

Data Sheet

VCSEL Package 1616

680nm+808nm+850nm+940nm 5mW

Dogain Optoelectronic Technology(Suzhou)Co.,Ltd

PN: DG-VP-M4-20-BSA16
Rev. 1.0

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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1.产品介绍 Product Introduction

Performance characteristics

◆ 封装尺寸1.6*1.6mm

Encapsulation Size : 1.6*1.6mm

◆ 焊接方式：回流焊

Welding Method: Reflow soldering

◆ 采用高可靠性封装能量稳定

High reliability packaging energy stabilization
directivity

◆ 采用高指向性基板封装

High directivity substrate packaging

◆ 符合RoHS 标准

Compliance with RoHS standards

◆体积小、功耗低、指向性好

Small size, low power consumption, good

Application scenarios

◆ 摄像头（视频拍摄）数位摄影，监控，美容，治疗脱发等

Camera, digital photography, surveillance, beauty, hair loss treatment, etc

◆ 植物灯，非视觉光源等

Plant lamp, non visual light source, etc

2.主要光电参数 Electro-optical characteristics (Ta = 25°C)

项目 Project	符号 Symbol	测试条件（mA） Test conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
正向电压 Forward voltage	VF	IF=8mA	2.0	2.3	2.8	V
正向电流 Forward current	IF	—	—	8	10	mA
光功率 Optical power	IV	—	4	5	—	mW
发光角度 Viewing Angle	D86	IF=8mA	—	20	—	°
波长 Peak wavelength	λ_p	IF=8mA	670	680	690	nm

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项目 Project	符号 Symbol	测试条件 (mA) Test conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
正向电压 Forward voltage	VF	IF=6mA	1.9	2.1	2.3	V
正向电流 Forward current	IF	—	—	6	8	mA
光功率 Optical power	IV	—	4	5	—	mW
发光角度 Viewing Angle	D86	IF=6mA	—	20	—	°
波长 Peak wavelength	λ_p	IF=6mA	840	850	860	nm

项目 Project	符号 Symbol	测试条件 (mA) Test conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
正向电压 Forward voltage	VF	IF=6mA	1.9	2.1	2.3	V
正向电流 Forward current	IF	—	—	6	8	mA
光功率 Optical power	IV	—	4	5	—	mW
发光角度 Viewing Angle	D86	IF=6mA	—	20	—	°
波长 Peak wavelength	λ_p	IF=6mA	798	808	818	nm

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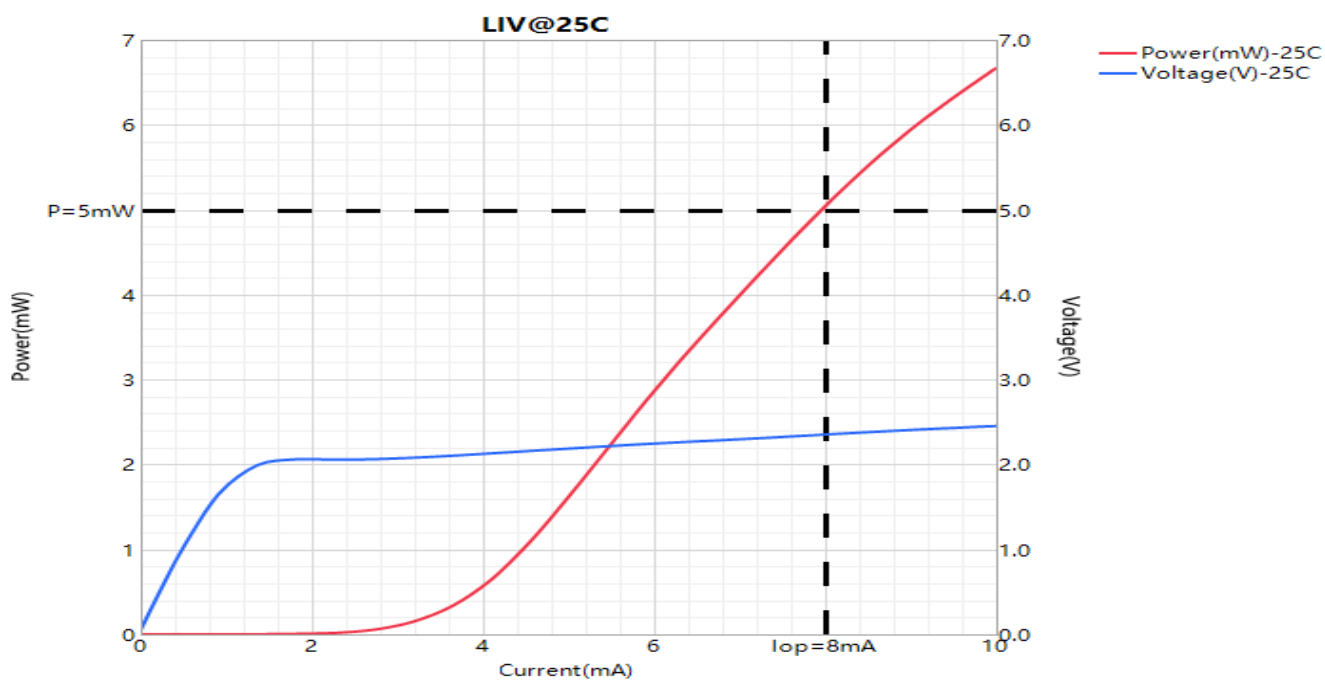
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项目 Project	符号 Symbol	测试条件 (mA) Test conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
正向电压 Forward voltage	VF	IF=6mA	1.8	2.0	2.3	V
正向电流 Forward current	IF	—	—	6	8	mA
光功率 Optical power	IV	—	4	5	—	mW
发光角度 Viewing Angle	D86	IF=6mA	—	20	—	°
波长 Peak wavelength	λ_p	IF=6mA	930	940	950	nm

