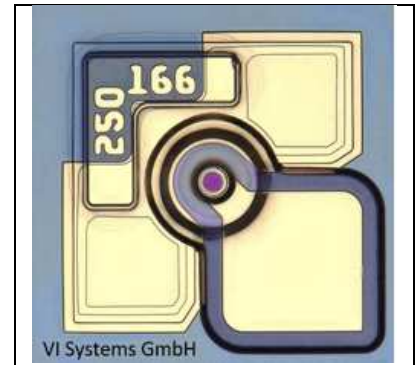


25 Gbit/s NRZ VCSEL (850nm)

Product Code:	V25-850C1	1x1 chip
	V25-850C4	1x4 array
	V25-850C12	1x12 array



VI Systems GmbH

Actual product may vary in appearance.

Product Description

These compact and very high modulation rate top-emitting GaAs-based vertical cavity surface emitting laser (VCSEL) chips and 1xN (N=4,12) arrays are available as engineering samples for use in the development and evaluation of optical interconnections, optical backplanes and integrated waveguides, and next-generation optical data communications systems. The VCSELs are contacted on the top-surface individually using ground-source (GS) microprobes, wire bonds, or flip-chip bonds.

Features

- 4-ch or 12 chip arrays
- Up to 28 Gbit/s per channel
- Device-to-device pitch of 250 μm
- Suitable for wire or flip-chip bonding

Applications

- Ethernet
- Proprietary optical interconnects
- Active Optical Cables (AOC)
- Short-reach 25G and 100G Ethernet

Parameter	Typical	Notes
Emission wavelength	850 nm	
Data rate	25 Gbit/s	
Threshold current	< 0.5 mA	
Peak output power	3 mW	

All product specifications and descriptions are subject to change without notice.

Please contact our sales department for additional information and to receive a quotation: sales@v-i-systems.com

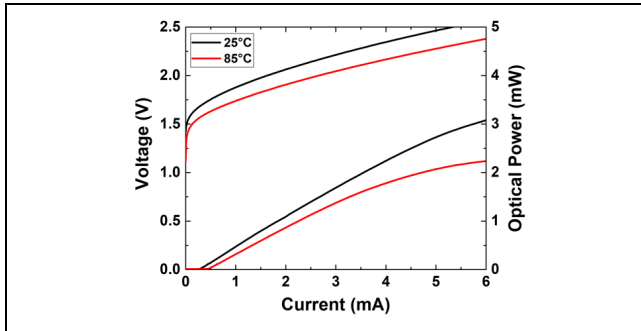
Datasheet

V25-850Cxx

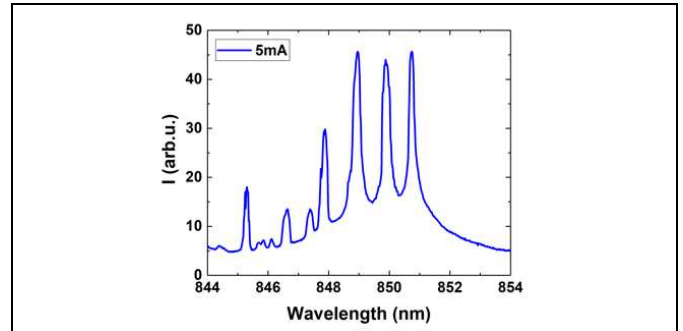


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L-I-V Diagram



Optical spectrum



Electro-optical characteristics (T = 0 to 85 °C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Emission wavelength	λ		840		860	nm
Maximum data rate	BR			25	28	Gbit/s
Optical bandwidth	BW (f_{3dB})			19		GHz
Slope efficiency	η	5 mA	0.3		0.5	W/A
Threshold current	I_{th}	25-85°C			0.8	mA
Differential resistance	R_d	5 mA		80	100	Ω
Beam divergence	θ	FWHM		20		°
Peak output power	P_{max}			3	4	mW
Spectral bandwidth (RMS)	$\Delta\lambda_{RMS}$	5 mA		0.6	0.8	nm

Absolute Maximum Ratings

Parameter	Symbol	Test Condition	Min	Max	Unit
Peak forward current	I_f			9	mA
Maximum reverse voltage	V_{rv}			5	V
Operating temperature	T_{op}			85	°C
Storage temperature	T_{st}		-40	100	°C
Soldering temperature	T_{sl}	max 260 sec		150	°C

Mechanical Dimensions

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www.v-i-systems.com

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Datasheet

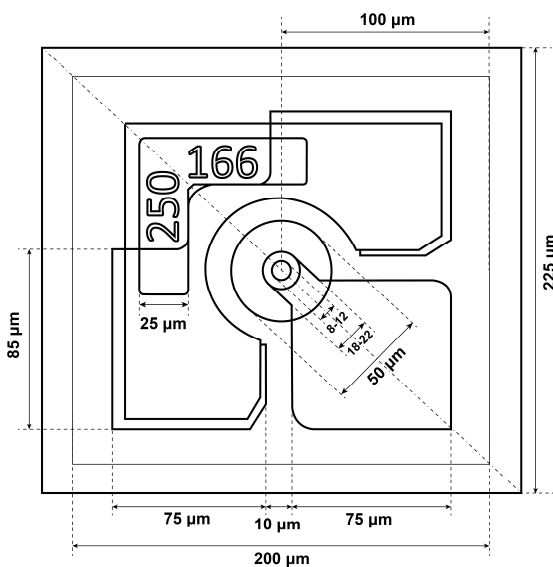
V25-850Cxx



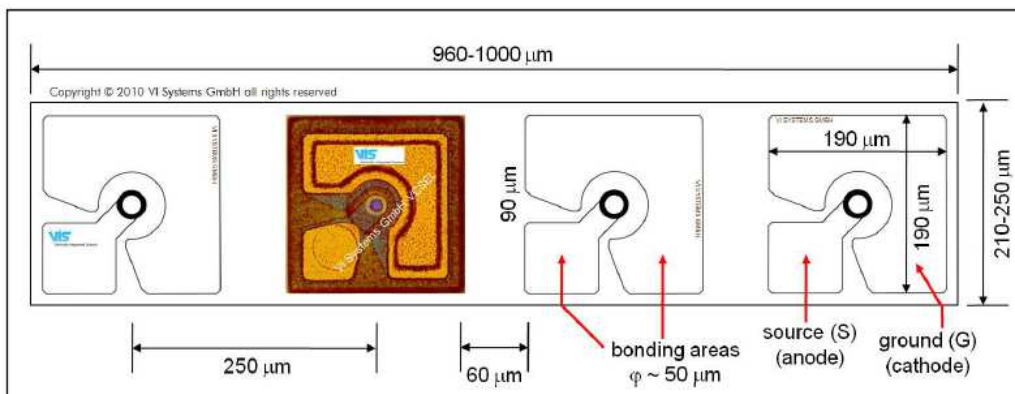
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Parameter	Type	Min	Typ	Max	Unit
VCSEL pitch	All		250		μm
Length 1x1 VCSEL chip	V25-850C1		210	250	μm
Length 1x4 VCSEL array	V25-850C4		960	1000	μm
Length 1x12 VCSEL array	V25-850C12		2960	3000	μm
Height	All	140	150	160	μm
Width	All		210	250	μm

Dimensions (singlet)



Dimensions (4-ch chip array)



Qualification Notification

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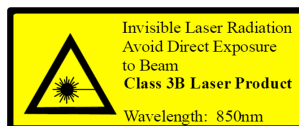
Datasheet

V25-850Cxx



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The V25-850Cxx has been qualified to meet the specifications outlined in this data. A reliability assessment report is available as a separate document.



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