



# VCCA4-85A14G

## 14Gbps 850nm Multimode VCSEL Array

Data Sheet

### Features

- Multi-mode 850nm VCSEL chip array
- High data rate 14Gbps
- 1x4 chip array
- Two top-side wire bond pads

### Applications

- High speed Data communications
- Gigabit ethernet
- Fiber channel

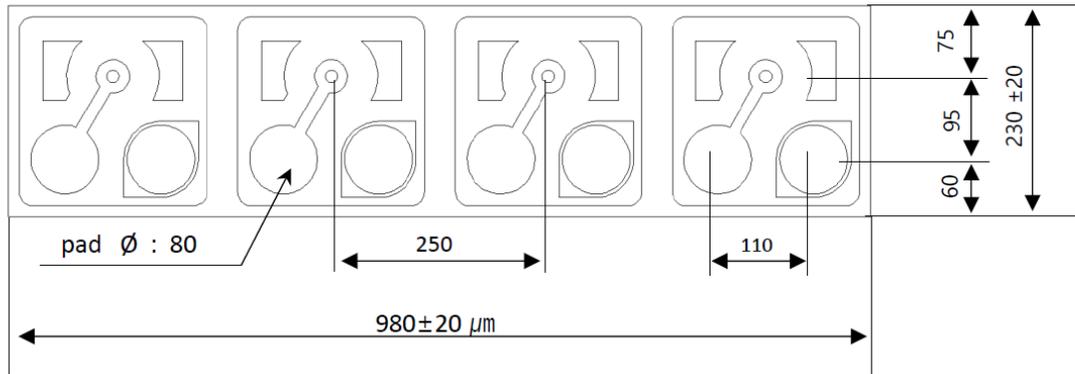
### Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	100	°C	
Operating Temperature	0	85	°C	
Continuous Forward Current		10	mA	
Continuous Reverse Voltage		5	V	10uA

Electro-Optical Characteristics (T <sub>a</sub> =25°C unless otherwise stated)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I <sub>th</sub>		0.6	1.2	mA	CW
I <sub>th</sub> Uniformity within Array	ΔI <sub>th</sub> <sup>a</sup>			0.2	mA	CW
Slope Efficiency	η		0.5		W/A	I <sub>f</sub> =6mA
Optical Output Power	P <sub>o</sub>		3.0		mW	I <sub>f</sub> =6mA
P <sup>o</sup> Uniformity within Array	Δ P <sub>o</sub> <sup>a</sup>			0.3	mW	I <sub>f</sub> =6mA
Peak Wavelength	λ <sub>P</sub>	840	850	860	nm	I <sub>f</sub> =6mA at room temperature
Spectral Bandwidth (RMS)	Δλ			0.5	nm	I <sub>f</sub> =6mA
Beam Divergence	Θ	14		30	°	I <sub>f</sub> =6mA, (Full Width, 1/e <sup>2</sup> )
Forward Voltage	V <sub>f</sub>		2.2	2.5	V	I <sub>f</sub> =6mA
Breakdown Voltage	V <sub>b</sub>		-10		V	
Dynamic Resistance	R <sub>d</sub>		80	100	Ohm	I <sub>f</sub> =6mA
Small Signal Bandwidth	f <sub>-3dB</sub>		12		GHz	I <sub>f</sub> =6mA

Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
I <sub>th</sub> Temperature Variation	ΔI <sub>th</sub>		1.5		mA	T <sub>a</sub> =0 to 85°C
η Temperature Coefficient	Δη/ΔT		-0.5		%/°C	T <sub>a</sub> =0 to 85°C, I <sub>f</sub> =6mA
λ Temperature Coefficient	Δλ/ΔT		0.06		nm/°C	T <sub>a</sub> =0 to 85°C, I <sub>f</sub> =6mA

**Outline Dimensions**



unit :  $\mu\text{m}$

Die Height :  $150 \pm 15 \mu\text{m}$

**Additional Notes**

- The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product.
- Specifications are subject to change without notice.