WAVESPLITTER™ TECHNOLOGIES, INC.

Data Sheet

70mW CW CWDM DFB Laser Chip (1270~1330nm)
P/N: WCH-Cxx8-007

DESCRIPTION: 70mW CWDM Wavelength CW DFB Laser Chip

70mW at CWDM wavelength high power laser chip is a single-mode, edge-emitting laser diode chip emitting at CWDM for use in uncooled applications up to 70mW output power. The facets are coated with an anti-reflectance layer on the front facet and a high-reflectance coating on the rear facet. Gold bonding pads are provided on both the p and n sides.

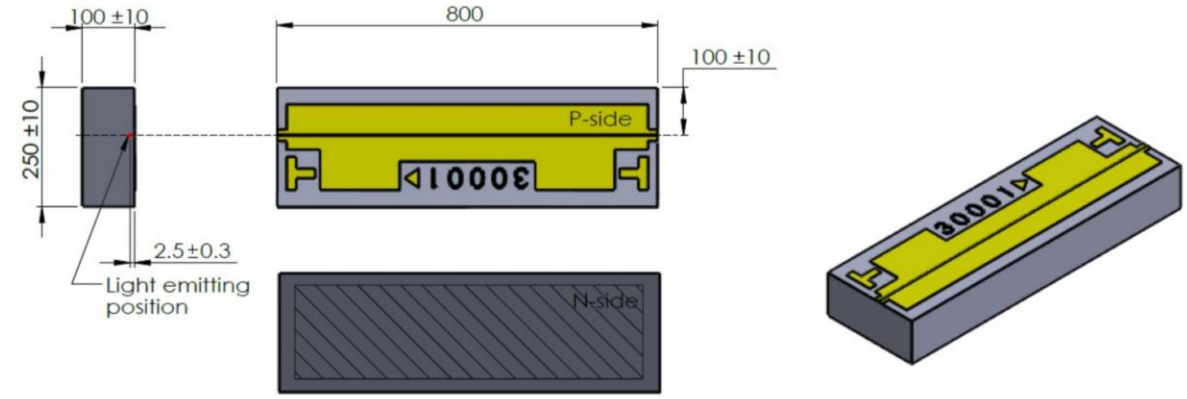
ABSOLUTE MAXIMUM RATINGS

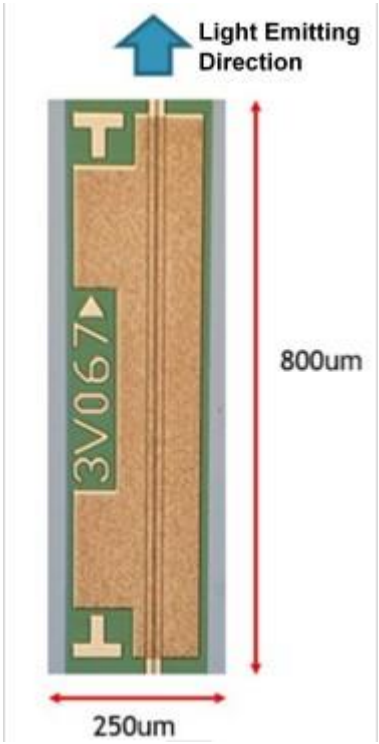
Parameter	Symbol	Conditions	Min.	Max.	Unit
Operating Temperature	T_{op}	---	-5	+75	°C
Storage Temperature	$T_{Storage}$	---	-40	+85	°C
Solder Reflow Temperature	STEM	10sec Max.	--	260	°C
Maximum Power	P_o		---	120	mW
Laser Reverse Voltage	V_r	---	---	2	V

ELECTRICAL AND OPTICAL CHARACTERISTICS *(Tc=25°C, unless noted)*

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Threshold Current	I_{th}	CW, T_c = 25°C CW, T_c = 75°C	---	20 40	40 60	mA
Operating Current	I_{OP}	P0=70mW, 25°C		180	300	mA
		P0=70mW, 75°C		275	350	
Operating Voltage	V_{OP}	P0=70mW	---	1.4	2	V
Series Resistance	R_s	CW, I_{op} = I_{th}+30mA	---	2.3	5	Ohm
Slope Efficiency	SE	CW, I_{op} = I_{th}+30mA	0.35	0.45	0.55	mW/mA
Side Mode Suppression Ratio	SMSR	T_c= -5°C ~ +75°C	35	---	---	dB
Peak Wavelength WCH-C278-007 WCH-C298-007 WCH-C318-007 WCH-C338-007	λ	CW, I_{op}=160mA, T_c= -5°C ~ +75°C	 1265 1285 1305 1325	 1270 1290 1310 1330	 1277 1297 1317 1337	nm
Wavelength Temperature Coefficient	Δλ/ ΔT	T_{op} = -5°C ~ +75°C	---	0.095	---	nm/°C
Beam Divergence ⊥	($\theta_{\perp}$)	FWHM @	---	24	---	degree
Beam Divergence //	($\theta_{//}$)	Po=70mW	---	15	---	degree
Relative Intensity Noise	RIN_f	Po=70mW	---	---	-138	dB/Hz

OUTLINE DIMENSIONS





Chip configuration:

1. Top contact: anode; Bottom contact: cathode.
2. Dimension: 250 μm (width) x 800 μm (cavity length) x 100 μm (thickness)

Tolerance: ± 10 μm (Thickness)

± 20 μm (Width, Length)

ORDER INFORMATION

P/N	Description	NOTE
WCH-C278-007	CW DFB 1271 nm chip high power 70 mW @-5~75C	V250X800
WCH-C298-007	CW DFB 1291 nm chip high power 70 mW @ -5~75C	V250X800
WCH-C318-007	CW DFB 1311 nm chip high power 70 mW @-5~75C	V250X800
WCH-C338-007	CW DFB 1331 nm chip high power 70 mW@ -5~75C	V250X800

Modification History

Revision	Date	Description	Originator	Review	Approved
V1.0	6-Feb-2023	New Issue	Ben Chang	Cliff Wang	Cliff Wang

WAVESPLITTER TECHNOLOGIES, INC.

Taipei Headquarters
16F-5, No. 75, Sec. 1,
Xintai 5th Rd., Xizhi
Dist., New Taipei City
22101, Taiwan
Tel: +886-2-2698-7208
Fax: +886-2-2698-7210

U.S. Branch
2080 Rancho Higuera Ct.
Fremont, CA 94539,
USA
Tel: 510-651-7800
Fax: 510-651-7822