OHD-C310-BD

70mW High Power CWDM DFB-LD Chip, 1310nm

OHD-C310-BD is a distributed feedback (DFB) laser diode with CWDM wavelength 1310nm; it is designed for high power operation at commercial temperature range.

KEY FEATURES

- ✧ Reliable ridge DFB laser diode
- ✧ Over 70mW high power operation at commercial temperature range

APPLICATION

- ✧ Silicon photonics

ELECTRICAL AND OPTICAL CHARACTERISTICS

Expected performance is not guaranteed. Assembly process may impact the parameter values.

ELECTRICAL AND OPTICAL CHARACTERISTICS (Test temperature= 25°C, unless otherwise specified)						
Symbol	**Parameter**	**Test Conditions**	**Min.**	**Typ.**	**Max.**	**Unit**
P_o	Output power	If =210 mA, T_{LD} =25℃	70			mW
		If =250mA, T_{LD} =75℃	70			
I_{th}	Threshold Current	T_{LD} =25℃		30		mA
		T_{LD} =75℃		35		
V_{op}	Operating Voltage	Pulsed, Po=70mW,T_{LD} = 75℃		2.0		V
λ_p	Peak Wavelength	Pulsed, Po=70mW	1304.5	1311.0	1317.5	nm
SMSR	Side Mode Suppression Ratio	Pulsed, Po=70mW	35			dB
F_v	Far-field Angle, Vertical	FWHM		23	27	deg
F_h	Far-field Angle, Horizontal	FWHM		23	27	deg
RIN	Relative Intensity Noise	Po=70mW			-135	dB / Hz

ABSOLUTE MAXIMUM RATINGS

Values should not be exceeded in any conditions to avoid permanent device damage.

ABSOLUTE MAXIMUM RATINGS				
Symbol	**Parameter**	**Min**	**Max**	**Unit**
V_{RL}	LD Reverse Voltage		2	V
If	LD Forward Current		500	mA
Po	Optical Output Power		100	mW
T_C	Operating temperature	0	75	ºC
T_{stg}	Storage Temperature	-40	85	ºC

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BURN-IN CONDITIONS

Optoway will provide recommended burn-in condition. Optoway will further help customers define new burn-in conditions depending on different TOSA structures or materials.

WAFER QUALIFICATION

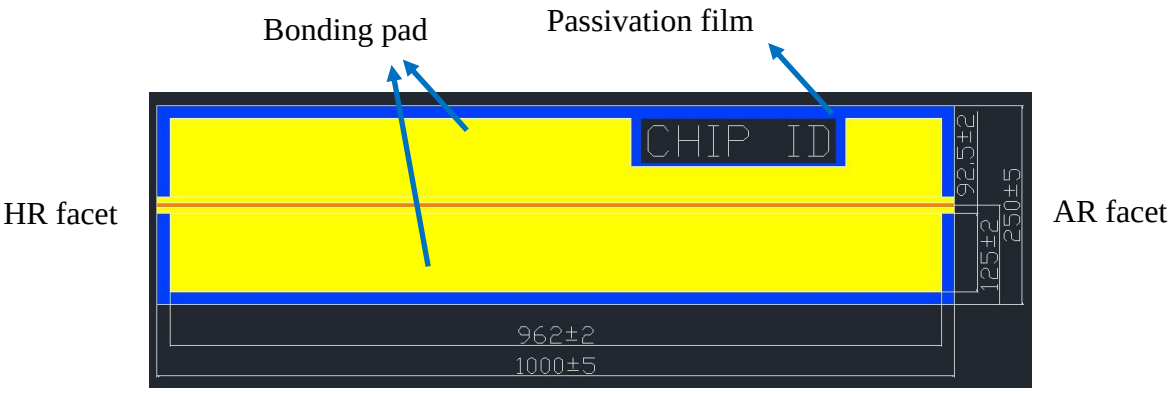
Optoway performs the wafer qualification test which includes die bonding / wire bonding test, burn-in test, and O/E characteristics test. Only the chips from qualified wafers will be shipped. All tests are carried out on chip carrier and TO CAN.

