

# OKI Semiconductor

## OL3492N/LR

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

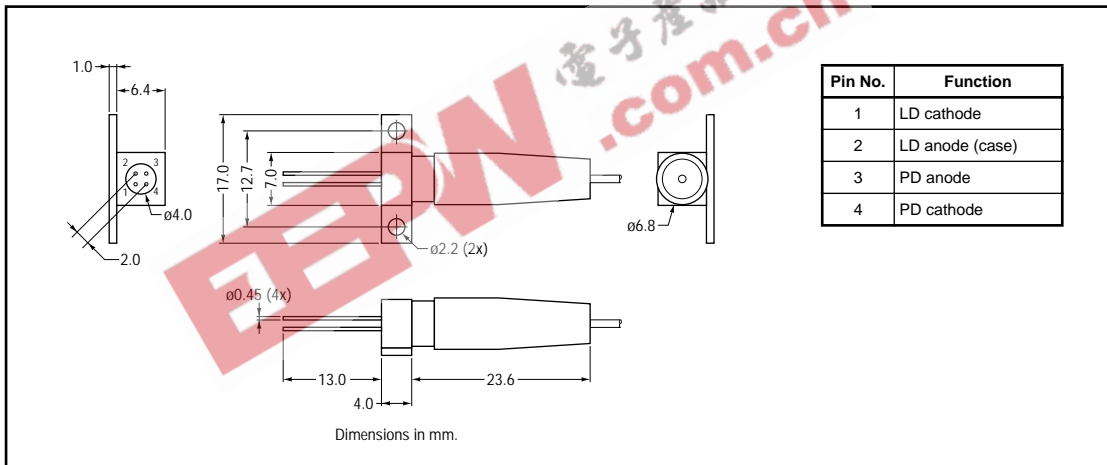
#### DESCRIPTION

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).

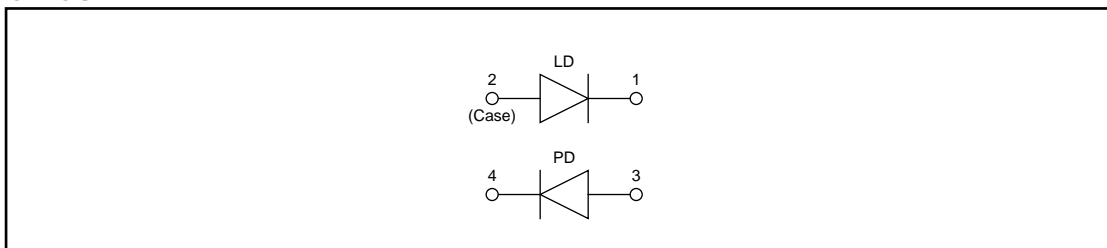
#### FEATURES

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

#### OUTLINE DIMENSIONS



#### CIRCUIT



## ELECTRICAL CHARACTERISTICS

### Absolute Maximum Ratings <sup>[1]</sup>

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)	$T_{sld}$	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	$P_f$	$I_f = I_{th} + 40\text{ mA}$	2	-	-	mW
Forward voltage	$V_f$	$I_f = 30\text{ mA}$	-	-	1.5	V
Center wavelength	$\lambda_c$	$P_f = 2\text{ mW}$	1290	1310	1330	nm
Spectral width <sup>[1]</sup>	$\sigma$	$P_f = 2\text{ mW}$	-	-	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	$\tau_r$	$I_{bias} = I_{th}$ $P_f\text{ ave.} = 1\text{ mW}, 10\text{-}90\%$	-	-	0.5	ns
Fall time	$\tau_f$		-	-	0.5	ns
Carrier to noise ratio <sup>[2]</sup>	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<sup>1/2</sup>, 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	-