

Data Sheet

940nm 1W VCSEL Moudle

Dogain Optoelectronic Technology(Suzhou)Co.,Ltd

PN: DG-VP-A940-1WBC65 模组

Rev. 1.0

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Note:Customers represent that they have all the necessary expertise to createand implement their own safeguards that anticipate dangerous failures, monitor failures and their consequences,lessen the likelihood of dangerous failures and take appropriate remedial actions.

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Revision History			
Rev.	Effective Date	Revised By.	The Main Contents Revised.
A00	2026.02.26	Xiao bao Wan	Initial version released

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Product Introduction

Performance characteristics

- **High output power** : Output optical power is 850mW on QCW with heatsink temperature 50°C.
- **The wavelength characteristics are stable** : Comparing the edge emission module, the spectral line width is 4nm, and the temperature drift coefficient is 0.07nm / °C.
- **Other wavelengths, chip dimensions, and emitter patterns are available according to customer request.**

Application scenarios

- Medical Beauty
- Consumer electronics

Electro-optical characteristics (25°C)

Parameters	Symbol	Min	Typical	Max	Units	Test Condition
Optical Output Power	P _{OP}	800	850	-	mW	Pulse 1.1A 50°C
Optical Output Power	P _{OP}	300	350	-	mW	CW 500mA 25°C
Threshold Current	I _{th}	-	90	200	mA	Pulse 50°C
Operating Current	I _{op}	-	1.1	-	A	Pulse 50°C
Differential resistance	R _s	-	0.5	0.7	Ω	Pulse 1.1A 50°C
Operating Voltage	V _{op}	-	2.0	2.4	V	Pulse 1.1A 50°C
Slope Efficiency	η _s	0.80	0.85	-	W/A	Pulse 1.1A 50°C
Power Conversion Efficiency	PCE	35	40	-	%	Pulse 1.1A 50°C
Wavelength	λ _{peak}	934	940	946	nm	Pulse 1.1A 50°C
Spectral Width (RMS)	Δλ	-	-	2.0	nm	Pulse 1.1A 50°C
Beam Full Divergence	φ	-	22	26	°	Pulse 1.1A 50°C
Wavelength coefficient	dλ/dT	-	0.07	-	nm/°C	Pulse

* All tests are under pulse condition on 0.3ms, 10% D.C. with heatsink temperature 50°C

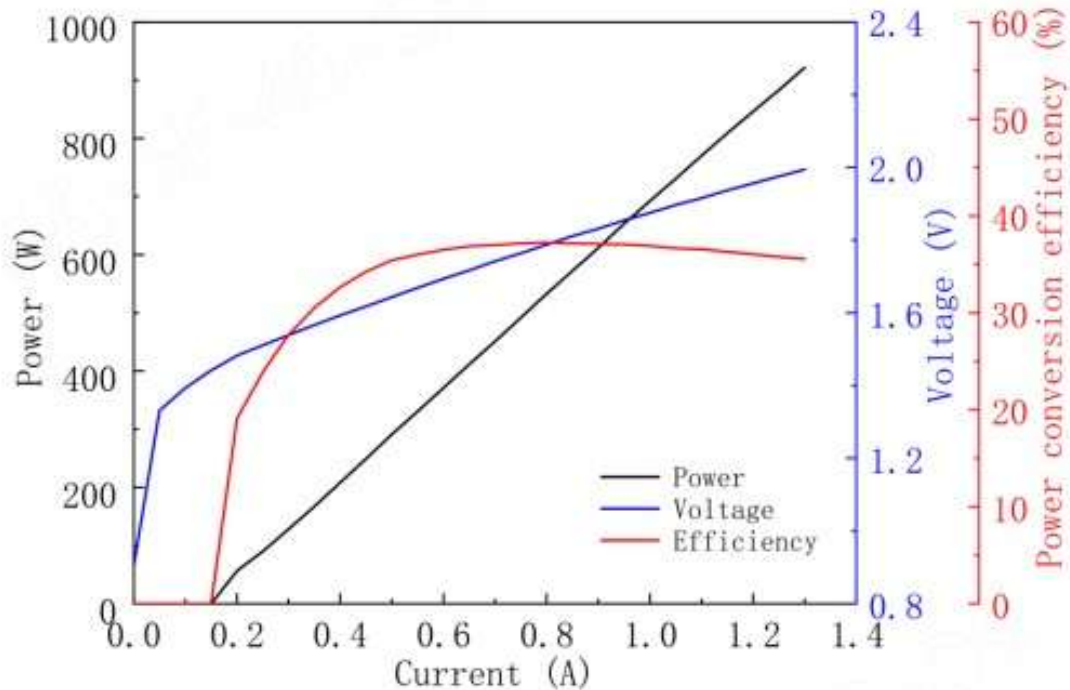
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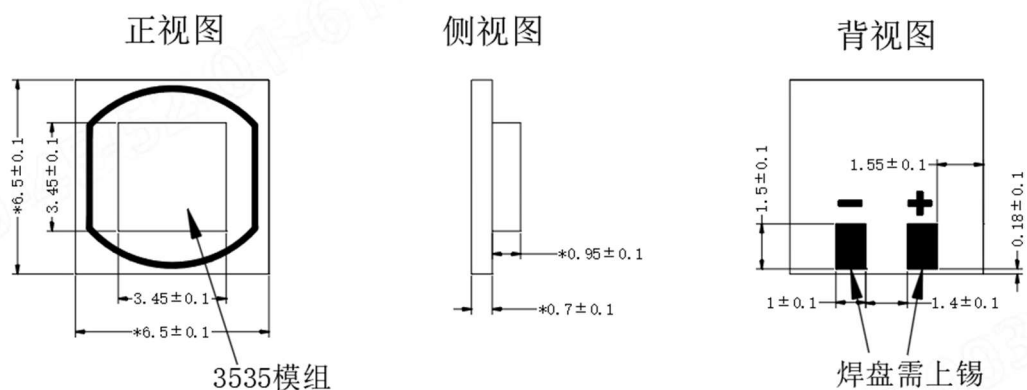
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Electro-optic conversion curve



* All tests are under pulse condition on 0.3ms, 10% D.C. with heatsink temperature 50°C

Product Dimension(units:mm)



Overall size of the copper

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Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Units
Operating temperature	Top	-20	85	°C
Operating humidity	Hop	0	85	%
Storage temperature	Ts	-40	110	°C
Storage humidity	Hs	0	85	%

Eye safety and disclaimer

Security recommendations

Depending on the usage of the device, the module may emit highly concentrated invisible infrared light that is harmful to the human eye. Products containing these modules may be required to follow the safety precautions specified in IEC 60850-1 and IEC62471.

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Note:

No responsibility is assumed for the use of these products. The products can emit Class I~IV radiation and must be operated with extreme care. Avoid directly viewing the laser beam or exposure to specular reflections. Proper eye wear must be worn at all times when operating. VCSEL Chip in the modules are electrostatic-sensitive device and proper ESD protection is required for handling



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