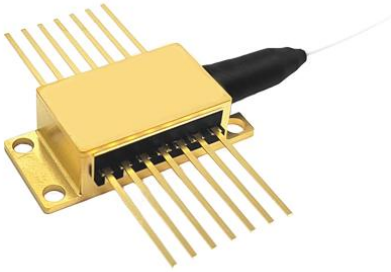


DFB Narrow linewidth Laser



Key Features

- 14-pin butterfly package
- Built-in thermistor, and TEC
- High side-mode suppression ratio > 50dB
- Operating Temperature -40 ~ +70°C
- Single-mode fiber pigtail

Applications

- Silicon photonic light source
- CW optical source
- long haul WDM, Sensing
- Lidar

Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T_{op}	-40		70	°C
Storage Temperature	T_{stg}	-40		85	°C
Storage Relative Humidity	RH	0		85	%
LD Forward Current	I_f		400	500	mA
LD Forward Voltage	V_f			3	V
LD Reverse Voltage	V_r			2	V
MPD Reverse Voltage	$V_{r, MPD}$	0	5	10	V
TEC Current	I_{TEC}			1.5	A
TEC Voltage	V_{TEC}			3.2	V
ESD	-			500	V

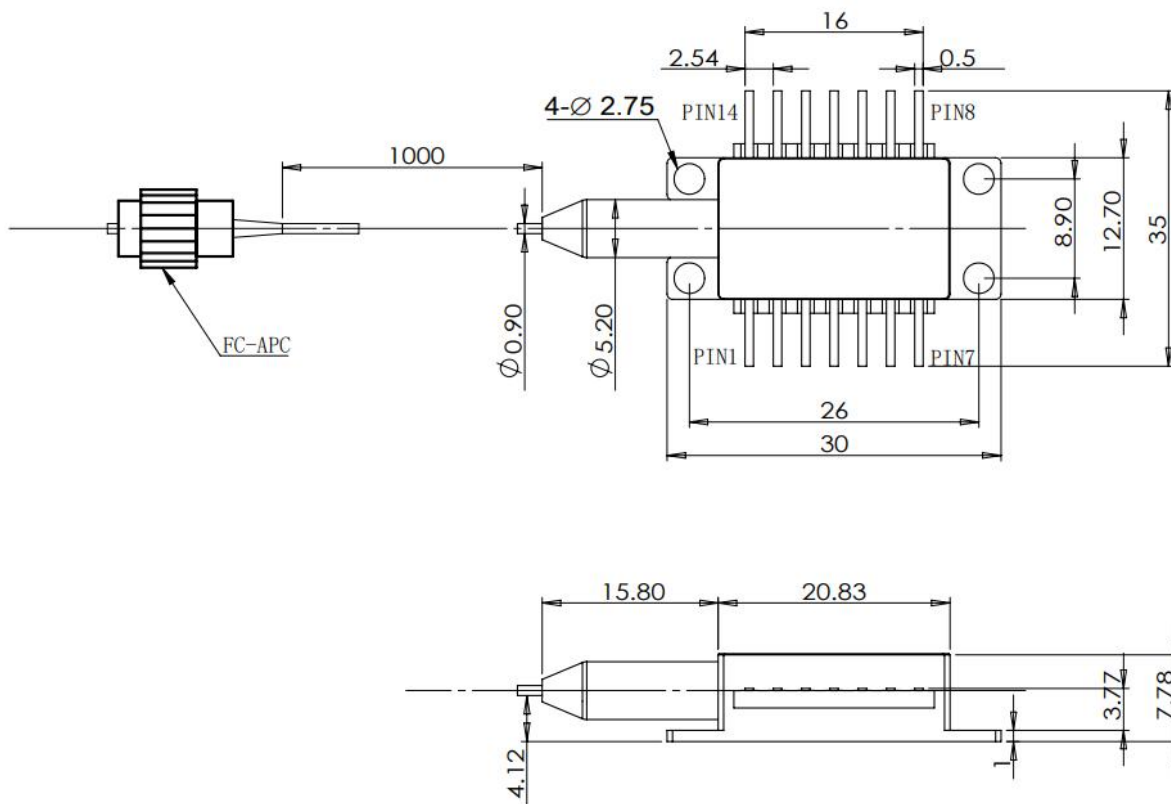
Electrical/Optical Characteristics

Parameter	Conditions	Min	Typ	Max	Unit
Peak Wavelength	$P_{op}=P$, $I_{op}=I_f$, $T_{op}=20^{\circ}\text{C}$		1651 ± 2		nm
Optical Output Power	$I_{op}=I_f$	50			mW
Linewidth	$I_{op}=I_f$			300	KHz
Optical Isolation	-	30			dB
Side Mode Suppress Ratio	$P_{op}=P_f$	50			dB
Optical Return Loss	-	40			dB
Wavelength temperature coefficient	$I_{op}=I_f$		0.11		nm/°C
Wavelength current coefficient	$I_{op}=I_f$		0.007		nm/mA
Series Resistance	$I_{op}=I_f$			10	Ohms
Thermistor Resistance	-	9.5	10	10.5	kΩ
Thermistor B Constant	-		3900		K
Monitor PD Current	$I_{op}=I_f$, $V_{MPD}=-5\text{V}$	100		2500	uA

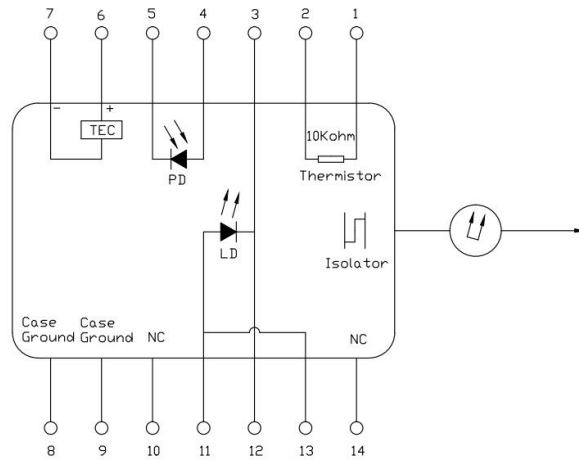
Fiber Connection

Parameter	Specification
Fiber Type	SMF28 fiber pigtail
Fiber Length	1000mm
Connector Type	FC/APC

Outline Drawing (Unit: mm)



Circuit diagram



Pin Assignments

Pin	Description
1	Thermistor+
2	Thermistor-
3	Laser-
4	MPD+
5	MPD-
6	TEC+
7	TEC-
8	Case Ground
9	Case Ground
10	NC
11	Laser+
12	Laser-
13	Laser+
14	NC