* All tests are under pulse condition on CW with heatsink temperature 25°C.

3. 典型光电参数曲线 Electro-optic conversion curve

Typical Performance Curves at 25 °C – 680nm



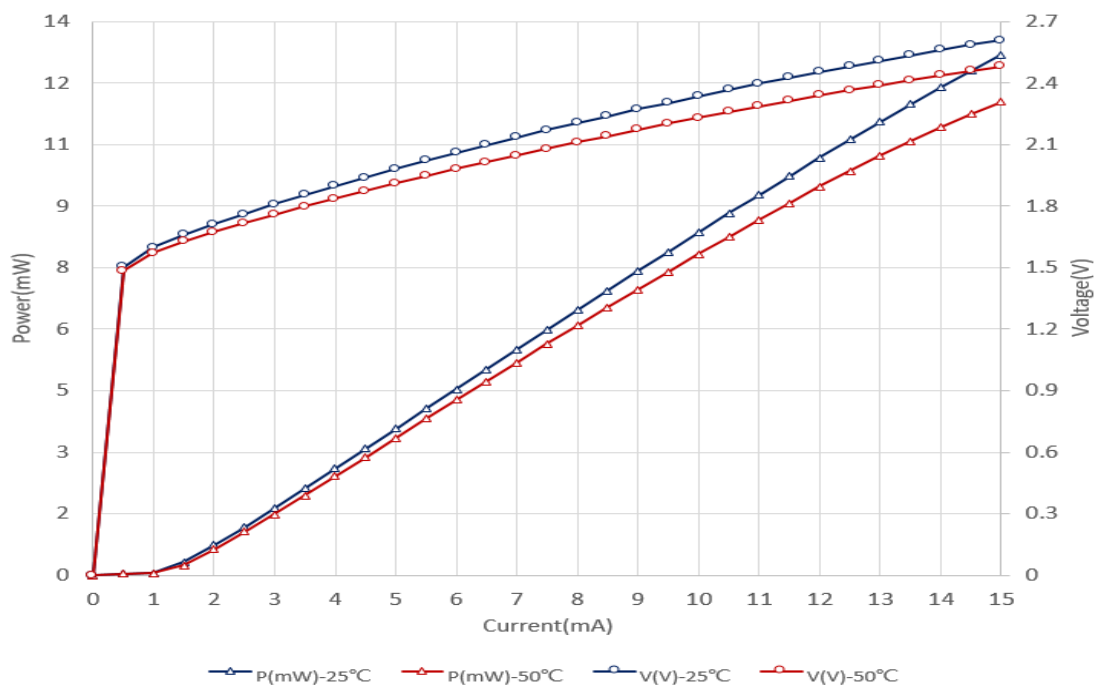
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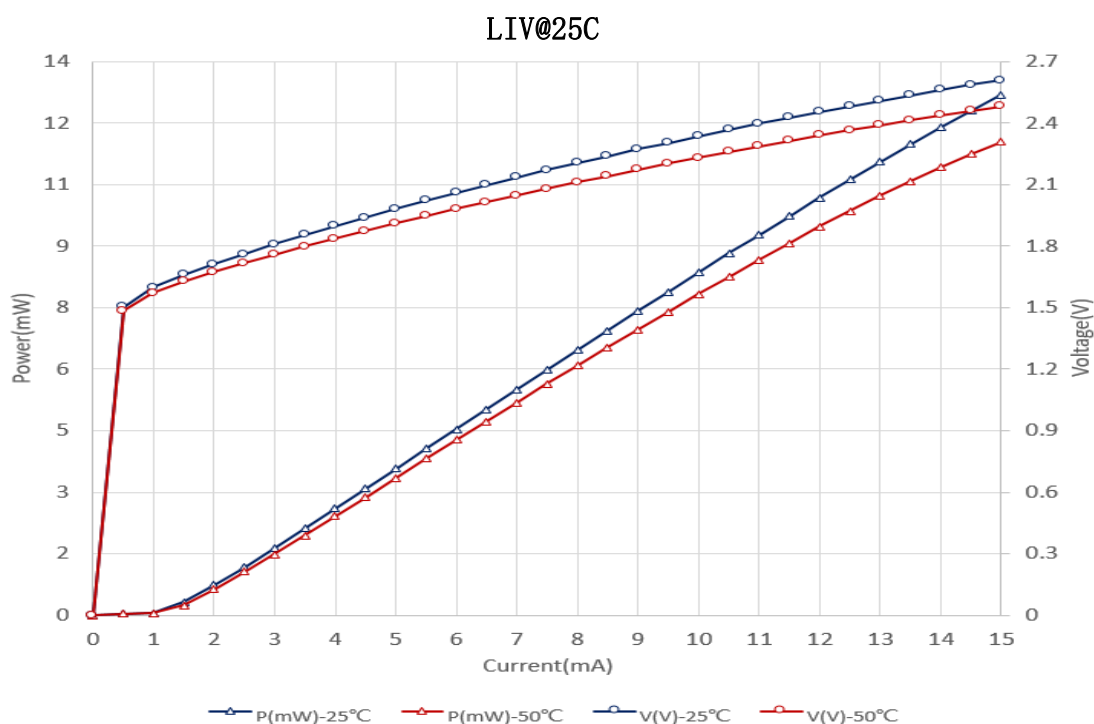
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Typical Performance Curves at 25 °C – 808nm



