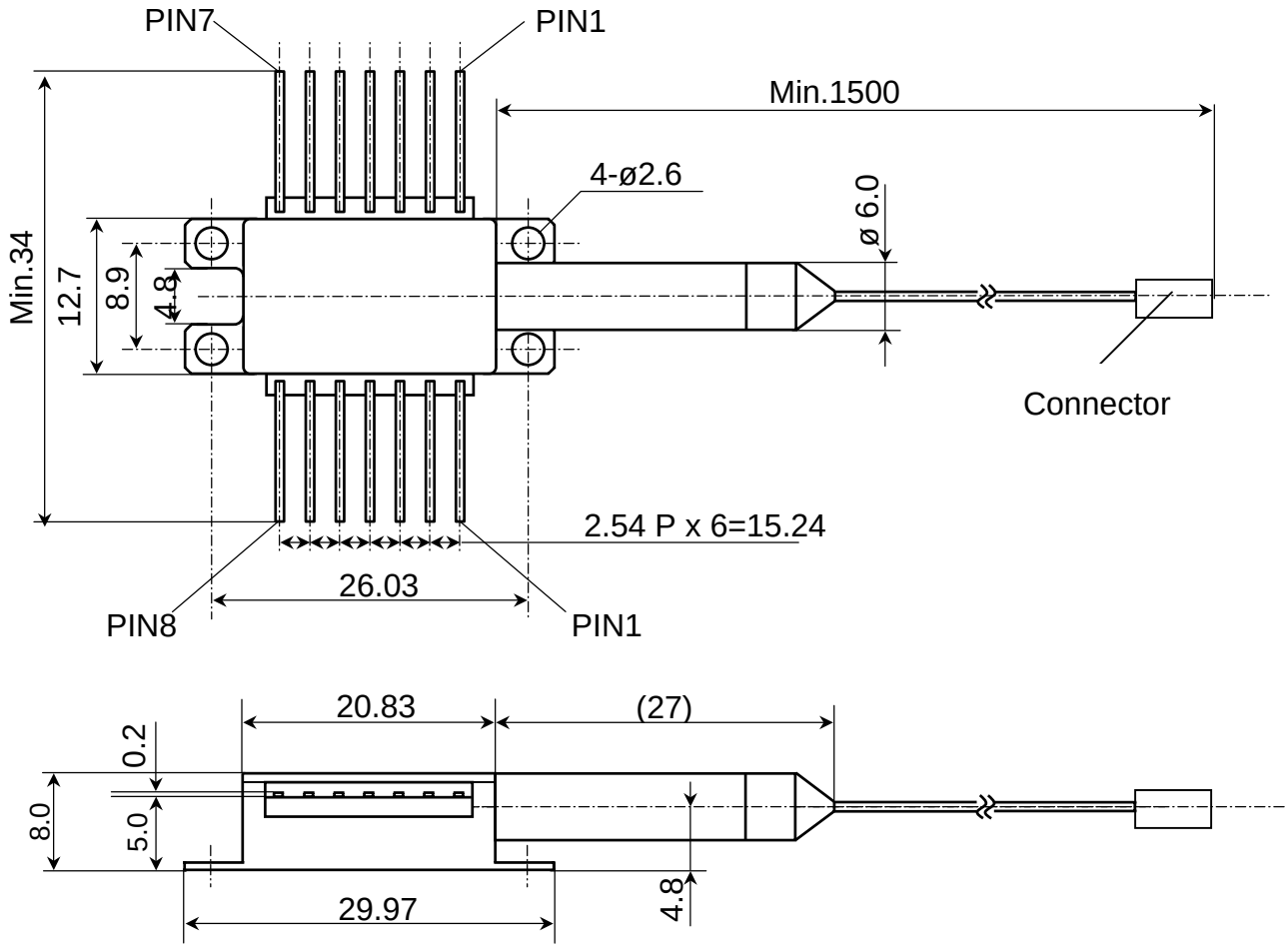
1. General

SLA56xx-xxx series are 1.48µm InGaAsP/InP MQW laser diode module designed for a pumping source of an Er doped fiber amplifier (EDFA). Features of the devices are high optical output power and high reliability.

