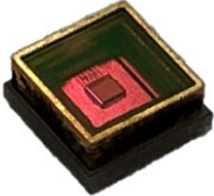
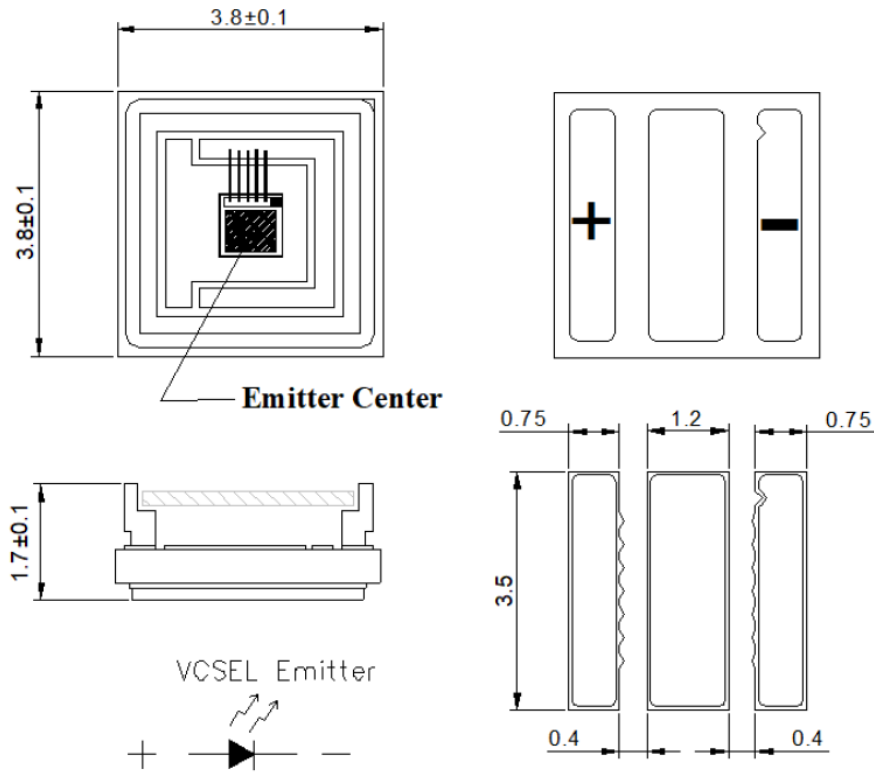
	Product Specification	Version
		V1.0
Product Type	Infrared Laser Source (VCSEL)	
Product Name	IR-850-1W-3838	
Product Number	K24010017	
Product Size	L*W*H= 3.8mm*3.8mm*1.7mm	
Application Range: Safe city, large-scale factory, intelligent transportation, on-board system, airport port, oil depot, security department, prison, water conservancy and electric power, energy mining, ecological protection, administrative law enforcement, fishery and sea surveillance, border defense and other night vision monitoring fill light.		
Statement: This specification is copyrighted by 3KM Optoelectronics Technology Co., Ltd. and may not be distributed to employees who are 3KM away without the written approval of the 3KM. It may not be used, copied or modified in whole or in part, and may not be disclosed in any way. 3KM reserve the right to update the technical parameters of the product to ensure that the latest and best products are provided to the customer.		
3KM Optoelectronics Technology Co., Ltd.		File Type: Specification
Prepared	LGN	Sep 29, 2022
Review	LZHJ	Sep30, 2022
Approve	WYM	Sep30, 2022

Optical and Electrical Parameters	
Item	Parameters $T_a=25^\circ\text{C}$
Size	L*W*H: 3.8mm*3.8mm*1.7mm
Threshold Current(I_{th})	0.35A±0.10A
Output Power(P_o)	1.05W±0.10W ($I_f=1.35\text{A}$, CW)
Operating Voltage (V_f)	2.1V±0.2V ($I_f=1.35\text{A}$, CW)
Operating Current (I_f)	1.35A
Slope Efficiency (S.E.)(η_s)	0.8W/A ($I_f=1.35\text{A}$, CW)
Center Wavelength(λ_c)	850nm±10nm ($I_f=1.35\text{A}$, CW)
Beam Divergence(θ)	30°±3° (Full Width 1/e ²)
Operating Mode	CW/Pulse
Soldering Temperature	Reflow soldering(260°C for 10 sec.)
Storage Temperature	-40°C~+100°C
Operating Temperature	-30°C~+85°C
Thermal Resistance	10 K/W
Differential resistance	0.3 Ω
Environmental Standards	(EU)2015/863

Product Size



unit: mm

Typical Electro-Optical Characteristics Curves

Fig.1 LIV Curve(Ta=25°C)

