

850nm Implant Single Mode VCSEL Chip

- Chips are made by proprietary implant process, which guarantee a high ESD value of > 400V
- > 0.5 mW single-mode optical power with a minimum 20 dB SMSR
- Fully compatible with Logitech laser mouse solution

ALVL-85-C01

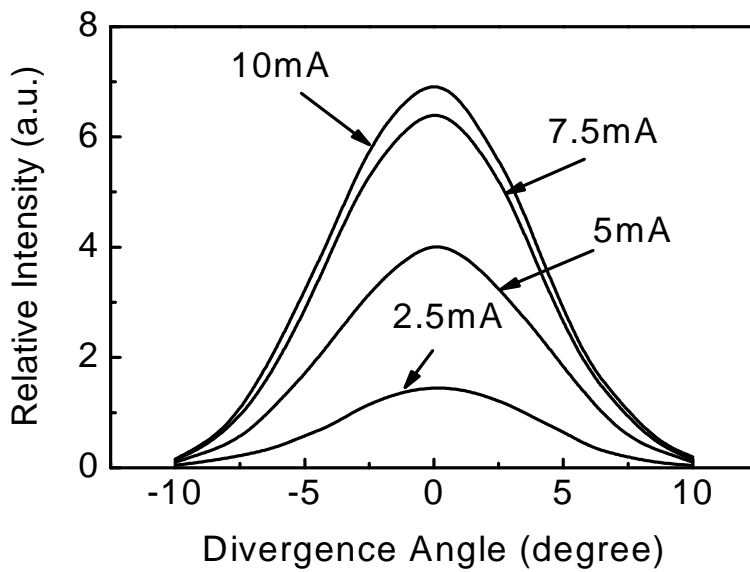
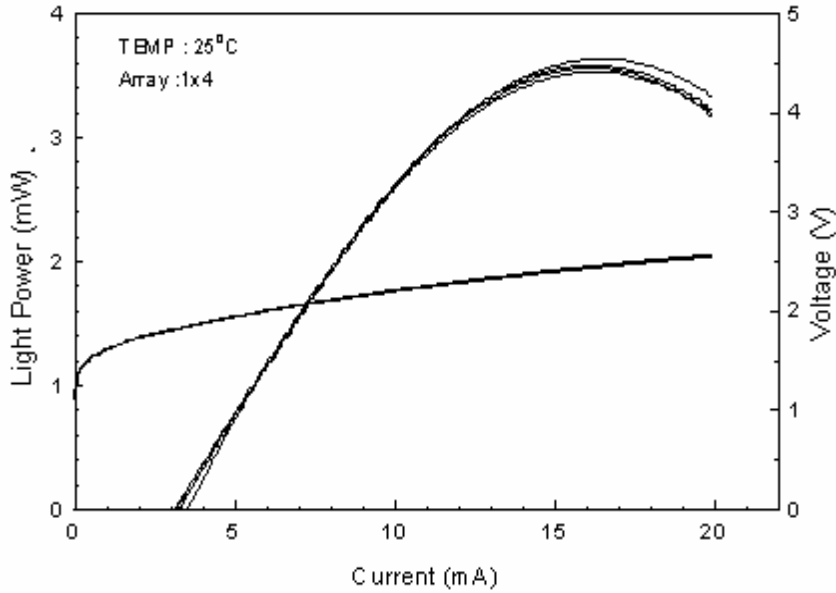
Absolute Maximum Ratings:

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Optical Power	P _o	0.5			mW	CW
Storage Temperature		-40		85	°C	
Operating Temperature		-0		70	°C	
Reverse Voltage	V _R	5			V	

