

Data Sheet

VCSEL Array TO56 Module

850nm 200mW Single Line

Dogain Optoelectronic Technology(Suzhou)Co.,Ltd

PN: DG-VP-A850-200BT3
Rev.A1

Aug. 2025

Note: Customers represent that they have all the necessary expertise to create and 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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Product Introduction

Performance characteristics

- **High output power** : Output optical power is 190mW@210mA on CW with room temperature 25°C.
- **Multimode output** : The laser operates at 850nm.
- **Low power consumption, high photoelectric conversion efficiency** :44% Power Conversion Efficiency (PCE) at 25°C.
- **Other wavelengths, Product dimensions, and emitter patterns are available according to customer request.**

Application

- Consumer electronics
- Machine vision
- Infrared illumination
- Industrial applications
- Medical Beauty

Electro-optical characteristics (25°C)

Parameters	Symbol	Min	Typical	Max	Units	Test Condition
Optical Output Power	P_{OP}	190	200	-	mW	CW 210mA 25°C
Threshold Current	I_{th}	15	30	45	mA	CW 210mA 25°C
Operating Current	I_{op}	-	210	-	mA	CW 210mA 25°C
Operating Voltage	V_{op}	-	2	2.3	V	CW 210mA 25°C
Slope Efficiency	η_s	0.9	1.1	-	W/A	CW 210mA 25°C
Power Conversion Efficiency	PCE	40	44	-	%	CW 210mA 25°C
Wavelength	λ_{peak}	842	850	858	nm	CW 210mA 25°C
Spectral Width (RMS)	$\Delta\lambda$	-	-	2.5	nm	CW 210mA 25°C
Wavelength coefficient	$d\lambda/dT$	-	0.07	-	nm/°C	CW
Beam Full Divergence (D86)	φ	18	21	24	°	CW 210mA 25°C

* All tests are under condition on CW 210mA with room temperature (25°C).

