

## DL-5B05 Series

### Cooled 1550 nm MQW-DFB Laser Module

#### FEATURE

- 14 pins butterfly package
- Onboard TEC
- Built-in Isolator
- 0 to 70°C case operation range
- GR-468 Compliant

#### CHARACTERISTICS

ELECTRICAL AND OPTICAL CHARACTERISTICS						
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
T <sub>LD</sub>	Laser Operating Temperature			25		°C
I <sub>TH</sub>	Threshold Current	T <sub>LD</sub> =25°C		10	15	mA
I <sub>OP</sub>	Operation Current	T <sub>LD</sub> =25°C ,P <sub>O</sub> =5mW, CW		40	60	mA
V <sub>OP</sub>	Operating Voltage	T <sub>LD</sub> =25°C ,P <sub>O</sub> =5mW, CW		1.2	1.5	V
P <sub>O</sub>	Optical Output Power	T <sub>LD</sub> =25°C ,I <sub>F</sub> =I <sub>OP</sub>	5			mW
SE	Slope Efficiency	T <sub>LD</sub> =25°C ,P <sub>O</sub> =5mW, CW	0.16			mW/mA
λ <sub>c</sub>	Central Wavelength	T <sub>LD</sub> =25°C ,P <sub>O</sub> =5mW, CW	1545	1550	1555	nm
Δλ	Spectral Width	T <sub>LD</sub> =25°C ,P <sub>O</sub> =5mW RMS(σ)			1	nm
SMSR	Side-mode Suppression Ratio	T <sub>LD</sub> =25°C ,P <sub>O</sub> =5mW, CW	30			nm
I <sub>m</sub>	PD monitor Current	CW, P <sub>O</sub> =5mW, V <sub>RD</sub> =1V	10		500	μA
I <sub>D</sub>	PD Dark Current	V <sub>RD</sub> =5V			100	nA
R <sub>TH</sub>	Thermistor Resistance	T=25°C	9.5		10.5	KΩ
B	Thermistor B Constant	T=25°C		3930		K
I <sub>TEC</sub>	TEC Current				1.2	A
V <sub>TEC</sub>	TEC Voltage				4.2	V