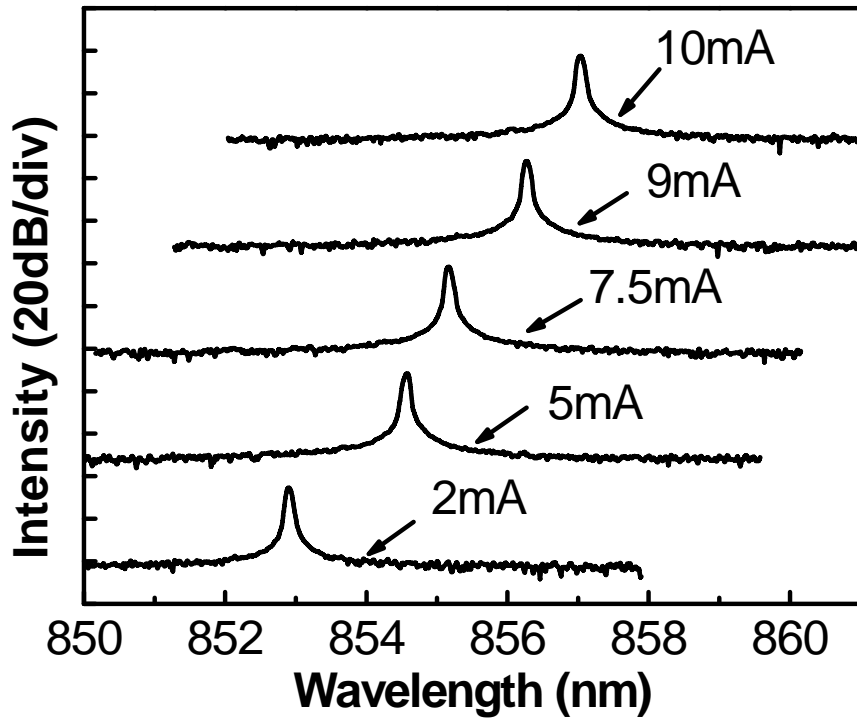
Optical / Electrical Characteristics (T=25°C):

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Optical Output Power	P _o	0.5			mW	I _F =10mA
Forward Voltage	V _F			3.0	V	I _F =10mA
Threshold Current	I _{th}		4	6	mA	
Operating Current	I _{op}	2		12	mA	P _o =1.0 mW
Operating Voltage	V _{op}			2.5	V	P _o =1.0 mW
Center Wavelength	λ _c	840	850	860	nm	
Side Mode Suppression Ratio	SMSR	20			dB	
Beam Divergence	θ _{FWHM}		8		deg	I _F =10mA
Slope Efficiency	η	0.1			mW/mA	0.5~1.0mW
Series Resistance	R _s			150	Ω	
ESD Threshold	ESD	1 k			V	Human body mode

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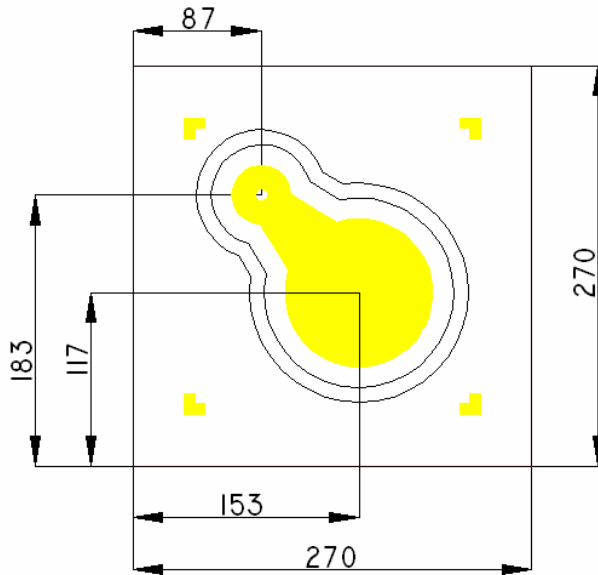


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Chip configuration:

1. Top contact: Anode; Bottom contact: Cathode.
2. Dimension: 270 μm (width) x 270 μm (length) x 130 μm (thickness)
Tolerance: $\pm 12.5\mu\text{m}$
3. Bond pad size: 100 μm diameter.

VL-85-C single-mode VCSEL chip drawing



Unit : μm