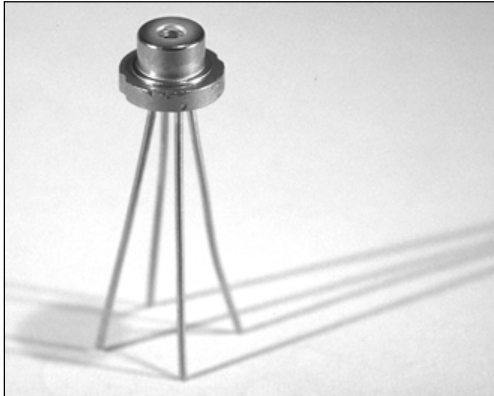


DFB-1310-T5-6-2.5-x-x-x

**Description**

The DFB-1310-T5-6-2.5-x-x-x series of Multi-Quantum Well (MQW) Distributed Feedback (DFB) lasers are well suited for low-cost high-speed transmitters.

The devices feature high output power, wide operating temperature range, and high side mode suppression.

Their uncooled, hermetically sealed, TO-56 style packages are a cost-effective means of providing a low-noise light source for intermediate-reach and long-reach digital transmission applications.

Features

- ❑ Advanced Multiple Quantum Well (MQW) Distributed Feedback (DFB) Laser Design
- ❑ Cost-effective Uncooled Laser Technology
- ❑ SMSR typ. 40 dB
- ❑ 5.6-mm TO-style package

Applications

- ❑ SONET transmitters
- ❑ Point-to-point fiber optic links



DFB-1310-T5-6-2.5-x-x-x

Absolute Maximum Ratings

Exceeding the conditions specified below may result in permanent damage to the laser module. In normal operation, refer to the operating conditions in Table 1, below. Exceeding the conditions in Table 1, but below the absolute maximum ratings may result in unacceptable performance in some applications. Exposure to conditions above the absolute maximum ratings may negatively impact the reliability of the devices.

Parameter	Symbol	Condition	Min	Max	Unit
Operating Case Temperature	T _c	I=I _{op}	-20	85	°C
Storage Temperature	T _{stg}	--	-40	100	°C
Laser Forward Current	--	--	--	120	mA
Laser Reverse Bias	V _r	--	--	2	V
Photodiode Reverse Bias	V _{rpd}	--	--	10	V

Electrical/Optical Characteristics

Table 1. Electrical and Optical Characteristics

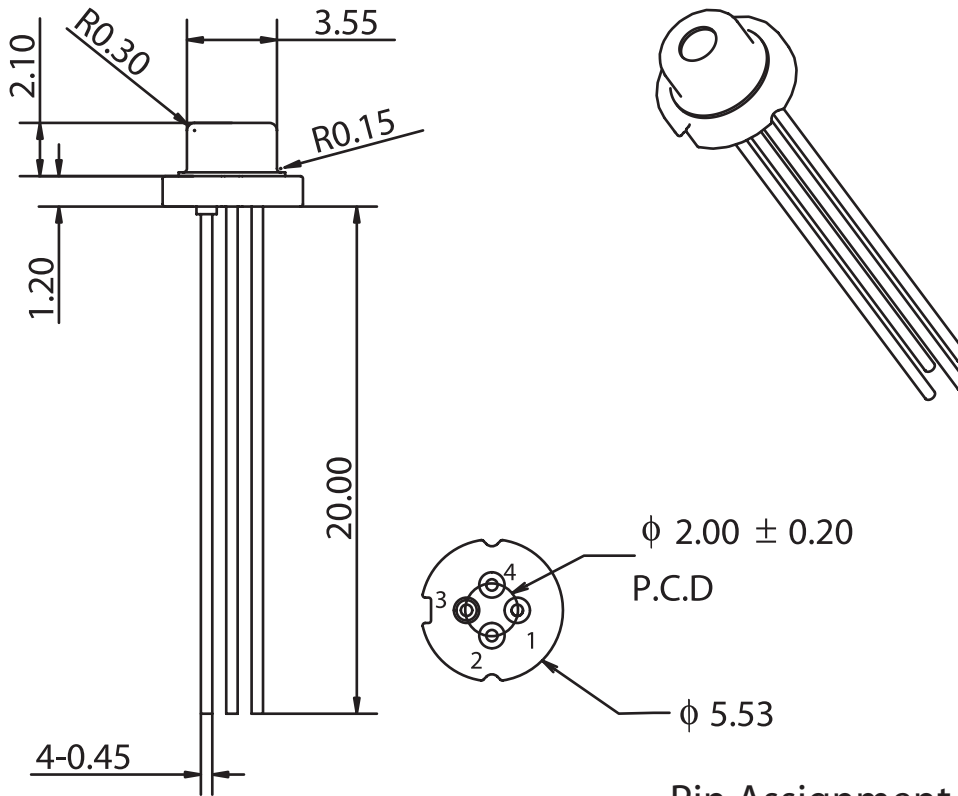
Parameters are over operating temperature range unless otherwise noted.

