Structure Light Module

SLM-4242-R940-200-26K-56-74

Description

The structure light module provided accurate dot pattern with DOE + laser emitting technology. It can project 26k dots with low noise. The wavelength of structure light module is narrow under stable thermal condition (VCSEL laser). The module is designed for industrial device and PWM drivable.

Features

- **High density random dots (26K dots)**
- **SMT package for industrial application**
- **Near-IR illumination (940nm)**
- **Narrow wavelength under stable thermal condition**
- **IEC 60825-1: CLASS 1 eye safety test**
- **PWM drivable**

Applications

- **3D object distance measurement**
- **Structured light 3D recognition**
- **3D face recognition**
- **3D scanning**
- **3D Gesture Recognition**
- **3D Liveness Detection**
- **Security monitor**
- **Robot vision**
- **Proximity sensor**

Absolute Maximum Rating

Parameters	Condition	min	typical	max	unit
Max. Operating current	Room 25℃, Chip 60℃, CW		1500	2000	mA
Max. Operating voltage	Room 25℃, Chip 60℃, CW		1.95	2.40	V

Electronical Characteristics (CW)

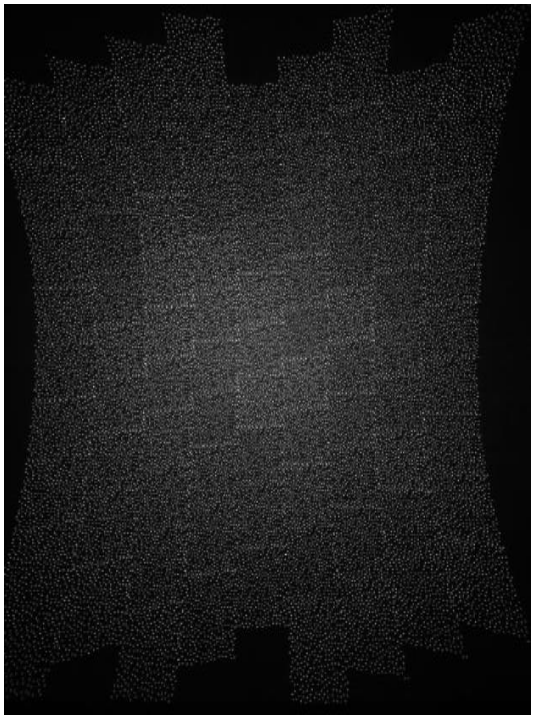
Parameters	Condition	min	typical	max	unit
Threshold current	Room 25℃, Chip 60℃		250	300	mA
Operating current	Room 25℃, Chip 60℃	300		500	mA
Operating voltage	Room 25℃, Chip 60℃			2.00	V
Convert efficiency	Room 25℃, Chip 60℃				%

Optical Characteristics

Parameters	Condition	min	typical	max	unit
Wavelength	25±3℃	933	940	947	nm
Working range		0.2	1	1.5	m
Horizontal FOV of projection	940nm, 25℃		56		Deg.
Vertical FOV of projection	940nm, 25℃		74		Deg.
Number of dots	@FOV		26K		pcs
Laser compliance (Eye-safety regulation)	Class 1, IEC 60825-1:2014	@ 225mA current & 10% duty cycle.			

Product Drive Information

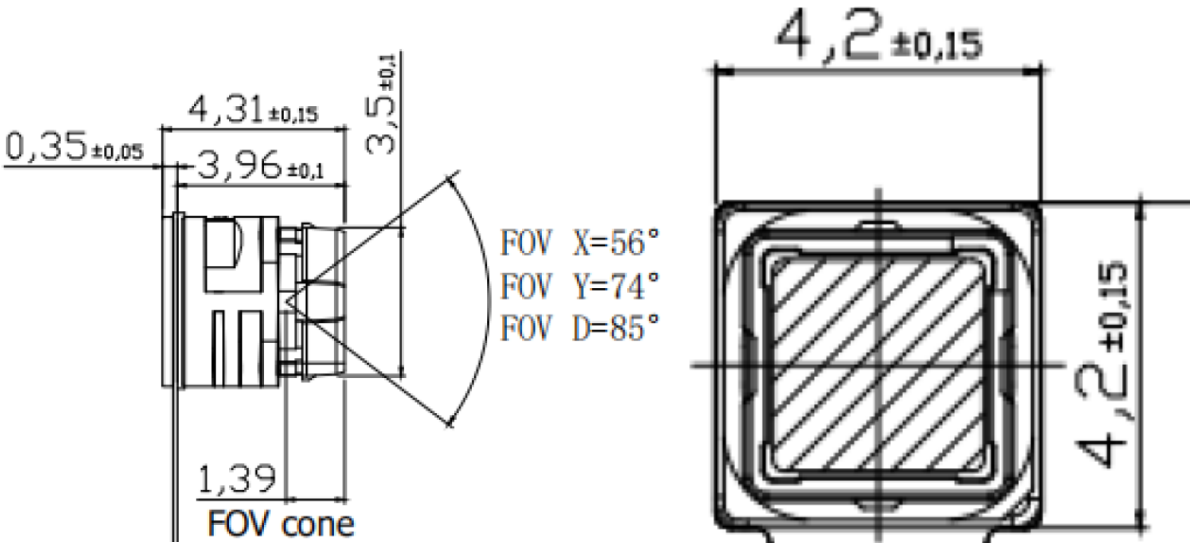
	Symbol	Unit	Min.	Tpy.	Max.	Comments
OP current Pulse	Iop	mA	-	1500	2000	3ms/10%@if=1.5A
OP voltage Pulse	Vop	V	-	1.95	2.4	3ms/10%@if=1.5A
OP current CW	Iop	mA	300	-	500	Junction temperature less than 80°C
OP voltage CW	Vop	V	-	-	2	Junction temperature less than 80°C
Threshold current Pulse	Ith	mA	-	250	300	CW/ @25°C

