



D2710B/D2910B/D3110B/D3310B CWDM DFB Laser Diode Chip for use in uncooled applications up to 10 Gb/s

Description

The D2710B/D2910B/D3110B/D3310B Series Products are directly modulated 10Gbps DFB edge emitting laser diode chips with 1270nm, 1290nm, 1310nm and 1330nm wavelength options. The center wavelength tolerance of these diodes is $\pm 10\text{nm}$ and their operating temperature range is from -20°C to $+85^{\circ}\text{C}$. Product is available as tested die. All laser chips come from wafers that have been certified using a representative lot of devices that must achieve an acceptable yield for burn-in.

Key Features

- Multi Quantum Well Distributed Feedback Laser
- Reliable Buried Heterostructure Design
- 1270nm/1290nm/1310nm/1330nm $\pm 10\text{nm}$ tolerance
- Direct modulation up to 10Gbps over operating temperature
- Uncooled operation from -20°C to $+85^{\circ}\text{C}$
- Edge emitting laser (EEL)
- Designed for Telcordia GR-468

Applications

- QSFP, Optical Ethernet, Fiber Channel, Data Center

Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operations sections of the data sheet.

Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

PARAMETER	UNIT	MIN	MAX
Forward Current	mA		150
Front Power	mW		40
Reverse Voltage	V		2
Storage Temperature	C	-40	100

These maximum stresses are to be applied only after the chip is properly bonded to a heat sink at room temperature. Applying current to a bare chip can damage the device.

Electro-Optical Characteristics

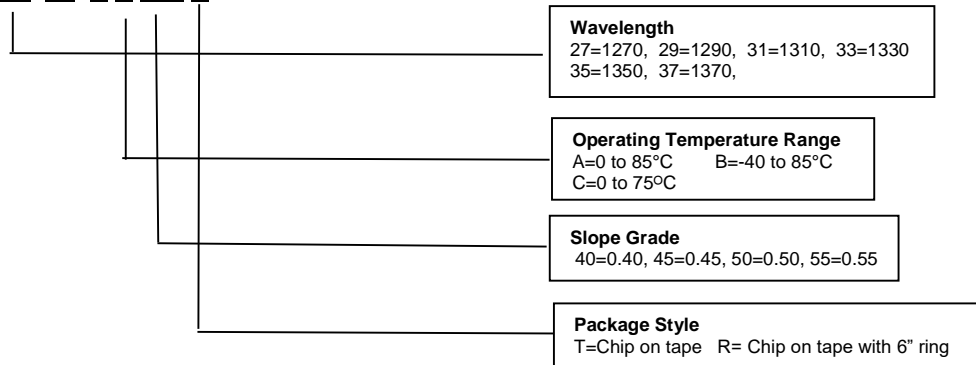
Parameters at 25C unless otherwise specified

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYPICAL	MAX	UNIT
Operating Temperature	T		-20		85	C
Threshold Current	I_{TH}	CW		7	12	mA
		T=85C CW		25	40	
Slope Efficiency	η	$I_F = I_{TH} + 20mA$	0.30	0.36		W/A
		T=85C $I_{TH} + 20mA$	0.13	0.16		
Optical Output Power	P	$I_F = I_{TH} + 20mA$	6	7		mW
		T=85C $I_{TH} + 20mA$	2.5	3		
Forward Voltage	V_F	$I_F = I_{TH} + 20mA$		1.2	1.5	V
Series Resistance	R	P = 3mW		6	10	Ohm
Reverse Current	I_R	$V_F = -2V$		<0.1	1	mA
Wavelength	λ	P = 5mW	$\lambda_c - 10$	λ_c	$\lambda_c + 10$	nm
Wavelength Temperature Coefficient	$d\lambda/dT$	T = -20C~+85C		0.1		nm/C
Side Mode suppression Ratio	SMSR	P = 5mW	30	40		dB
Far field (Vertical)	θ_v	P = 5mW		31	33	Degrees
Far field (Horizontal)	θ_h	P = 5mW		26	30	degrees
Small Signal Modulation Bandwidth(3dB)	BW	$I_{TH} + 30mA$, 25C $I_{TH} + 30mA$, 85C		14 11		GHz
Rise Time	τ_R	unfiltered, 20~80% ER=6dB			60	ps
Fall Time	τ_F	unfiltered, 20~80% ER=6dB			60	ps

I_F = forward current V_F = forward voltage λ_c = center wavelength. See ordering information

Ordering Information

D XX 10 B X XX X



For additional information, contact your Lasercom Account manager

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