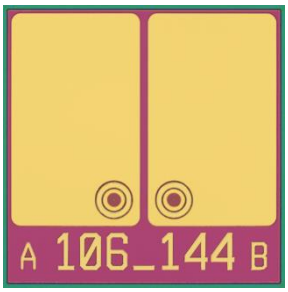
761 nm/763 nm Single-Mode VCSEL

XCV001B01-761-P

XCV001B01-763-P



- Vertical Cavity Surface-Emitting Laser
- Dual-Aperture Design for excellent Reliability
- High Performance for Oxygen Sensing

PRELIMINARY

ELECTRO-OPTICAL CHARACTERISTICS

T = 25°C unless otherwise stated

PARAMETER	SYMBOL	UNITS	MIN	TYP	MAX	TEST CONDITIONS
Threshold current	I_{TH}	mA		0.3		
Threshold voltage	U_{TH}	V		1.8		
Output power	P_{opt}	mW	0.3	0.5		
Laser current	I_{OP}	mA			2	
Laser voltage	U_{OP}	V		2.35		I = 2 mA
Wallplug efficiency	η_{WP}	%		13		I = 2 mA
Slope efficiency	η_S	W/A		0.4		
Differential series resistance	R_S	Ω		200		I = 2 mA
Side mode suppression ratio	SMSR	dB	30			I = 2 mA
Beam divergence	θ	°		15		I = 2 mA, full width 1/2
Spectral bandwidth		MHz		100		I = 2 mA
Wavelength tuning over current		nm/mA		0.76		
Wavelength tuning over temperature		nm/K		0.06		

NOTICE: Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under Recommended Operating Conditions is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

ATTENTION: Electrostatic Sensitive Devices
Observe Precautions for Handing.

Absolute Maximum Ratings

Storage Temperature	-40 ... 125°C
Operating Temperature	-40 ... 85°C
Electrical Power Dissipation	5 mW
Continous forward laser current	2 mA
Continuous reverse current	10 mA

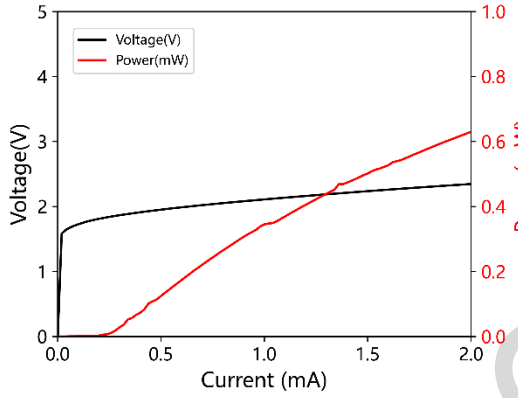
SELECTION CRITERIA

T = 25°C, I = 2mA unless otherwise stated

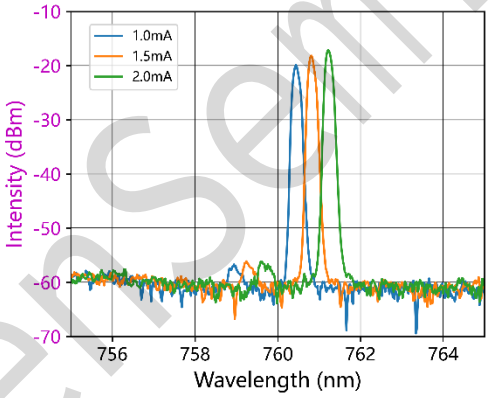
PN	Power (min)	Wavelength
XCV001B01-761-03	0.3 mW	761±1 nm
XCV001B01-761-05	0.5 mW	761±1 nm
XCV001B01-763-03	0.3 mW	763±1 nm
XCV001B01-763-05	0.5 mW	763±1 nm

XCV001B01-761

LIV

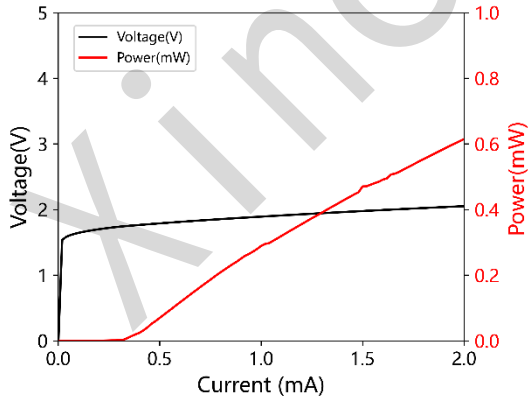


Spectral characteristics

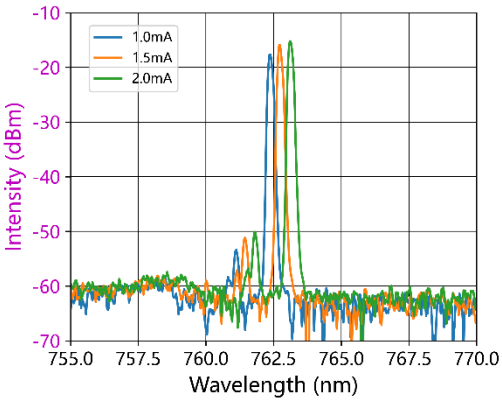


XCV001B01-763

LIV

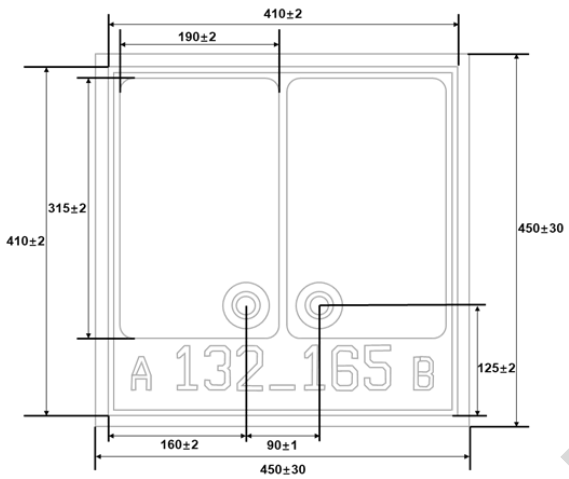


Spectral characteristics

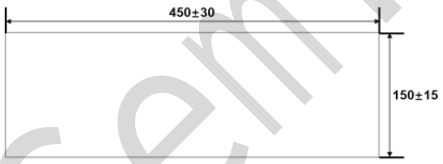


Die Physical Dimensions and Mechanical Drawing

Parameter	Min. (μm)	Max. (μm)
Length	420	480
Width	420	480
Thickness	135	165



Topview



Sideview

NOTE: All measurements are in microns (μm).

There are two anode pads on the top of the chip, which are connected to two emission apertures. The substrate is conducting (n-type). The backside of the chip is metallized as cathode.

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