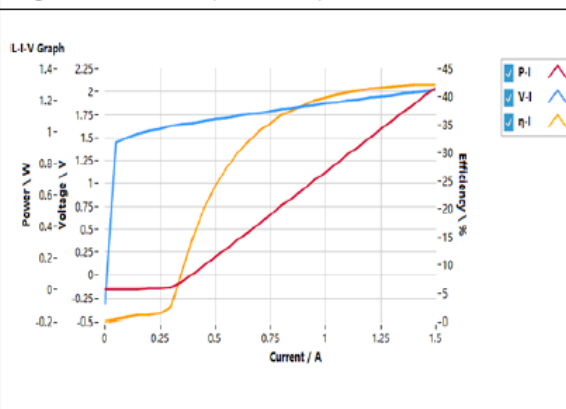


Fig.2 Wavelength—Current Curve(Ta=25°C)

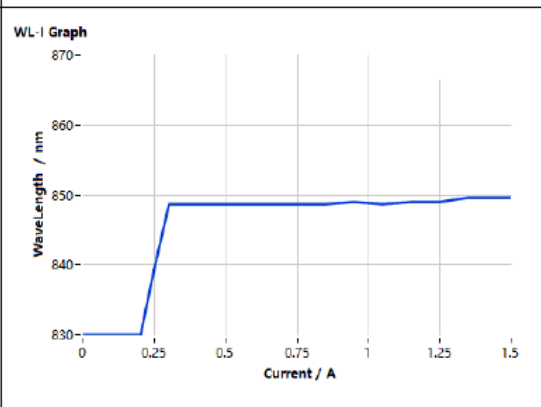


Fig.3 FOV(Ta=25°C)

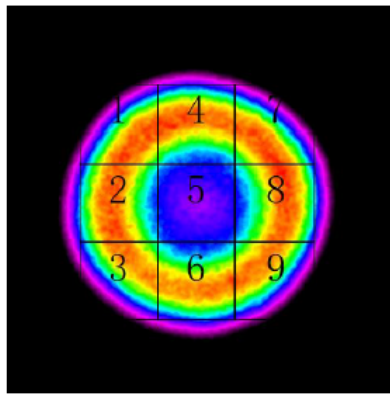
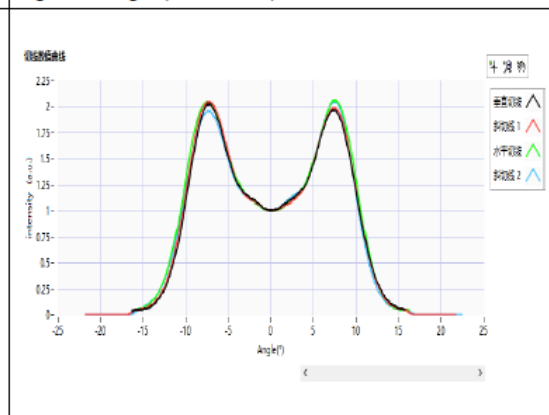


Fig.4 Angle(Ta=25°C)



Precautions

1.Cleaning

- a. Don't be cleaned with ultrasonic. Recommended to be wiped with isopropyl alcohol or pure alcohol, wiping time should not be more than one minute. VCSEL must be placed at room temperature for fifteen minutes before producing .you must insure clean on the radiant surface.
- b. VCSEL can't be in contact with acetate、trichloroethylene、acetone、sulfur、nitride、acid、alkali、salt. These matters can destroy VCSEL.

2.Storage

- a. Don't open the moisture proof bag before ready to use the VCSEL.
- b. The VCSEL should be kept at 30°C or less and 60%RH or less before opening the package. The max. period before opening the package is 1 year.
- c. After opening the package, the VCSEL should be kept at 30-35%RH or less, and it should be used within 3 days. If the VCSEL should be kept at 30-35%RH or more, and it should be used within 4 hours.
- d. If the VCSEL be kept over the conditions of 20%, baking is required before mounting. Baking condition as below: 70±5°C for 12 hours for bulk goods, 105±5°C for 1 hours for roll goods.
- e. The environment have no acid、alkali、corrosive gas、intensively shake and high magnetic field.

3.Static

- a. Static and Peak surge voltage can destroy VCSEL, Avoiding Instantaneous voltage when turn on or turn off the lights.
- b. Please wear Anti-static wrist band、Anti-static glove、Anti-static shoes in the course of operation, and the equipment must be grounded.

c. After VCSEL is destroyed, leakage current increases obviously, and the forward voltage drops or the lamp fails in the case of low current.

4. Test

a. Customer must apply the current limiting resistor in the circuit so as to drive the VCSEL within the rated current. Otherwise, a slight voltage shift may cause a big current change and burn out will happen.

b. Also, caution should be taken not to overload the VCSEL with instantaneous high voltage at the turning ON and OFF of the circuit. Otherwise, VCSEL will be destroyed.

c. The reverse voltage must not exceed 5V when lighting on or testing the VCSEL, otherwise, VCSEL will be damaged.

5. Else

Radiant color of VCSEL will be a little change with the current, recommended that VCSEL is used in series and resistance, when lighting, please don't see directly radiant surface of VCSEL, otherwise VCSEL will burn eye.

Contact Information

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