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Operating Temperature	T	-20*		85*	°C	
Optical Output Power	P _o	5.5	6.0	--	mW	CW
Threshold Current	I _{th}	--	12 35	18 50	mA	T=25 °C T=85 °C
Forward Voltage	V _F	--	1.1	1.6	V	P _o =6.0 mW
Operating Current	I _{op}	--	22 60	35 75	mA	CW, P _o =6.0 mW, T=25 °C CW, P _o =6.0 mW, T=85 °C
Center Wavelength	λ	1270	1310	1350	nm	P _o =6.0 mW, CW
Spectral Width (-20 dB)	Δλ	--	0.1	1.0	nm	P _o =6.0 mW
Wavelength temperature coefficient	Δλ / ΔT		0.09	0.1	nm/°C	
Far Field Angle 1	Θ	16	18	20	°	P _o =6 mW
Far Field Angle 2	Θ _⊥	28	30	32	°	P _o =6 mW
Side-mode Suppression Ratio	SMSR	-30	-40		dB	P _o =6 mW
Rise/Fall Times	t _R , t _F	--	--	0.1	ns	P _{peak} =6.0 mW, 20% to 80%
Relaxation Oscillation Frequency	f _R		4.5		GHz	P _o =6.0 mW
Monitor Current	I _{mon}	100	--	1000	μA	V _R =5 V
Monitor Dark Current	I _D	10	--	200	nA	V _R =5 V
Tracking Error	γ	-1	--	1	dB	I _{mon} =const, γ=10 log (P _f /2.0) [dB]

* See ordering options for available operating temperature ranges.

DFB-1310-T5-6-2.5-x-x-x

DIMENSIONS

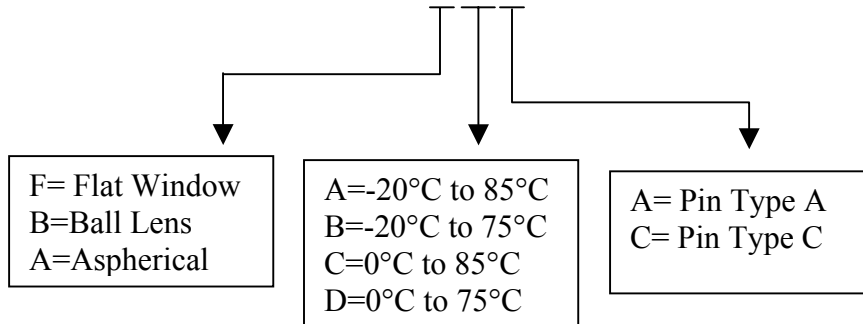


Pin Assignment

	Type A	Type C
1	PD Cathode	PD Anode
2	PD Anode	LD Anode, PD Cathode
3	LD Anode, GRD	GRD
4	LD cathode	LD cathode

ORDERING OPTIONS:

