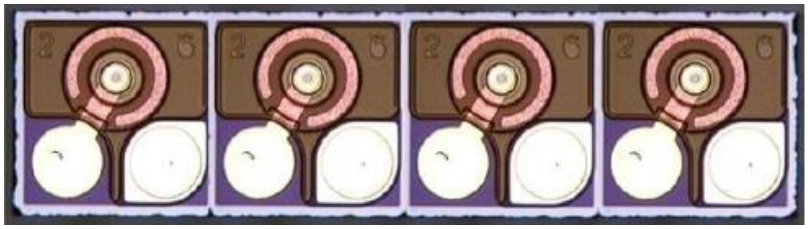
14Gbps 850nm 1x4 VCSEL Chip Array

Part No. VCCA4-85A14G



Features

- Multi-mode 850nm VCSEL chip array
- High data rate up to 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_a=25°C unless otherwise stated)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}		0.6	1.2	mA	CW
I_{th} Uniformity within Array	ΔI_{th}[a]			0.2	mA	CW
Slope Efficiency	η		0.4		W/A	I_f=6mA
Optical Output Power	P_o		2.5		mW	I_f=6mA
P^o Uniformity within Array	ΔP_o[a]			0.3	mW	I_f=6mA
Peak Wavelength	λ_P	840	850	860	nm	I_f=6mA at room temperature
Spectral Bandwidth (RMS)	$\Delta\lambda$			0.5	nm	I_f=6mA
Beam Divergence	Θ	14		30	°	I_f=6mA, (Full Width, 1/e^2)
Forward Voltage	V_f		2.2	2.5	V	I_f=6mA
Breakdown Voltage	V_b		-10		V	
Dynamic Resistance	R_d		80	100	Ohm	I_f=6mA
Small Signal Bandwidth	f_{-3dB}		12		GHz	I_f=6mA

Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
I_{th} Temperature Variation	ΔI_{th}		1.5		mA	T_a=0 to 85°C
η Temperature Coefficient	$\Delta\eta/\Delta T$		-0.5		%/°C	T_a=0 to 85°C, I_f=6mA
λ Temperature Coefficient	$\Delta\lambda/\Delta T$		0.06		nm/°C	T_a=0 to 85°C, I_f=6mA

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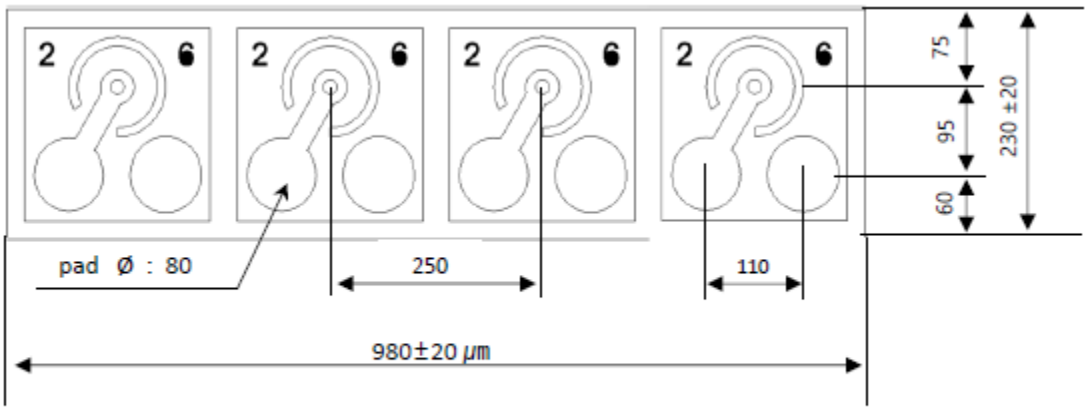
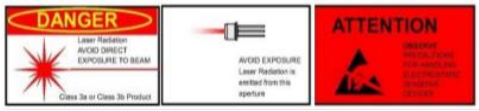
Outline Dimensions



unit : μm

Die Height : 150±15μm

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.

The VCSEL is a class IIIb laser and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification/identification label cannot be placed on the component itself.

Note: Specifications are subject to change without notice.

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