Typical Performance Curves at 25 °C – 850nm



Typical Performance Curves at 25 °C – 940nm

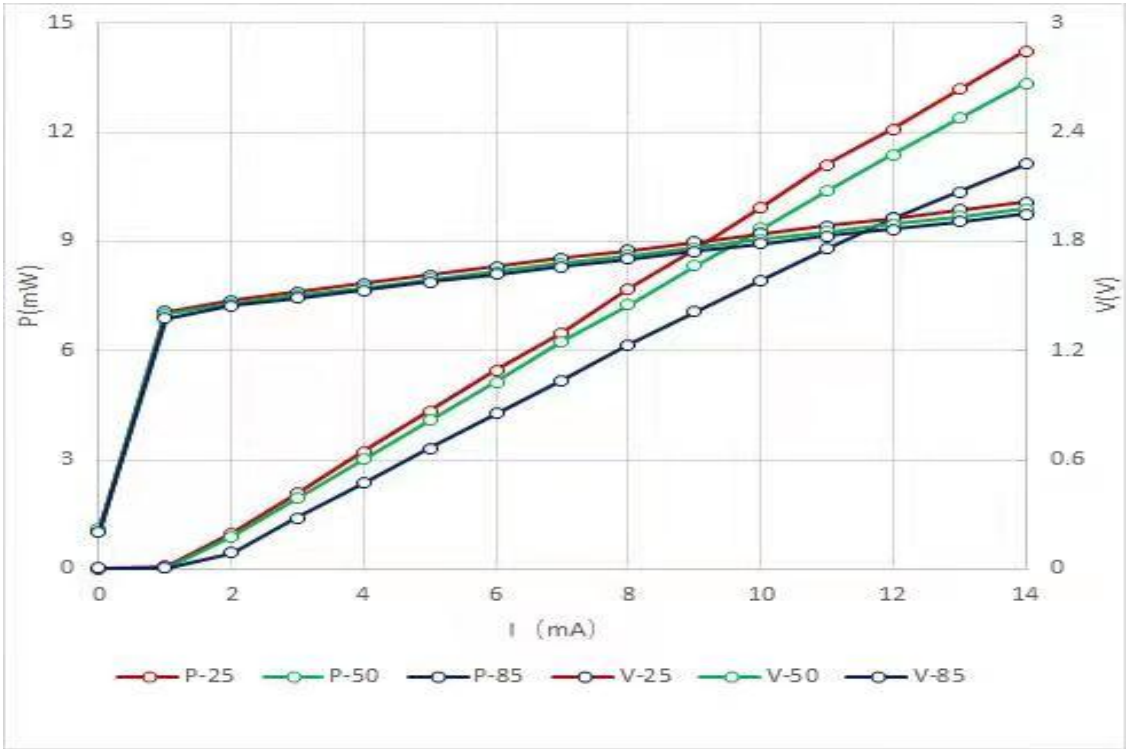
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LIV@25C