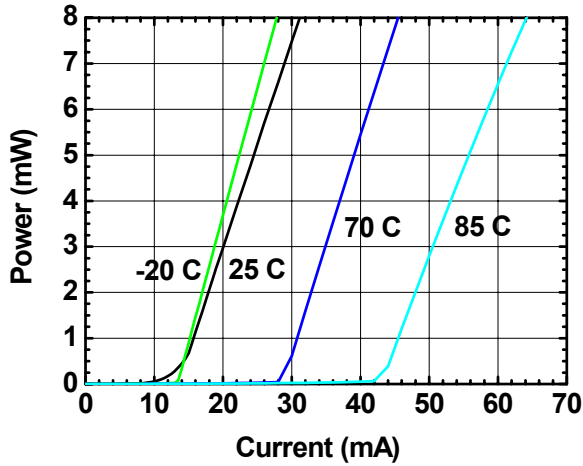
DFB-1310-T5-6-2.5-x-x-x



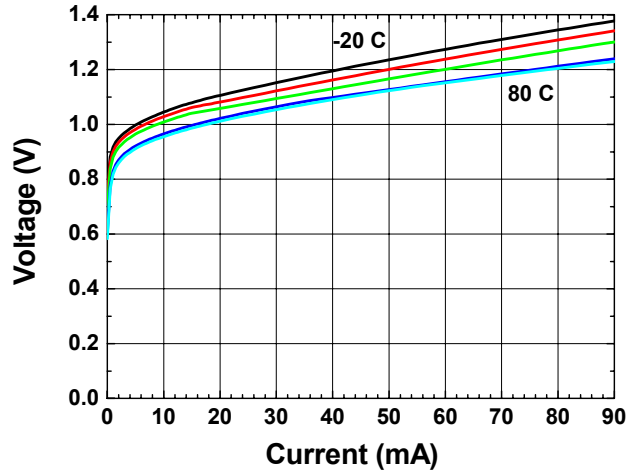
DFB-1310-T5-6-2.5-x-x-x

TYPICAL PERFORMANCE DATA (T=25 °C unless otherwise noted)

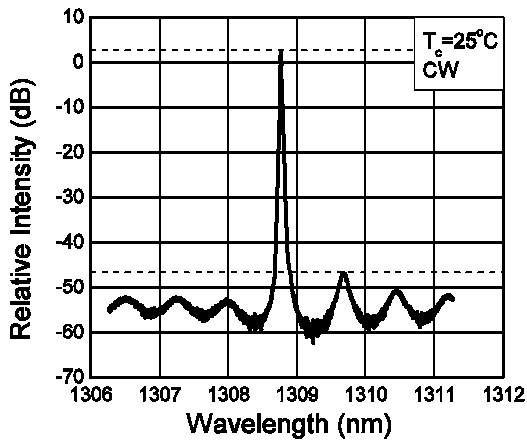
Output Power vs. Current



Forward Voltage vs. Current



Output Spectrum



DFB-1310-T5-6-2.5-x-x-x

Safety Information

All version of this laser are Class 3R laser products per IEC* 60825-1:2001. Users should observe safety precautions such as those recommended by ANSI** Z136.1-2000, ANSI Z36.2-1997 and IEC 60825-1:2001.

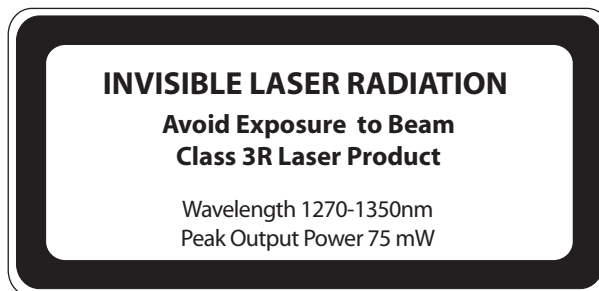
This product does not conform to 21 CFR 1040.10 and 1040.11. Consequently, this laser module is only intended for use as a component by manufacturers of electronic products and equipment.

Wavelength = 1.3 μ m
Maximum Power = 75 mW
Beam Divergence = 18° x 32°

Labeling is not affixed to the laser module due to size constraints; rather, labeling is placed on the outside of the shipping box.

This product is not shipped with a power supply.

Caution: use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



classified in accordance with IEC 60825-1:2001-08

*IEC is a registered trademark of the International Electrotechnical Commission

**ANSI is a registered trademark of the American National Standards Institute