



DFB

DFB-1653-CX-XX-XX

CH4 sensing with wavelength 1653.7nm

• Description

- The laser diode module of the DFB-1653-CX-XX-XX series is specifically designed for CH4 sensing with a centre wavelength of 1653.7nm.
- High output power, wide operating temperature range, and high side mode suppression are featured in the devices.
- These devices are packaged with coaxial type with TEC inside. The general operating temperature is set at 25°C for the laser chip.
- Many kinds of connectors are available, depending on the requirements.

• Features

- Advanced Multiple Quantum Well (MQW) Distributed Feedback (DFB) Laser Design
- Hermetical coaxial package with TEC
- SMSR typical 40 dB
- Standard SMF

• Applications

- CH4 sensing with wavelength 1653.7nm

• Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Max	Unit
Operating Case Temperature	Tc	I=Iop	-20	55	°C
Storage Temperature	Ts	--	-40	85	°C
Laser Forward Current	If	--	--	100	mA
Laser Reverse Bias	Vr	--	--	2	V
Photodiode Reverse Bias	Vrpd	--	--	10	V



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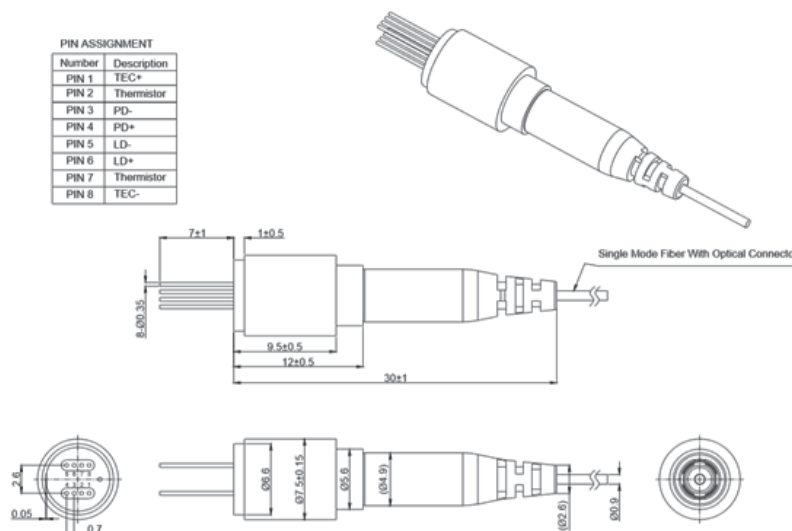
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• **Electrical/Optical Characteristics** (T=25°C, CW bias unless otherwise noted)

Parameter	Symbol	Min	Typical	Max	Unit	Test Conditions
Output Power	P _o	10	--	--	mW	I _{op} =100mA
Threshold Current	I _{th}	--	16	30	mA	T=25 °C
Forward Voltage	V _F	--	1.6	--	V	P _o =2.0 mW
Operating current	I _{op}	--	100	--	mA	
Center Wavelength	λ _c	1653.6	1653.7	1653.8	nm	
Spectral Width (-20 dB)	Deltaλ	--	0.1	0.4	nm	
Wavelength temperature coefficient	Deltaλ/T	--	0.10	--	nm/°C	
Side-mode Suppression Ratio	SMSR	--	40	--	dB	
Monitor Current	I _{mon}	75	--	1000	μA	V _R =5 V
Monitor Dark Current	I _D	--	--	200	nA	V _R =5 V
TEC	I _{max}	--	--	1.1	A	--
	V _{max}	--	--	1.1	V	--
	Q _{max}	--	--	0.75	W	--
	ΔT _{max}	--	--	70	K	--

- **Outline Drawing (mm)** Unspecified tolerance $\pm 0.1\text{mm}$



- **Part Number**

Part Number	Description
DFB-1653-CX-XX-SA	1653nm laser module with SC/APC connector, (XX- Fiber Length, such as 05-0.5m; 10-1.0m)
DFB-1653-CX-XX-FA	1653nm laser module with FC/APC connector, (XX- Fiber Length, such as 05-0.5m; 10-1.0m)
DFB-1653-CX-XX-SC	1653nm laser module with SC/PC connector, (XX- Fiber Length, such as 05-0.5m; 10-1.0m)
DFB-1653-CX-XX-FC	1653nm laser module with FC/PC connector, (XX- Fiber Length, such as 05-0.5m; 10-1.0m)