A laser diode is mounted in a cooled 14-pin "butterfly" package integrated with a fiber pigtail, an InGaAs monitor PD, and an optical isolator (optional : See Section 7).

2. Package dimension and pin assignment

(unit : mm, tolerance : ±0.15)



Pin No.	Function		Pin No.	Function	
1	TEC Anode		14	TEC Cathode	
2	Thermistor		13	Case Ground	
3	Monitor PD Anode		12	NC	
4	Monitor PD Cathode		11	LD Cathode	
5	Thermistor	Note 1	10	LD Anode	Note 1
6	NC		9	NC	
7	NC		8	NC	

Note 1 See ordering information (Section 7).

3. Absolute maximum ratings

Parameter	Symbol	Min.	Max.	Unit
Storage temperature	Tstg	-40	70	°C
Operating case temperature	Tc	0	65	°C
LD forward current	IfL	-	1500	mA
LD reverse voltage	VrL	-	2	V
LD reverse current	IrL	-	10	μA
PD forward current	IfP	-	10	mA
PD reverse voltage	VrP	-	15	V
PD reverse current	IrP	-	3	mA
Thermistor current	Itherm	-	0.5	mA
Thermistor voltage	Vtherm	-	5	V
TEC current	Ic	-	2.4	A
TEC voltage	Vc	-	4.6	V
Lead soldering temperature	Stemp	-	260	°C
Lead soldering time	Stime	-	10	sec
Package mounting screw torque (Note 2)	Npt	-	0.2	Nm
Electro static Discharge (ESD) (Note 3)	V_{ESD}	-	500	V

Note 2 Without buffer materials under the package
Note 3 A human-body model (HBM, C=100pF, R=1.5kΩ) is employed.

4. Electrical and optical characteristics (Unless otherwise noted, T_{LD}=25°C, BOL)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold current	Ith	CW	-	20	50	mA
Optical power(Note 4)	Pop	CW, If</=1000mA	210	-	-	mW
			220	-	-	
		CW, If</=1200mA	230	-	-	
			240	-	-	
			250			
Forward voltage	Vf	CW, If=Iop	-	-	2.7	V
Monitor current	Im	CW, If=Iop, VrP=5V	150	-	2500	μA
Monitor dark current	Id	VrP=5V	-	-	10	nA
Monitor capacitance	C	VrP=5V, f=1MHz	-	-	12	pF
Center wavelength (RMS)	λc	CW, If=Iop	1465	-	1495	nm
Spectral width (RMS,2.35σ)	Δλ	CW, If=Iop	-	-	12	nm
Polarization Extinction Ratio (only for PMF type)	PER	CW, If=Iop, launched into slow axis	18	-	-	dB

Note 4 See ordering information (Section 7).

