

Data Sheet

850nm 40W VCSEL

Module (Preliminary)

Dogain Optoelectronic Technology(Suzhou)Co.,Ltd

PN: DG-VP-A850-40BS1X8
Rev.:A02

Jan. 2026

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.

Revision History			
Rev.	Effective Date	Revised By.	The Main Contents Revised.
A01	2025.01.14	Jack	Initial version released
A02	2026.01.13	马玉梅	1.Update Cu Substrate 2. Update PN

Product Introduction

Performance characteristics

- **High output power** : Output optical power is 40W on QCW operation condition.
- **The wavelength characteristics are stable** : the temperature drift coefficient is 0.07nm / °C.
- **Other wavelengths, Module dimensions, and Chip patterns are available according to customer request.**

Application

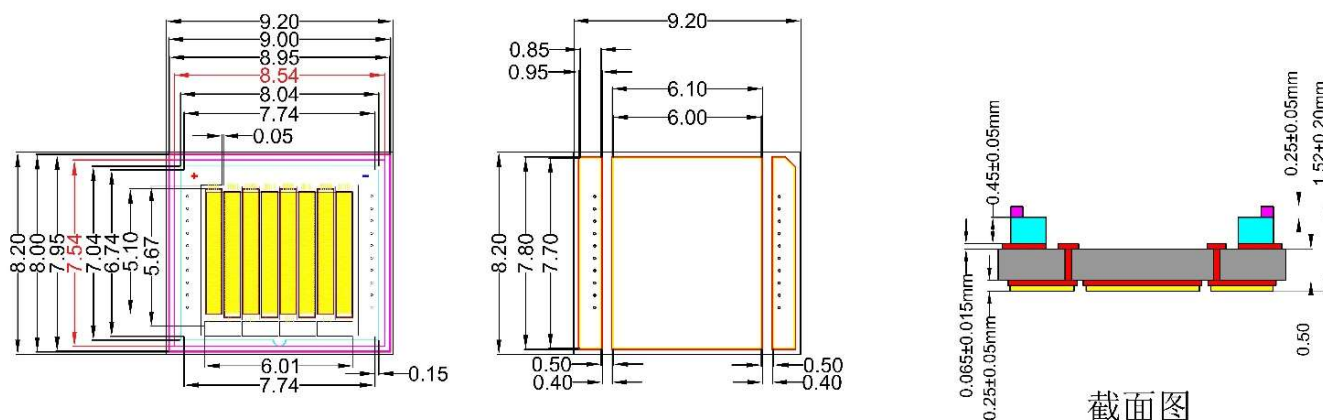
3D sensing

Electro-optical characteristics (25°C, Pulse width 128ms@1Hz)

Parameters	Symbol	Min	Typical	Max	Units	Test Condition
Optical Output Power	P _{OP}	40	64	-	W	Pulse 8A
Threshold Current	I _{th}	-	2		A	Pulse
Operating Current	I _{op}	-	8	-	A	Pulse
Operating Voltage	V _{op}	-	17.2		V	Pulse 8A
Slope Efficiency	η_s			-	W/A	Pulse 8A
Power Conversion Efficiency	PCE	35	45	-	%	Pulse 8A
Wavelength	λ_{peak}	840	850	860	nm	Pulse 26A
Wavelength shift	λ_{shift}		0.07		nm/°C	
Emitting Area Size	H	-	5.9	-	mm	/
	V	-	4.9	-	mm	/
Total Emitter number			22032			
Number of Zone			8			
Emitter number of Each Zone			2754			
Bean Full Divergence (D86)			21		deg	
Substrate	AlN, Cu					

