

OL3492N/LR

1310nm MQW Laser Diode Uncooled Coax Module with Single Mode Fiber

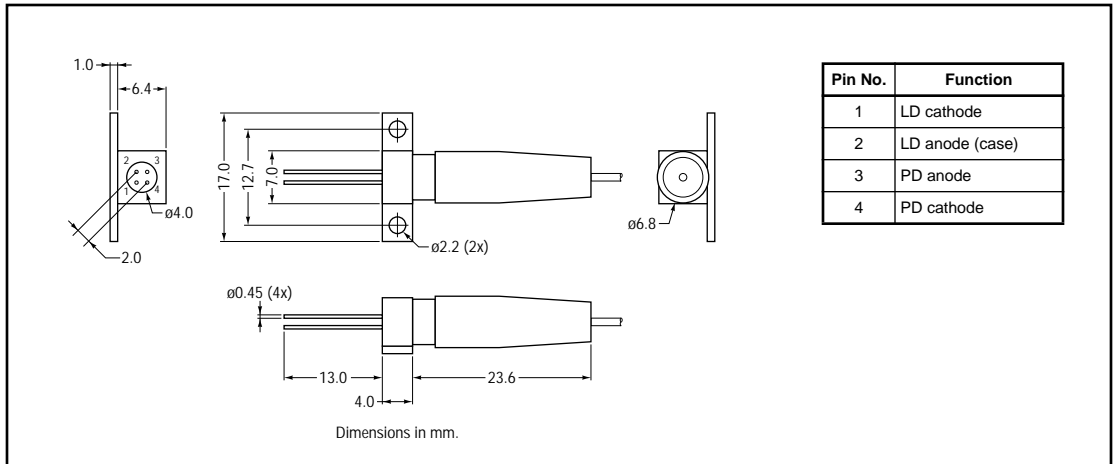
DESCRIPTION

The OKI OL3492N/LR is a 1310nm MQW Laser Diode in a PCB mountable coaxial package with single mode fiber and low relative intensity noise (RIN).

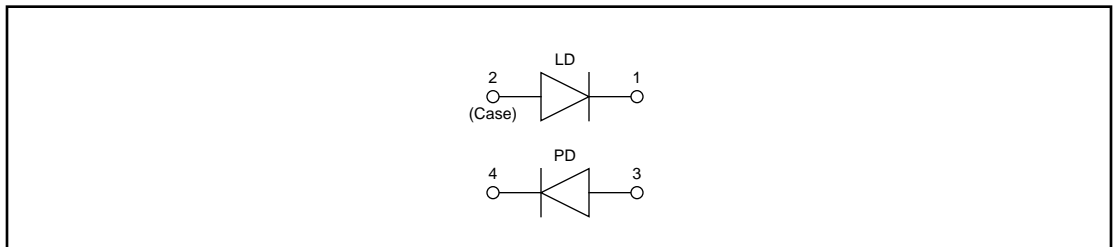
FEATURES

- SMF output: 3mW
- Low RIN
- Wide operating range
- MQW structure

OUTLINE DIMENSIONS



CIRCUIT



ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings ^[1]

Parameter	Symbol	Rating	Unit
Fiber output power	P_f	3	mW
Laser diode forward current	$I_f(\text{LD})$	150	mA
Laser diode reverse voltage	$V_r(\text{LD})$	2	V
Photo diode reverse voltage	$V_r(\text{PD})$	20	V
Operating temperature	T_{opr}	-40 to +85	°C
Storage temperature	T_{stg}	-40 to +85	°C
Soldering (max. 10 sec)	T_{slid}	260	°C

1. Permanent device damage may occur if ABSOLUTE MAXIMUM RATINGS are exceeded. Functional operation should be restricted to the conditions as detailed in the operational sections of this data sheet. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Recommended Operating Conditions ($T_A = 25\text{ °C}$)

Parameter	Symbol	Condition	Rated Value			Unit
			Min	Typ	Max	
Threshold current	I_{th}	–	–	10	20	mA
Fiber output power	P_f	$I_f = I_{\text{th}} + 40\text{ mA}$	2	–	–	mW
Forward voltage	V_f	$I_f = 30\text{ mA}$	–	–	1.5	V
Center wavelength	λ_c	$P_f = 2\text{ mW}$	1290	1310	1330	nm
Spectral width ^[1]	σ	$P_f = 2\text{ mW}$	–	–	2.5	nm
Monitor current	I_m	$P_f \text{ ave.} = 1\text{ mW}$	200	–	–	μA
Photo diode dark current	I_{dark}	$V_r(\text{PD})$	–	0.5	20	nA
Rise time	τ_r	$I_{\text{bias}} = I_{\text{th}}$	–	–	0.5	ns
Fall time	τ_f	$P_f \text{ ave.} = 1\text{ mW}, 10\text{-}90\%$	–	–	0.5	ns
Carrier to noise ratio ^[2]	CNR	OMI = 40% @25 MHz	53	–	–	dB
Relative intensity noise	RIN	$f = 25\text{ MHz BW} = 4\text{ MHz}$	–	–	-135	dB/Hz

1. Spectral Width: RMS x 1, CW.
 2. Reflection = -35 dB, Rx noise = 10 pA/Hz^{1/2}, Fiber = 1 m, $P_f = 1\text{ mW Ave.}$

Fiber Pigtail Specifications

Parameter	Rated Value	Unit
Type	SM	–
Mode Field Diameter	10 ±1	μm
Cladding Diameter	125 ±2	μm
Jacket Diameter	900	μm
Length	1 (Min.)	m
Connector	FC/SPC	–