

# 1490nm CWDM DFB 1.25G Laser Diode Module With Pigtail Connection and SC/PC

Data Sheet

**OLD3355-49C1-SC**

## Features

- Uncooled
- Type C laser
- Low threshold current
- Output power: 1mW
- Data Rate: 1.25 Gbps
- 1490nm DFB laser diode
- InGaAs monitor PIN photodiode
- Single mode fiber pigtailed with SC/PC connector
- Operating Temperature: 0~ +70 °C

## Applications

- Digital Signal Transmission
- Telecommunications (Local loop, interoffice and intraoffice)
- Data Communications
- Gigabit Ethernet
- SONET OC-3, OC-12, OC-24/SDH STM-1, STM-4, STM-8
- Fiber Channel

## Description

The OLD3355-49C1-SC is a hermetically sealed CWDM 1490nm InGaAsP/ InP DFB laser diode module in a small coaxial type package, including a high speed InGaAs PIN monitor photodiode and single mode fiber pigtail connection.

The laser diode is designed for use in data communications systems and telecommunications systems over single mode fiber, and can operate in temperatures of 0 °C to 70 °C. The laser diode module transmits emission power to the monitor photodiode in the rear, which ensures highly stable emission at a wavelength of 1490 nm.

**Safety**

Radiation emitted by laser diode devices can be dangerous to the eyes. Avoid direct or scattered radiation exposure to the eyes or skin. Device contains gallium arsenide (GaAs) which can be hazardous to your health. Please embrace all customary precautions and discretion while handling this device. Observe governmental laws and regulations when discarding this device.

**Performance Specifications**

**Absolute Maximum Ratings**

Stresses in excess of the absolute maximum ratings can cause damage to the optical device. Operations of the optical device are suggested to remain within the recommended operating conditions. Exposure to the absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Value	Unit
Storage Temperature	$T_{stg}$	-40 to +85	°C
Operating Case Temperature	$T_{op}$	0 to +70	°C
Peak Optical Output Power	$P_o$	4	mW
Forward Current (LD)	$I_{FLD}$	150	mA
Reverse Voltage (LD)	$V_{RLD}$	2	V
Reverse Current (PD)	$I_{RPD}$	2	mA
Reverse Voltage (PD)	$V_{RPD}$	15	V
Soldering Temperature	$S_{temp}$	260	°C
Soldering Time	$S_{time}$	10	sec

**Electrical and Optical Characteristics ( $T_C=25^\circ\text{C}$  unless otherwise noted)**

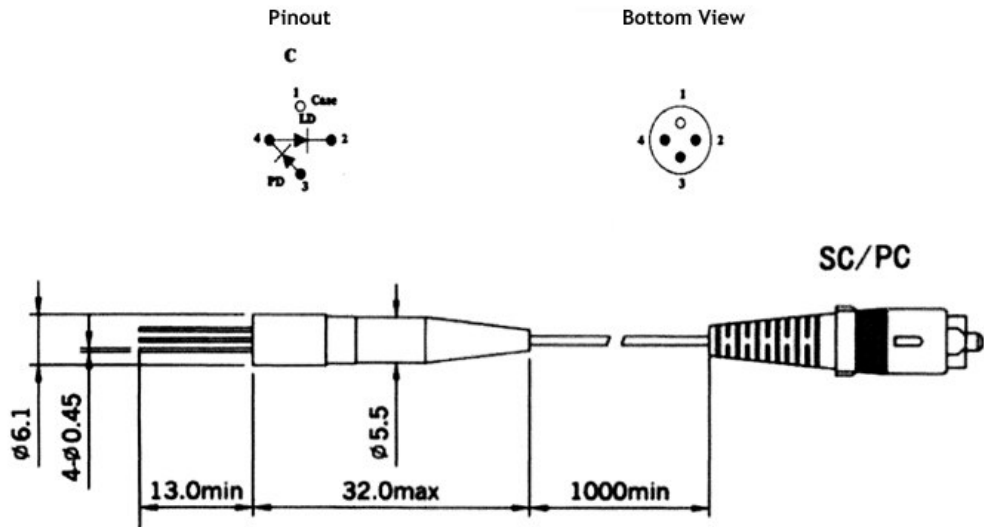
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Threshold Current	$I_{th}$	CW	-	10	15	mA
		CW, $T_C=0-70^\circ\text{C}$	-	-	40	
Operating Voltage	$V_{op}$	CW, Pop, $T_C=0-70^\circ\text{C}$	-	1.1	1.6	V
Fiber Output Power	$P_f$	CW, $I_f=I_{th}+20\text{mA}$	1.0	-	-	mW
Central Wavelength	$\lambda_{c25}$	CW, Pop=1.0mW, $T_C=25^\circ\text{C}$	1487	1490	1493	nm
	$\lambda_c$	CW, Pop=1.0mW, $T_C=0-70^\circ\text{C}$	1480	-	1500	nm
Side-mode Suppression Ratio	SMSR	CW, Pop, $T_C=0-70^\circ\text{C}$	30	40	-	dB
Rise Time	$T_r$	$I_b=I_{th}$ , 20%-80%	-	0.12	0.3	ns
Fall Time	$T_f$	$I_b=I_{th}$ , 20%-80%	-	0.12	0.3	ns
Tracking Error	-	APC, 0 to +70°C	-	-	±1.0	dB

**Photodiode Parameters ( $T_C=25^\circ\text{C}$  unless otherwise noted)**

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Monitor Current	$I_m$	Pop, $V_{rp}=5\text{V}$	100	-	1500	µA
Monitor Dark Current	$I_d$	$V_{rp}=5\text{V}$	-	-	100	nA
Monitor Capacitance	$C$	$V_{rp}=5\text{V}$ , $f=1\text{MHz}$	-	-	12	pF

### Package Outline Diagram

Dimensions for the device package are given in millimeters.



### Additional Information

#### Contact

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