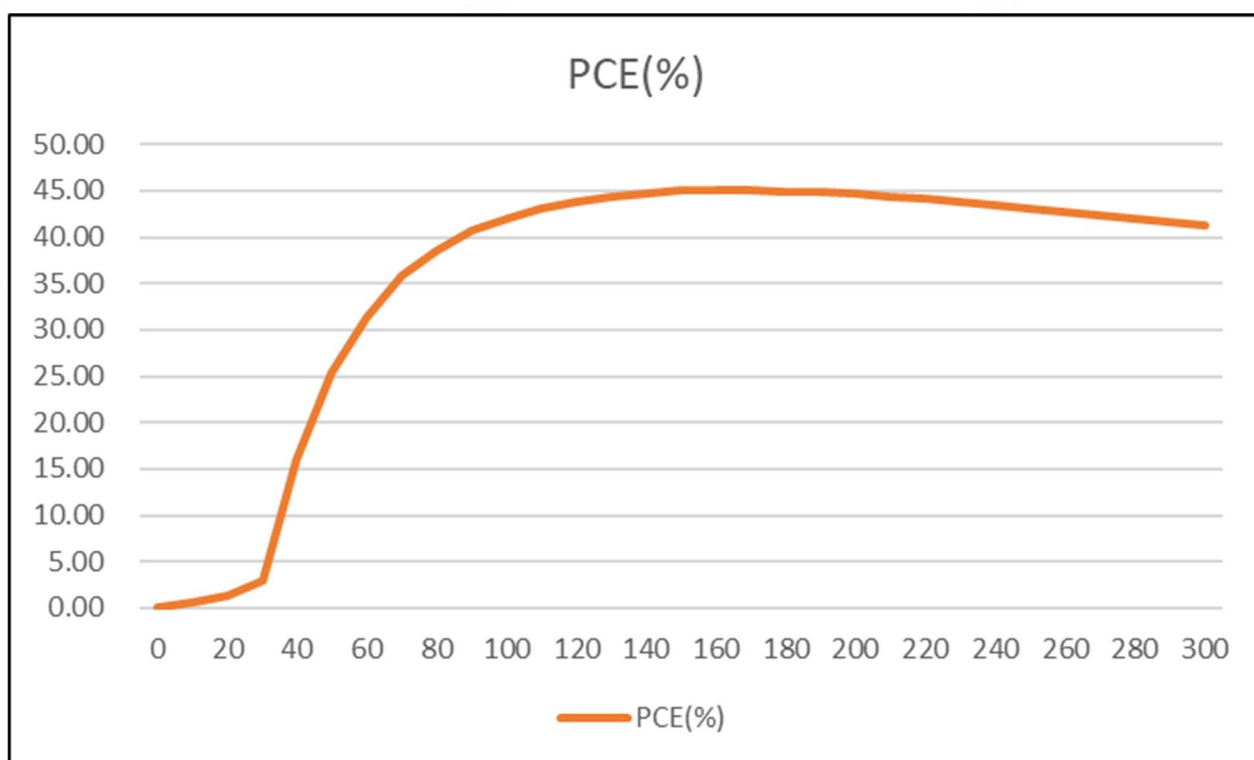
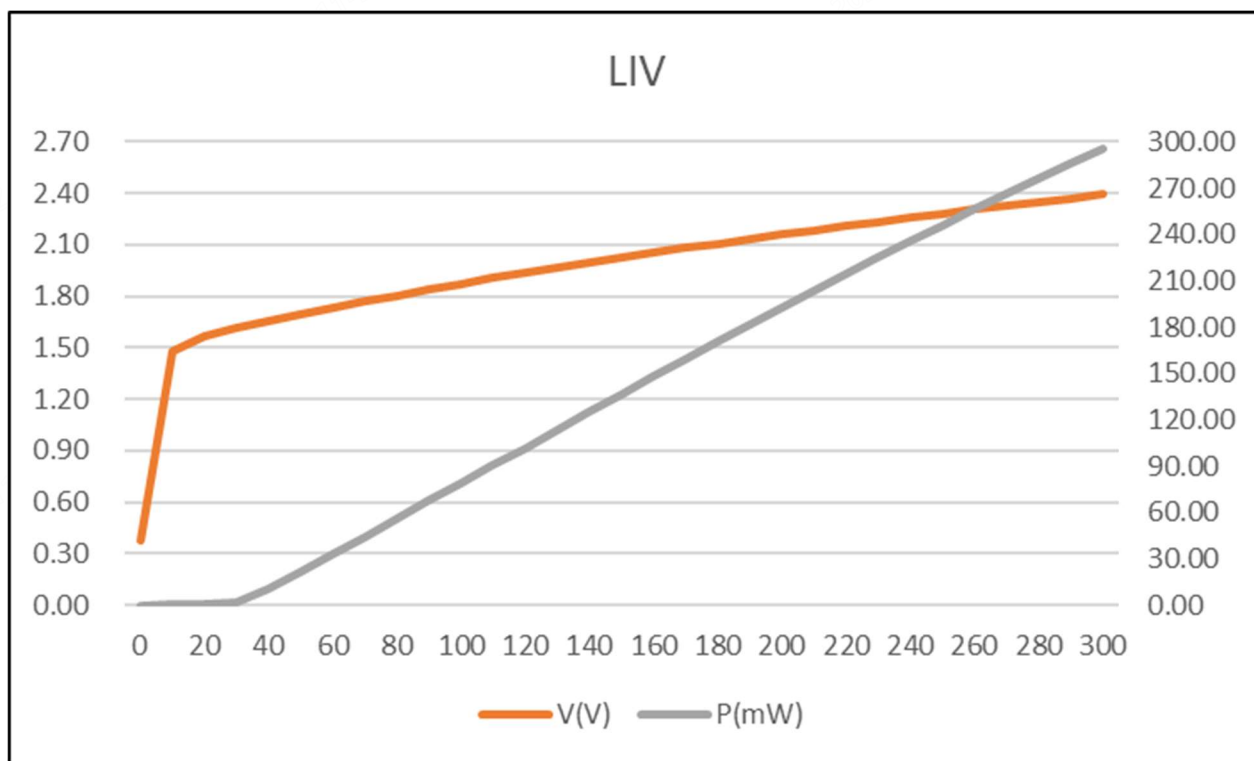
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Electro-optic conversion curve



