
OL4121N-120

1480 nm/120 mW Laser Diode Butterfly Module with Single Mode Fiber. Built-in Cooler, Isolator

GENERAL DESCRIPTION

OL4121N-120 is a 1480 nm Laser Diode in a butterfly package with single mode fiber .

FEATURES

- Single-mode fiber output: $P_f = 120$ mW
- Includes monitor PD for power control
- Built-in optical isolator
- Thermo-electric cooler
- Multi-quantum-well (MQW) structure

APPLICATIONS

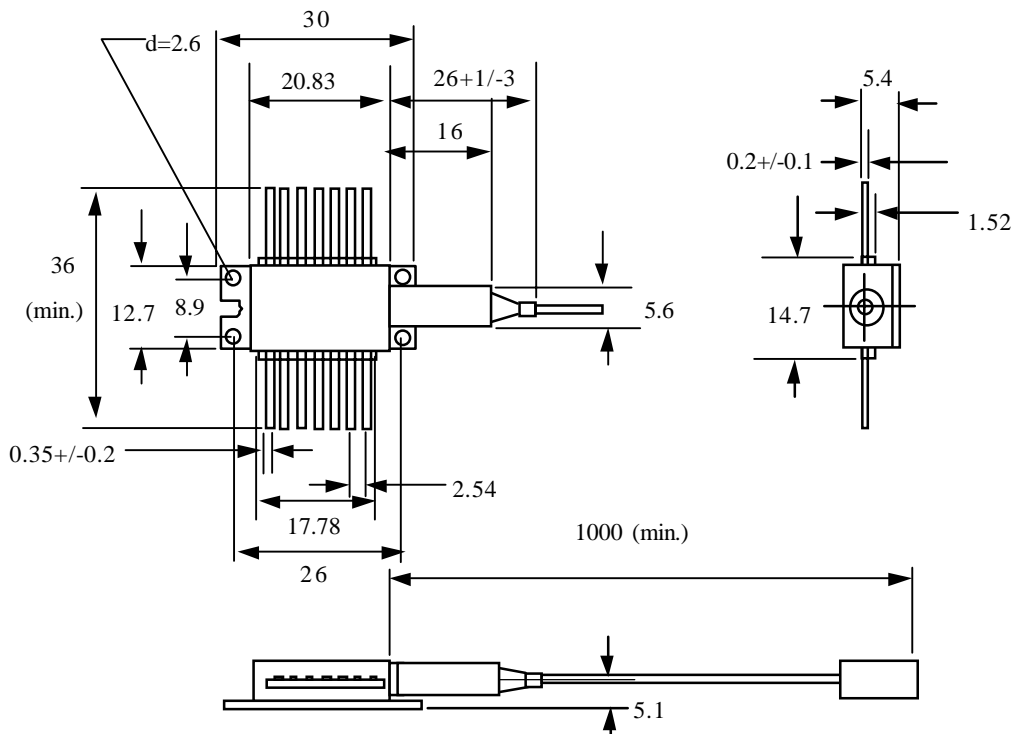
- Er doped fiber amplifier

OUTLINE DRAWING

**All dimensions in millimeters
Package No. (Unit: mm)**

Package No. :121

All dimensions in millimeters
Tolerances Unless Noted +/-0.5



Package Pinout

Pin No.		Pin No.	
1	TEC +	8	NC
2	Thermistor	9	NC
3	Monitor Anode	10	LD Anode/GND
4	Monitor Cathode	11	LD Cathode
5	Thermistor/GND	12	NC
6	NC	13	GND
7	NC	14	TEC -

ABSOLUTE MAXIMUM RATINGS

(Ta = 25°C, unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Fiber Output Power	Pf	144	mW
Laser Diode Forward Current	If (LD)	750	mA
Laser Diode Reverse Voltage	Vr (LD)	2	V
Photo Diode Reverse Voltage	Vr (PD)	15	V
Operating Temperature	Topr	-20 to +65	°C
Storage Temperature	Tstg	-40 to +70	°C

Exceeding these ratings may lead to immediate destruction or permanent deterioration of the device.

OPTICAL AND ELECTRICAL CHARACTERISTICS

(TLD = 25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Threshold Current	Ith	—	—	—	60	mA
Operating Current	Iop	Pf = 120 mW	—	—	600	mA
Operating Voltage	Vop	Pf = 120 mW	—	—	2.5	V
Center Wavelength	λ_c	Pf = 120 mW	1460	—	1490	nm
RMS Spectral Width	σ	Pf = 120 mW, RMS	—	—	10	nm
Tracking Error	TER	Im = const., 0/25/65°C	—	—	± 0.5	dB
PD Dark Current	Idark	Vr(PD) = 5 V	—	—	100	nA
Monitor Current	Im	Pf = 120 mW, Vr(PD) = 5 V	100	—	—	μA
Cooler Capacity	ΔT	Pf = 120 mW	40	—	—	°C
Cooler Current	Ic	$\Delta T = 40^\circ\text{C}$, Pf = 120 mW	—	—	1.5	A
Cooler Voltage	Vc	$\Delta T = 40^\circ\text{C}$, Pf = 120 mW	—	—	4.0	V
Thermistor Resistance	Rth	—	9.0	—	11	kΩ

FIBER PIGTAIL SPECIFICATIONS

Parameter	Specifications	Unit
Type	SM	—
Mode Field Diameter	9+/-1	μm
Cladding Diameter	125+/-2	μm
Jacket Diameter	900	μm
Length	1 (Min.)	m
Connector	FC/SPC	—

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