

1550 nm DFB 2.5G Laser Diode Module With Pigtail Connection and FC/PC

Data Sheet

OLD3458-C4-FC

Features

- Uncooled
- Type C laser
- Low threshold current
- Output power: 2mW
- Data Rate: 2.5 Gbps
- 1550nm DFB laser diode
- SMF Pigtailed
- InGaAs monitor PIN photodiode
- Single mode fiber pigtailed with FC/PC connector
- Operating Temperature: -20~ +85°C

Applications

- Digital Signal Transmission
- Telecommunications (Local loop, interoffice and intraoffice)
- Data Communications
- Gigabit Ethernet
- SONET OC-3, OC-12, OC-48/SDH STM-1, STM-4, STM-16
- EPON

Description

The OLD3458-C4-FC is a hermetically sealed 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 -20°C to 85°C. The laser diode module transmits emission power to the monitor photodiode in the rear, which ensures highly stable emission at a wavelength of 1550 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}	-20 to +85	°C
Peak Optical Output Power	P_o	5	mW
Forward Current (LD)	I_{FLD}	120	mA
Reverse Voltage (LD)	V_{RLD}	2	V
Reverse Current (PD)	I_{RPD}	2	mA
Reverse Voltage (PD)	V_{RPD}	10	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)

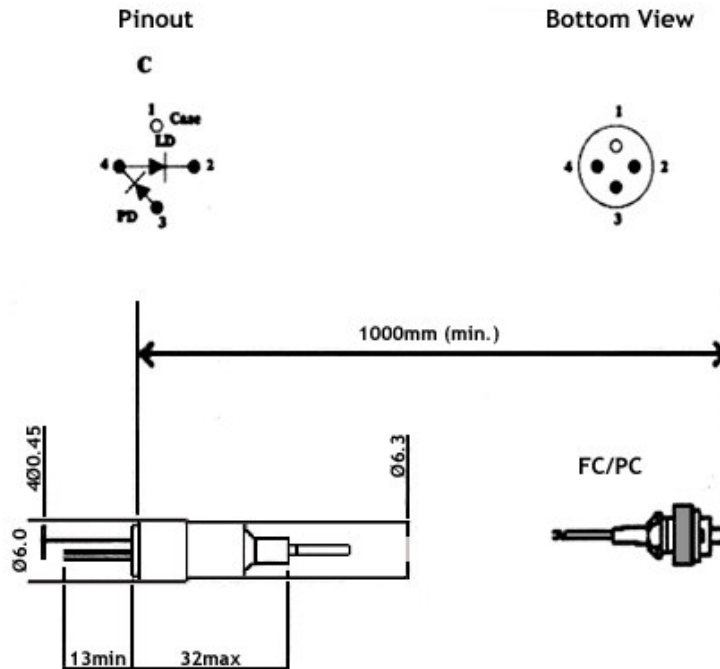
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Threshold Current	I_{th}	CW	-	12	18	mA
		CW, $T_c=-20-85^\circ\text{C}$	-	35	50	
Operating Voltage	V_{op}	CW, Pop, $T_c=-20-85^\circ\text{C}$	-	1.1	1.6	V
Operating Current	I_{op}	Pop=2.0mW	-	25	35	mA
		Pop=2.0mW, $T_c=-20-85^\circ\text{C}$	-	35	60	
Peak Wavelength	λ_p	Pop=2.0mW	1530	1550	1570	nm
Spectral Width (-20dB)	$\Delta\lambda$	Pop=2.0mW	-	0.1	1.0	nm
Wavelength Temp Coefficient	$\Delta\lambda/\Delta T$		-	0.09	-	nm
Side-mode Suppression Ratio	SMSR	Pop=2.0mW	30	40	-	dB
Rise Time/ Fall Time	T_r / T_f	$I_b=I_{th}$, 20%-80%	-	-	0.2	ns
Monitor Current	I_m	Pop, $V_{rp}=5V$	25	-	375	uA/mW
Monitor Dark Current	I_d	$V_{rp}=5V$, $T_c=-20-85^\circ\text{C}$	-	-	200	nA
Tracking Error	-	APC, -20 to +85° C	-	±0.5	±1.0	dB
Optical Isolation	ISO		30	-	-	dB

RF Characteristics (T_c=25 °C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Relative Intensity Noise	PIN	CW, Pop=2.0mW, f=50M-1000MHz	-	-	-145	dB/Hz
Modulation Bandwidth	BW	-3dB, Pop=2.0mW	2.5	-	-	GHz
Second-Order Intermodulation	IMD2	Pop=2.0mW, OMI=0.1, Two-tone test, 874.5MHz & 875.5MHz	-	-	-46	dBc
Third-Order Intermodulation	IMD3	Pop=2.0mW, OMI=0.1, Two-tone test, 874.5MHz & 875.5MHz	-	-	-60	dBc
RF Bandpass Flatness	BF	Peak to Valley, 50M-1000MHz	-	-	1.0	dB

Package Outline Diagram

Dimensions for the device package are given in millimeters.



Additional Information

Contact

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