CHIP TEST FOR SHIPMENT

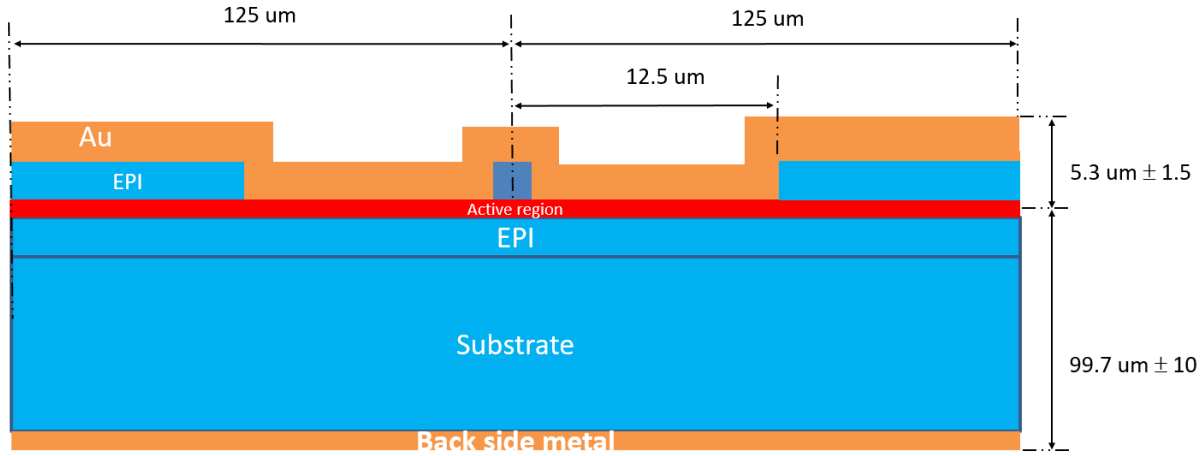
ELECTRICAL AND OPTICAL CHARACTERISTICS (Test temperature = 75°C, unless otherwise specified)						
Symbol	**Parameter**	**Test Conditions**	**Min.**	**Typ.**	**Max.**	**Unit**
I_{th}	Threshold Current	Pulsed		35	45	mA
P_o	Optical Output Power, Broad Area PD	Pulsed, 250mA	70			mW
λ_p	Peak Wavelength*	Pulsed, 70mW	1304.5	1311.0	1317.5	nm
SMSR	Side Mode Suppression Ratio	Pulsed, 70mW	35			dB

MECHANICAL DIMENSIONS (μm)

Top view

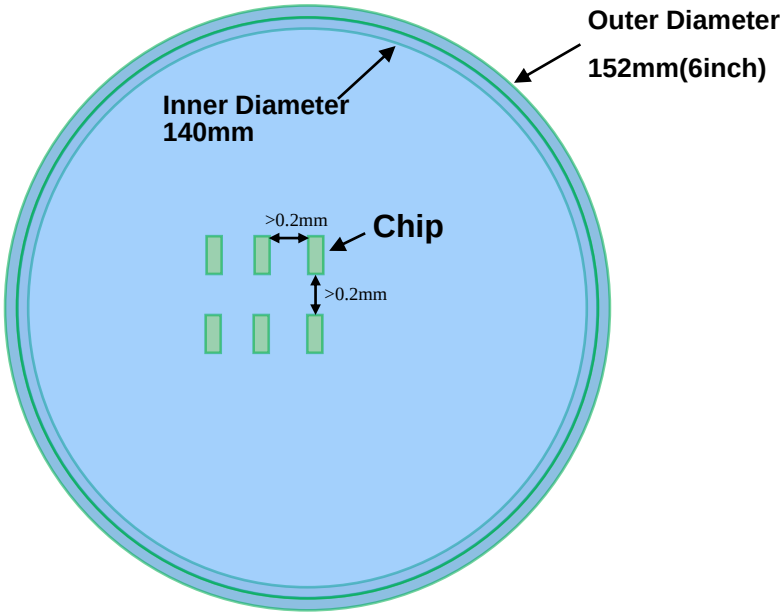


Cross-section



PACKAGE INFORMATION

- ✧ Chips will be put on the blue tape, as below figure shown.
- ✧ Distance between chips >0.2mm



DEVICE HANDLING

- ✧ The chip is sensitive and should be handled with care. Both waveguide section and cavity facets should not be touched to avoid any damage.
- ✧ Electrostatic discharge may cause direct or latent damage to laser diodes. During laser chip assembly, precautions for handling electrostatically sensitive devices must be observed.

REVISION HISTORY

Version	Subject	Release Date
1.0	Initial release	2023/7/28