DATA SHEET

OKI LASER PRODUCTS

OL6201N-A10
MQW Laser Diode Cooled Dil Module
(1625 nm +/-10 nm, 1 mW)

October 1999

Oki Semiconductor

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OL6201N-A10 Laser Diode Module

1625-nm, Cooled LD Module for Single-Mode Fiber

INTRODUCTION

Oki Semiconductor's OL6201N-A10 dual in-line package laser diode module features a cooled 1625-nm laser diode coupled to a single-mode fiber with a pigtail. The OL6201N-A10 has a built-in thermistor and thermoelectric cooler, and is equipped with a monitor photodiode.

FEATURES

- 1625-nm MQW FP Laser
- Single-mode fiber
- Built-in thermistor and thermoelectric cooler
- 1-mW fiber output power
- Includes a photodiode for power monitoring
- 14-pin Dil package

APPLICATION

- WDM systems
- Service Channel
- Cross connect systems
- Fiber-optic light source
- Telemetry systems
- Hand held instrumentation

ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings (ambient temperature Ta=25°C unless otherwise noted)

Parameter	Symbol	Ratings	Units
Fiber Output Power	Pf	2	mW
Laser diode reverse voltage	$V_{R(LD)}$	2	V
Photo diode reverse voltage	$V_{R(PD)}$	20	V
Photo diode forward current	$I_{F(PD)}$	10	mA
Thermoelectric cooler voltage	V_{TEC}	3.0	V
Thermoelectric cooler current	I_{TEC}	1.2	A
Operating Temperature	Topr	-20 to +65	°C
Storage Temperature	Tstg	-40 to +85	°C

Exceeding these maximum ratings could cause immediate damage or lead to permanent deterioration of the device.

Optical and Electrical Characteristics (Ta=25°C)

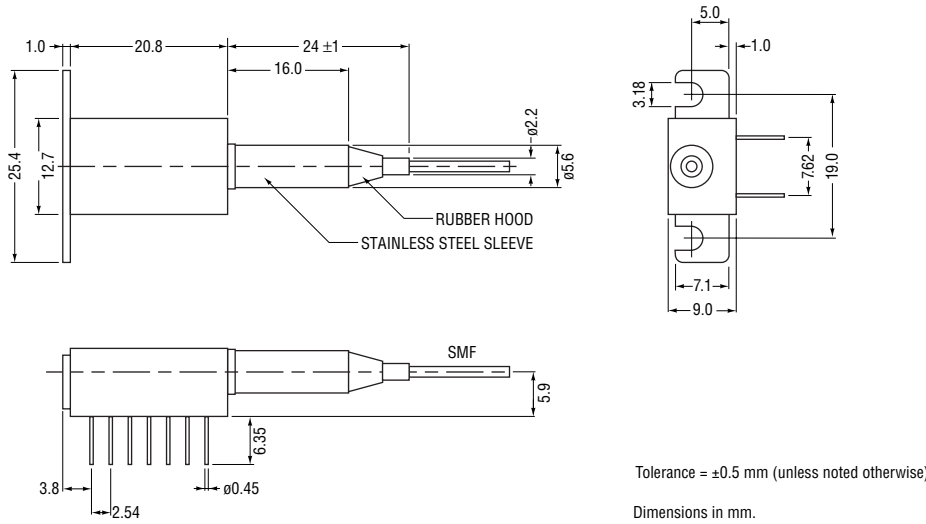
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Threshold current	Ith	CW	---	25	40	mA
Laser diode operating current	$I_{F(LD)}$	Pf=1 mW, CW	---	40	60	mA
Laser diode operating voltage	$V_{F(LD)}$	Pf=1 mW, CW		1.5	2.5	V
Center wavelength	λ_C	Pf=1 mW, CW	1615	1625	1635	nm
RMS Spectral width	σ	Pf=1 mW, CW, RMS	---	3	5	nm
Monitor current	Im	Pf=1 mW, CW, $V_{R(PD)}$=5 V	50	---	---	µA
Photodiode dark current	I_{DARK}	$V_{R(PD)}$=5 V	---	---	1	µA
Photdiode capacitance	C_T	$V_{R(PD)}$=5 V, f=1 MHz	---	15	---	pF
Rise time	τ_r	I_{BIAS}=Ith Pf=1 mW, 10-90%	---	---	1	ns
Fall time	τ_r		---	---	1	ns
Thermoelectric cooler capacity	Δ_T	Pf=1 mW	40	---	---	˚C
Thermoelectric cooler current	I_{TEC}	Δ_T=40˚C, Pf=1 mW	---	---	1.0	A
Thermoelectric cooler voltage	V_{TEC}	Δ_T=40˚C, Pf=1 mW	---	---	2.0	V
Thermistor resistance	R_{th}	---	---	10	---	kΩ

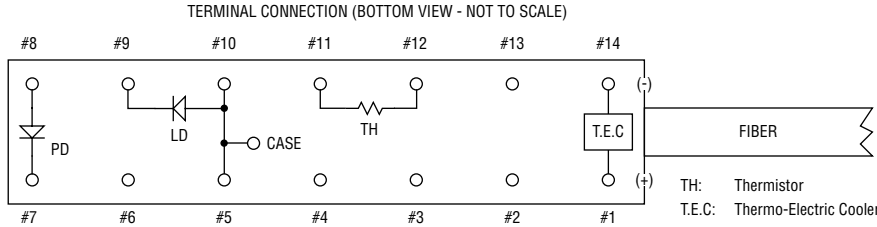
Fiber Pigtail Specifications

Parameter	Specifications	Units
Type	SM	---
Mode field diameter	9 +/- 1	µm
Cladding diameter	125 +/- 2	µm
Jacket diameter	900	µm
Length	1 (minimum)	m
Connector	FC/PC	-

PACKAGE DIMENSIONS

(Units: mm)





Pin Configuration

Pin Mo.	Description	Pin No.	Description
01	Thermo Electric Cooler (+)	08	PD Anode
02	NC	09	LD Cathode
03	NC	10	LD Anode, Case Ground, and internal connect to pin 5
04	NC	11	Thermistor
05	LD Anode, Case Ground, and internal connect to pin 10	12	Thermistor
06	NC	13	NC
07	PD Cathode	14	Thermo Electric Cooler (-)

Notes:

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