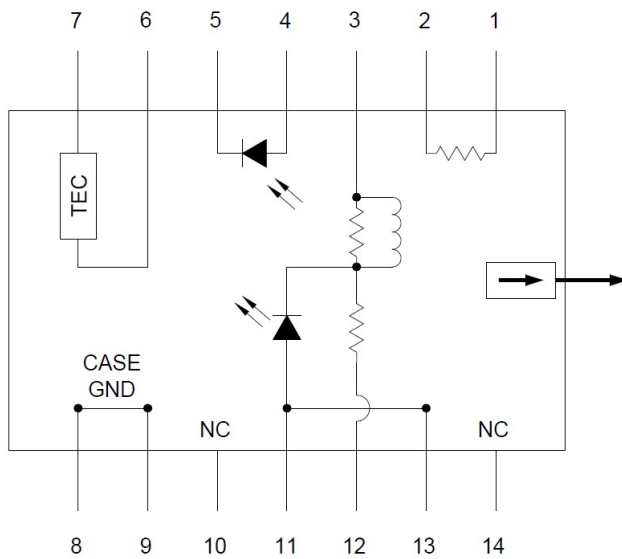
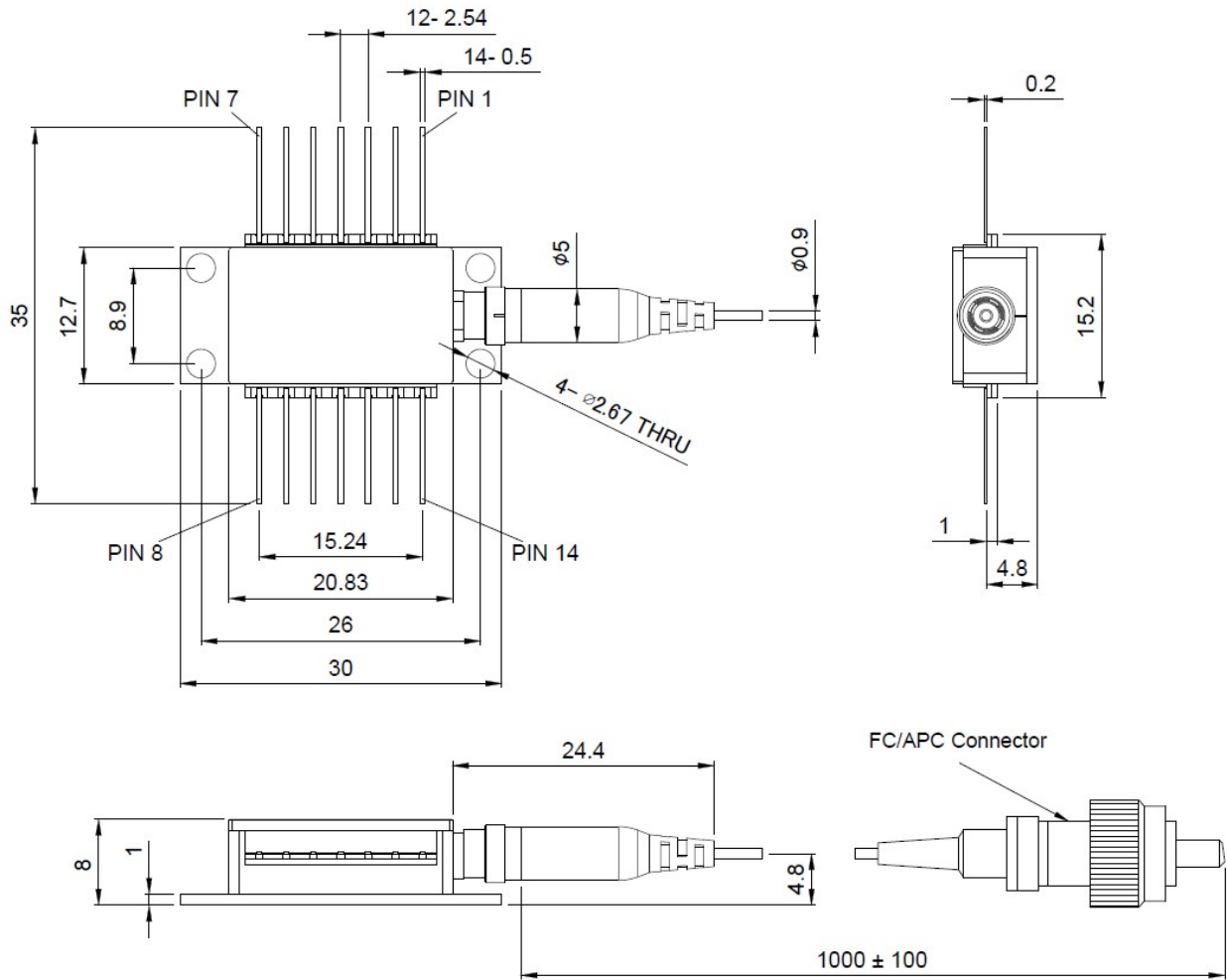
#### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Max	Unit
Laser Diode Reverse Voltage	V <sub>RL</sub>		2	V
PD Reverse Voltage	V <sub>RPD</sub>		10	V
PD Forward Current	I <sub>FD</sub>		1	mA
Soldering Temperature	T <sub>SOLDER</sub>		260 / 10	°C / sec
Operating Temperature Range	T <sub>OPR</sub>	0	70	°C
Storage Temperature Range	T <sub>STG</sub>	-40	85	°C

#### PRECAUTIONS for USE

ESD protection is imperative. Use of grounding straps, anti-static mats, and other ESD protective equipment is recommended when handling or testing any junction photodiode.

MECHANICAL DIMENSION (mm) and PIN ASSIGNMENT

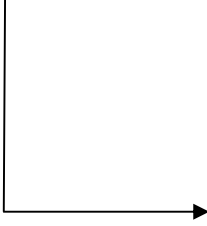


ELECTRICAL SCHEMATICS

PIN	Description
1	Thermistor
2	Thermistor
3	DC LD Cathode (-)
4	MPD Anode
5	MPD Cathode
6	Thermal Electric Cooler (+)
7	Thermal Electric Cooler (-)
8	Case Ground
9	Case Ground
10	NC
11	Laser Anode (+)
12	RF LD Cathode (-)
13	Laser Anode (+)
14	NC

ORDER INFORMATION

Part No.: D L - 5 B 0 5 -   D S



Code	Connector
S	SC/PC
F	FC/PC
T	ST/PC
L	LC/PC
X	No connector
SA	SC/APC
FA	FC/APC
TA	ST/APC
LA	LC/APC

Revision History

Version	Subject	Release Date
1.0	Initial datasheet	2024/10/08