850nm 1000mW VCSEL Chip
VCC-85A1WH

Data Sheet

Features

- 850nm multi-emitter VCSEL chip
- Typical 1W peak pulse output at 1.2A
- Number of emitters: 202
- High PCE (Power Conversion Efficiency): 38%
- 0 to 65ºC operating temperature
- Chip size: 798 x 668 ± 15 um
- Chip thickness: 120 ± 15 um

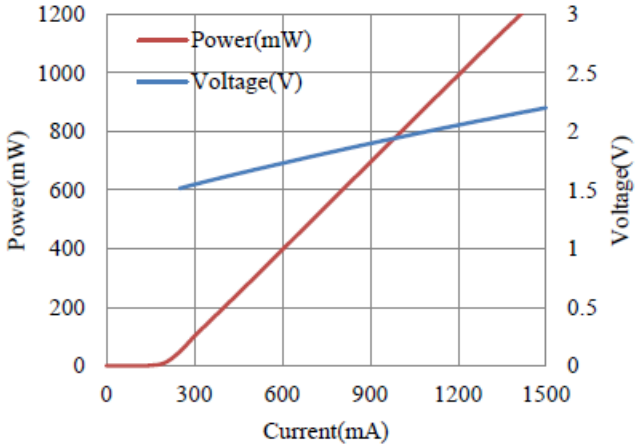
Specifications

Absolute Maximum Ratings				
Parameters	Min	Max	Unit	Conditions
Storage Temperature	-40	100	°C	
Operating Temperature	0	65	°C	
Peak Operation Current		2	A	Pulse width=0.3ms / duty cycle=1%
Solder Reflow Temperature		260	°C	Max 10 seconds

Electro-Optical Characteristics (T_a=25ºC unless otherwise stated, pulse width=0.3ms, duty cycle=1%)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}		0.2		A	
Slope Efficiency	η		0.9		W/A	
Optical Output Power	P_o	0.85	1	1.15	W	I_f=1.2A
Wavelength	λ_p	840	850	860	nm	I_f=1.2A
Power Conversion Efficiency	PCE		38		%	I_f=1.2A
Beam Divergence	Θ		25		°	I_f=1.2A (1/e^2)
Forward Voltage	V_f		2.1	2.3	V	I_f=1.2A
Wavelength Shift	$\Delta\lambda/\Delta T$		0.07		nm/°C	I_f=1.2A

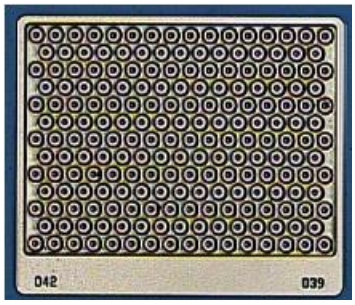
Typical Characteristics

LIV Graph



Typical electro / optical characteristics curves measured at 25℃, pulse width = 0.3ms / duty cycle = 1%

Outline Dimensions



- Chip length: 798um +/- 10um
- Chip width: 668um +/- 10um
- Chip thickness: 120 +/- 15um
- Anode bond pad: 560x90 um
- Emission area: 480um x 690um
- Number of apertures: 202

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.