5. Thermal characteristics (Unless otherwise noted, T_{LD}=25°C, Tc=0 to 65°C)

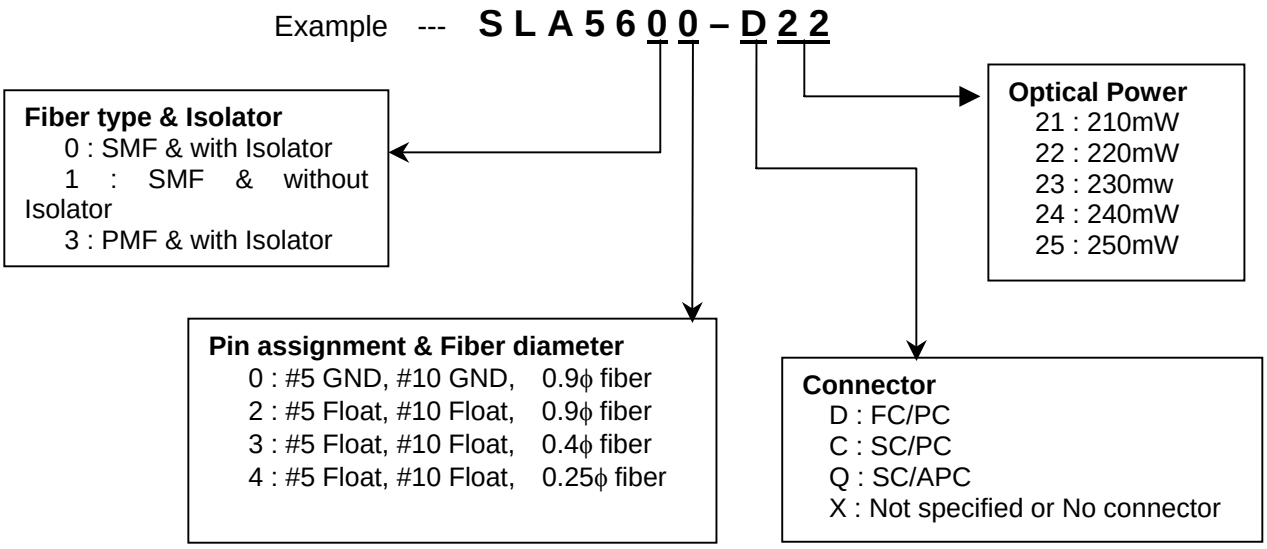
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Thermistor resistance	Rth	-	9.5	10	10.5	KΩ
Thermistor B constant	B	25°C / 50°C	3350	-	4000	K
TEC current	Ic	ΔT=40°C, Pf=Pop	-	-	2.3	A
TEC voltage	Vc	ΔT=40°C, Pf=Pop	-	-	4.5	V

6. Fiber pigtail specification

Parameter	Min.	Typ.	Max.	Unit
Fiber description	Single mode fiber (SMF) Polarization maintaining fiber (PMF) (Note 5)			-
Mode field diameter	8.5	9.5	10.5	μm
Cladding diameter	122	125	128	μm
Pigtail length	1.5	2.0	2.5	m
Outer jacket diameter	-	(Note 6)	-	mm
Bending radius	40	-	-	mm
Optical connector	(Note 7)			-

Note 5-7 See ordering information (Section 7).

7.Ordering information



Standard Product

Ordering number	Fiber type	Fiber diameter (mm)	Isolator	Pin assignment		Connector
				Thermistor (Pin #5)	LD anode (Pin #10)	
SLA5600-Dxx	SMF	0.9	w	GND	GND	FC/PC
SLA5602-Dxx				Float	Float	FC/PC
SLA5604-Cxx		0.25		Float	Float	SC/PC
SLA5610-Qxx		0.9	w/o	GND	GND	SC/APC
SLA5612-Qxx				Float	Float	SC/APC
SLA5614-Qxx		0.25		Float	Float	SC/APC
SLA5630-Cxx	PMF	0.9	w	GND	GND	SC/PC
SLA5632-Cxx				Float	Float	SC/PC
SLA5633-Cxx		0.4		Float	Float	SC/PC
SLA5640-Qxx		0.9	w/o	GND	GND	SC/APC
SLA5642-Qxx				Float	Float	SC/APC
SLA5643-Qxx		0.4		Float	Float	SC/APC

8. Precaution

Class 3B in the radiation safety standard applies to all versions of this product. Mishandling may result in hazardous laser radiation exposure.

Refer to the document IRO-D01002 in terms of the usage of this product and safety precautions.

REVISION RECORD

Document No.	Date of issue	Description	Incorporated by	Checked by	Approved by
HUW0025091-01A	Jan/10/02	Initial issue	A. Hamakawa	H. Koseki	K. Tanida