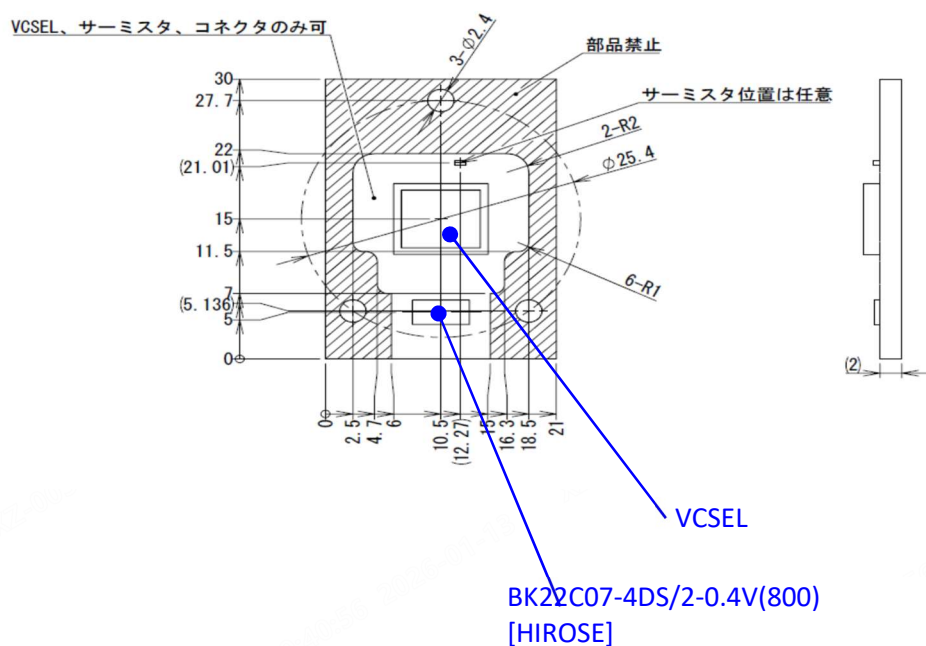
Mechanical Schematics

AlN Ceramic Substrate



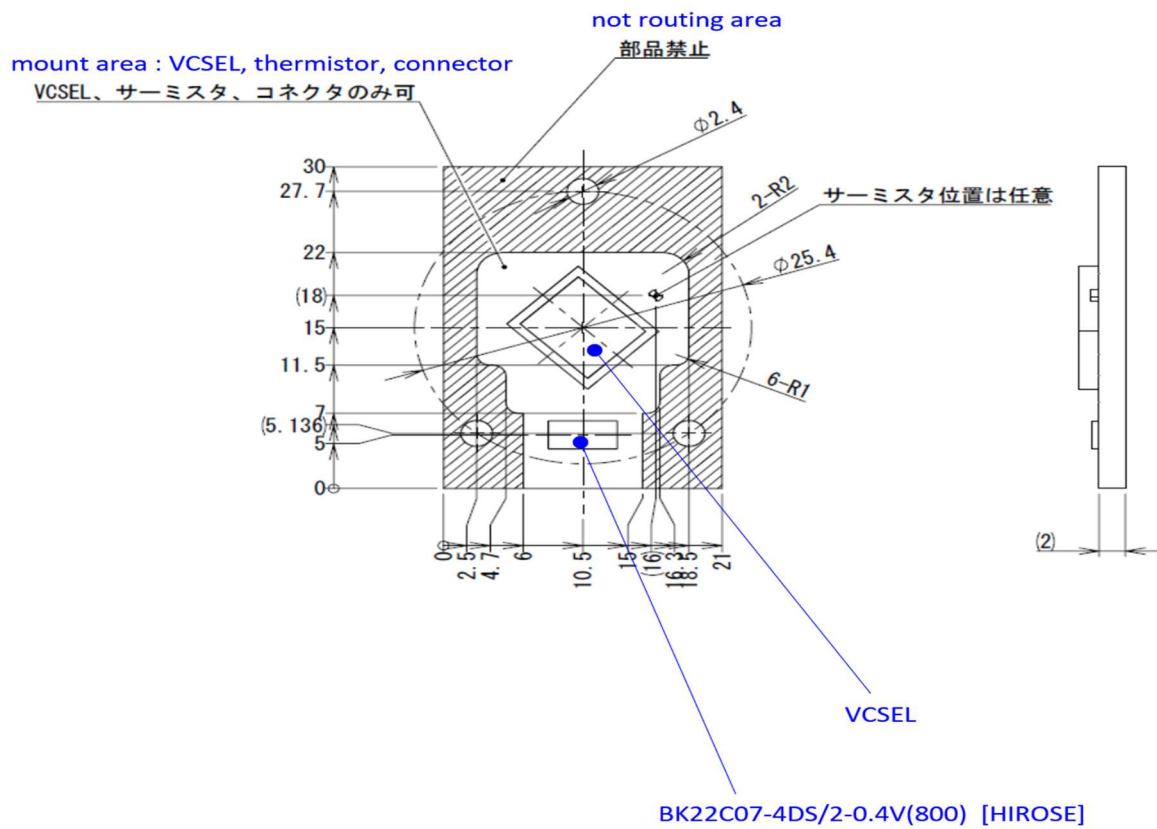
截面图
尺寸以标注为准

Cu Substrate (Type C')



BK22C07-4DS/2-0.4V(800)
[HIROSE]

Cu Substrate (Type D')



Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Units
Operating temperature	T _{op}	0	70	°C
Operating humidity	Hop	0	85	%
Storage temperature	T _s	-40	85	°C
Storage humidity	Sop	0	85	%
Peak forward current	If		10	A

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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