



High Speed 14Gbps 850nm Multimode VCSEL 1x4 Chip Array VCCA4-85A14G

Data Sheet

Features

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

Applications

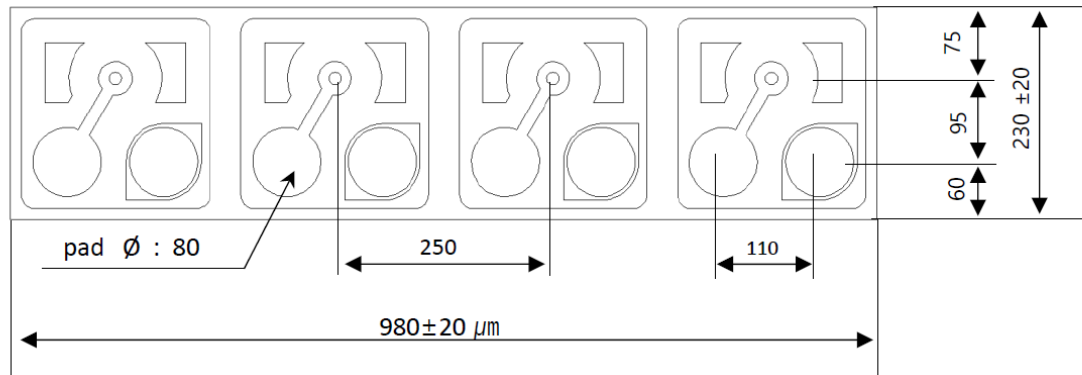
- High speed Data communications
- Gigabit ethernet
- Fiber channel

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 _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 | | 0.5 | | W/A | I _f =6mA |
| Optical Output Power | P _o | | 3.0 | | 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) | Δλ | | | 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 | Δη/ΔT | | -0.5 | | %/°C | T _a =0 to 85°C, I _f =6mA |
| λ Temperature Coefficient | Δλ/ΔT | | 0.06 | | nm/°C | T _a =0 to 85°C, I _f =6mA |

Outline Dimensionsunit : μm 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.