4.成品外观尺寸（Package Dimensions）

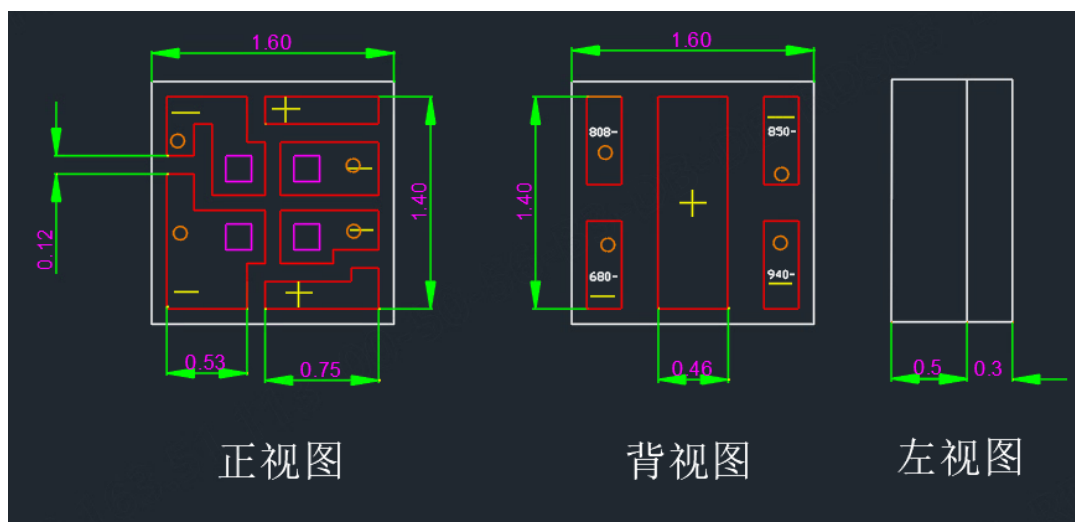
Parameter	Ratings	Units
module Width	1.6±0.1	mm
module Length	1.6±0.1	mm
Anode Contact	Cu surface	/
module Thickness	0.8±0.1	mm
Cathode Contact	Cu surface	/

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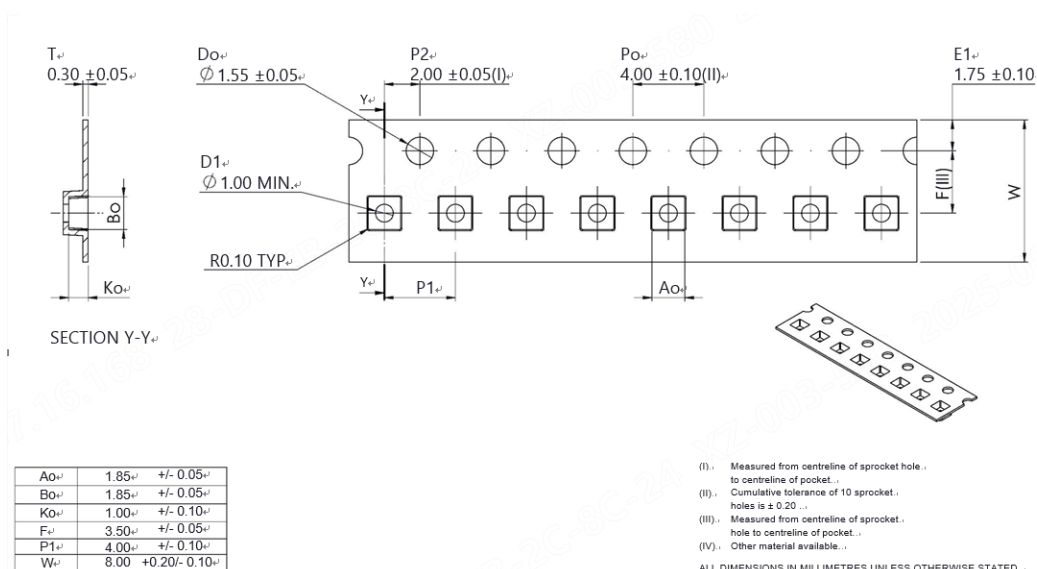
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5. 编带规格 (Tape Specification) :



6. 眼睛安全和免责声明 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 60825-1 and IEC62471.

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变更记录

版本	日期	变更记录	制/修订人	批准人
1.0	2025.08.13	初始版本	马玉梅	邓家和

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