

DFB Laser Module 1550nm 5mW



DFB-1550-AX distributed feedback laser is uncooled semiconductor InGaAsP MQW-DFB laser working at 1550nm wavelength. The device is delivered in hermetic coaxial package with integrated InGaAs photodiode for optical power monitoring. It is suitable for applications up to 2.5 Gbps in FTTX networks.

Key Features

- Optical output: 5mW
- Narrow linewidth ($\Delta\nu < 10\text{MHz}$)
- Wavelength: 1550nm @ 25°C
- SM Fiber ($\varnothing 0.9\text{mm}$)
- FC-APC connector
- Hermetic coaxial package
- Internal monitor PD
- Up to 2.5Gbps

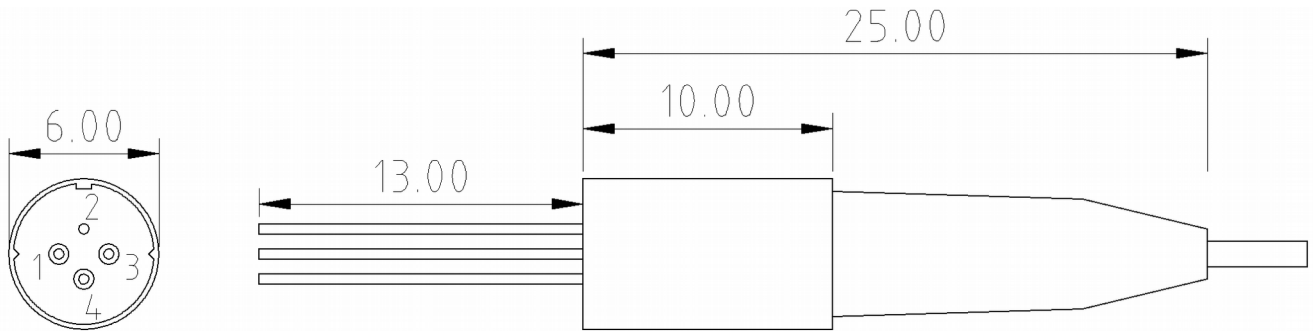
Optical and electrical characteristics: (T = 25°C)

Item	Symbol	Test condition	Min.	Typ.	Max.	Unit
Output Power, CW	P_f	CW		5	7	mW
Output Power, Pulse	P_p	Pulse		10	20	mW
Rise and Fall time	T_r, T_f	CW, $I_f = I_{th} + 20\text{mA}$, 20-80%			120	ps
Forward Voltage	V_F	$P_f = 5\text{mW}$			2	V
Threshold Current	I_{th}		5	7	10	mA
Forward Current	I_f	$P_f = 5\text{mW}$		40	60	mA
Center Wavelength	λ_c	$P_f = 5\text{mW}$	1545	1550	1555	nm
Spectral Width	$\Delta\lambda$	$P_f = 5\text{mW}$	2	5	10	MHz
Side Mode Suppression Ratio	SMSR	$P_f = 5\text{mW}$	35	40		dB
Relative Intensity Noise	RIN	$P_f = 5\text{mW}$		-140		dB/Hz
Monitor Current	I_m	$P_f = 5\text{mW}$, $V_{RD} = 5\text{V}$	40	300	1000	μA
PD Dark Current	I_d	$V_{RD} = 5\text{V}$			0.1	μA
PD Capacitance	C	$V_{rp} = 10\text{V}$, $f = 1\text{MHz}$		10	20	pf
Extinction Ratio	X_P	$P_f = 5\text{mW}$	19			dB
Current Tuning	$\Delta\lambda/\Delta I$			0.002		nm/mA
Temperature Tuning	$\Delta\lambda/\Delta T$			0.09		nm/°C
Optical Isolation (optional)	I_{ISO}		25			dB

Absolute Maximum Ratings

Item	Symbol	Rating	Unit
LD Forward Current	I_f	70	mA
LD Reverse Voltage	V_r	1.8	V
PD Reverse Voltage	V_{RD}	10	V
Operation Case Temperature	T_c	-20 to +70	°C
Storage Temperature	T_{stg}	-40 to +85	°C

PACKAGING



#PIN	Function
1	PD Anode -
2	LD Anode + (case)
3	LD Cathode -
4	PD Cathode +