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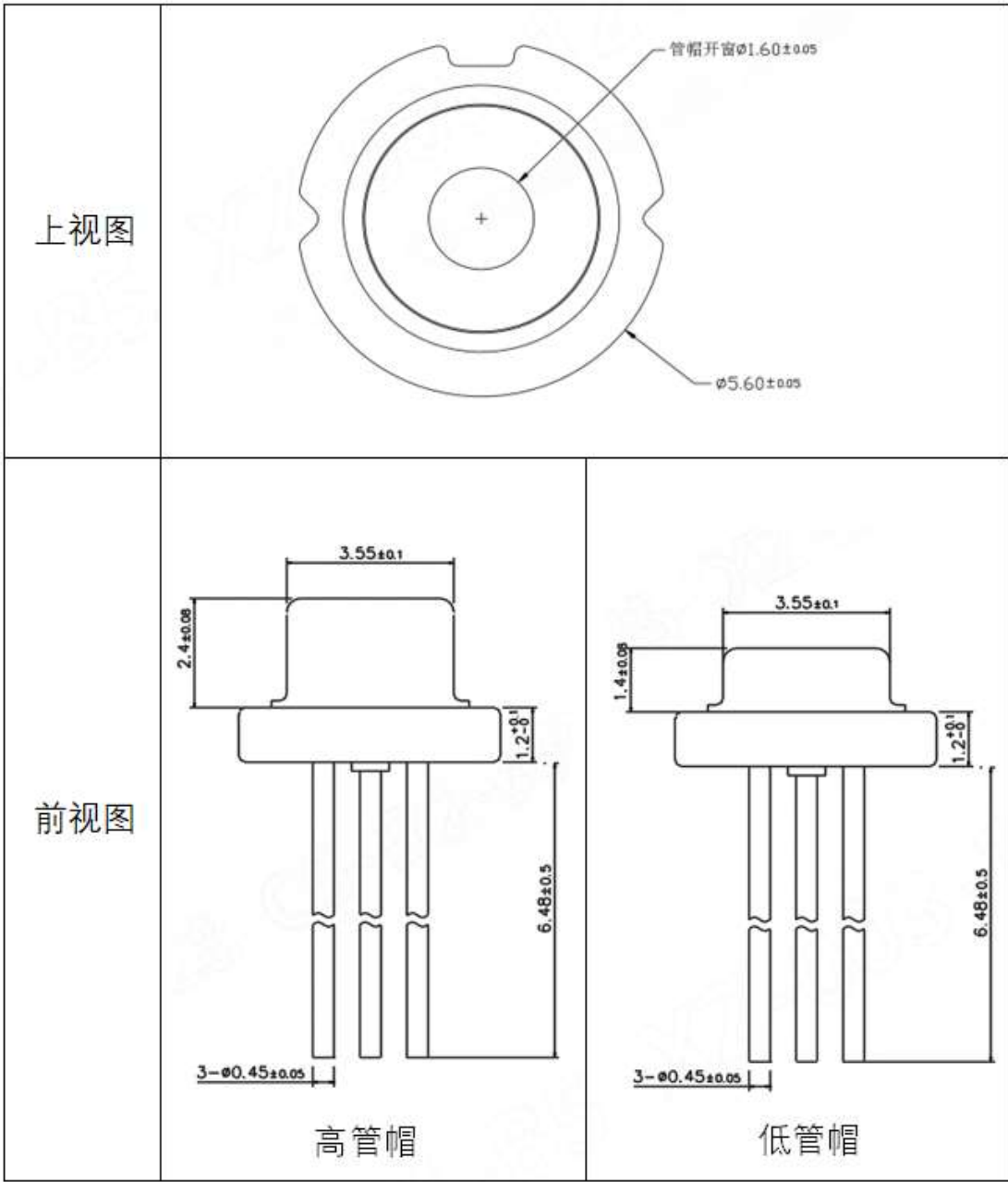
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Product Dimension(units:mm)



背视图	TO PIN	1	2	3
	Type A	LD+	NA	LD-
	Type B	LD-	NA	LD+

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Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Units
Operating temperature	Top	-20	60	°C
Operating humidity	Hop	0	85	%
Storage temperature	Ts	-20	60	°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.

Product Disclaimer

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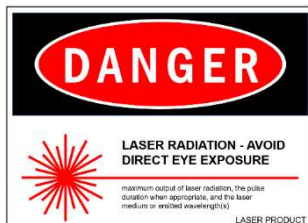
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Note:

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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变更记录

版本	日期	变更记录	制/修订人	批准人
A0	2025-09-12	新版发行	吴春	马玉梅

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