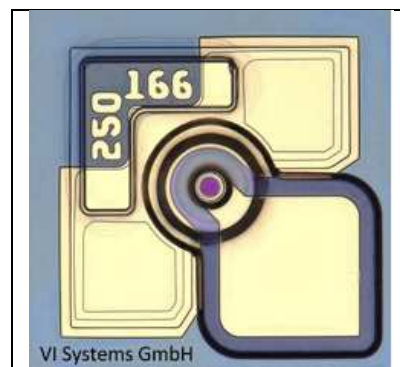


## 25 Gbit/s NRZ VCSEL (850nm)

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



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  $\mu$ m
- 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](mailto:sales@v-i-systems.com)

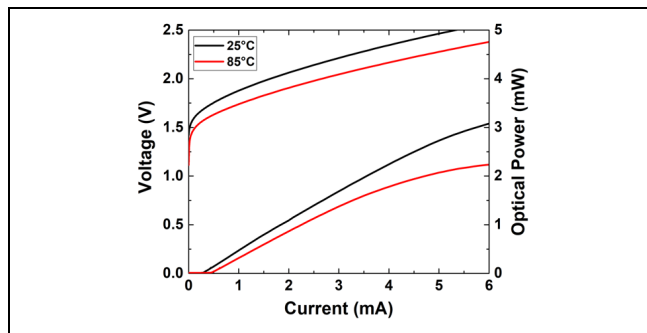
# Datasheet

## V25-850Cxx

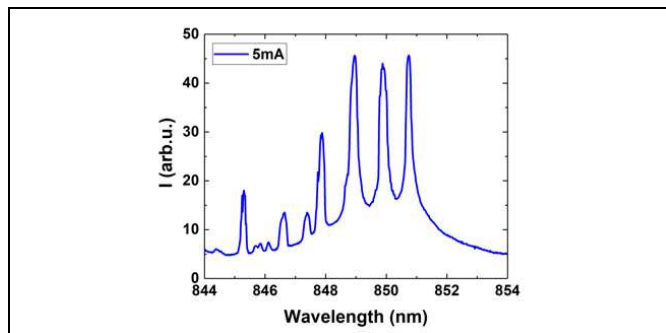


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### L-I-V Diagram



### Optical spectrum



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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Emission wavelength	$\lambda$		840		860	nm
Maximum data rate	BR			25	28	Gbit/s
Optical bandwidth	BW ( $f_{3dB}$ )			19		GHz
Slope efficiency	$\eta$	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	$\Omega$
Beam divergence	$\theta$	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

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# Datasheet

## V25-850Cxx

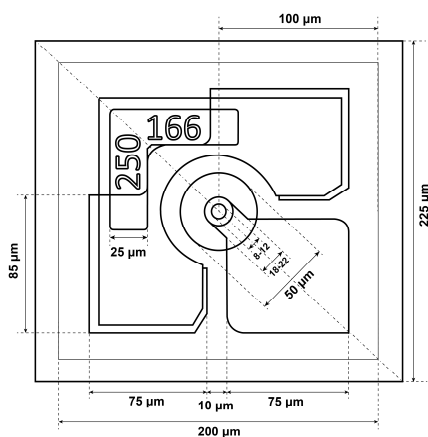


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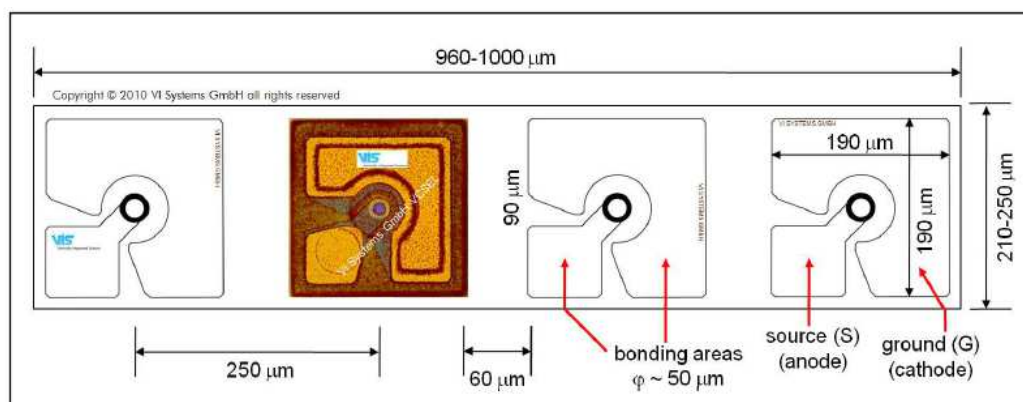
### Mechanical Dimensions

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

### Dimensions (singlet)



### Dimensions (4-ch chip array)



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# Datasheet

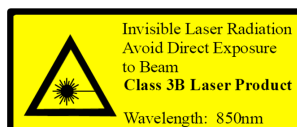
## V25-850Cxx



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### Qualification Notification

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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