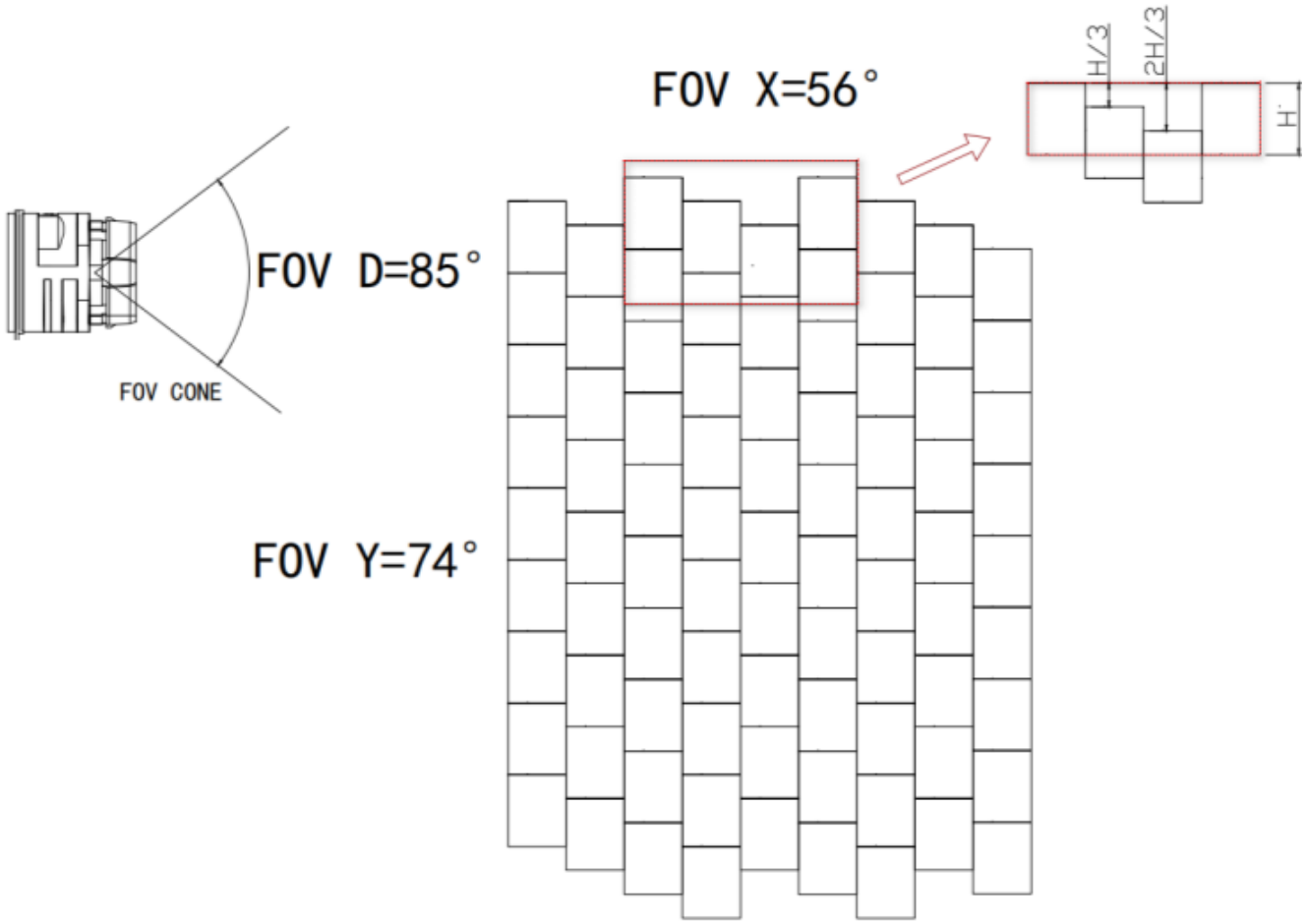


散斑全面圖

Mechanical characteristics

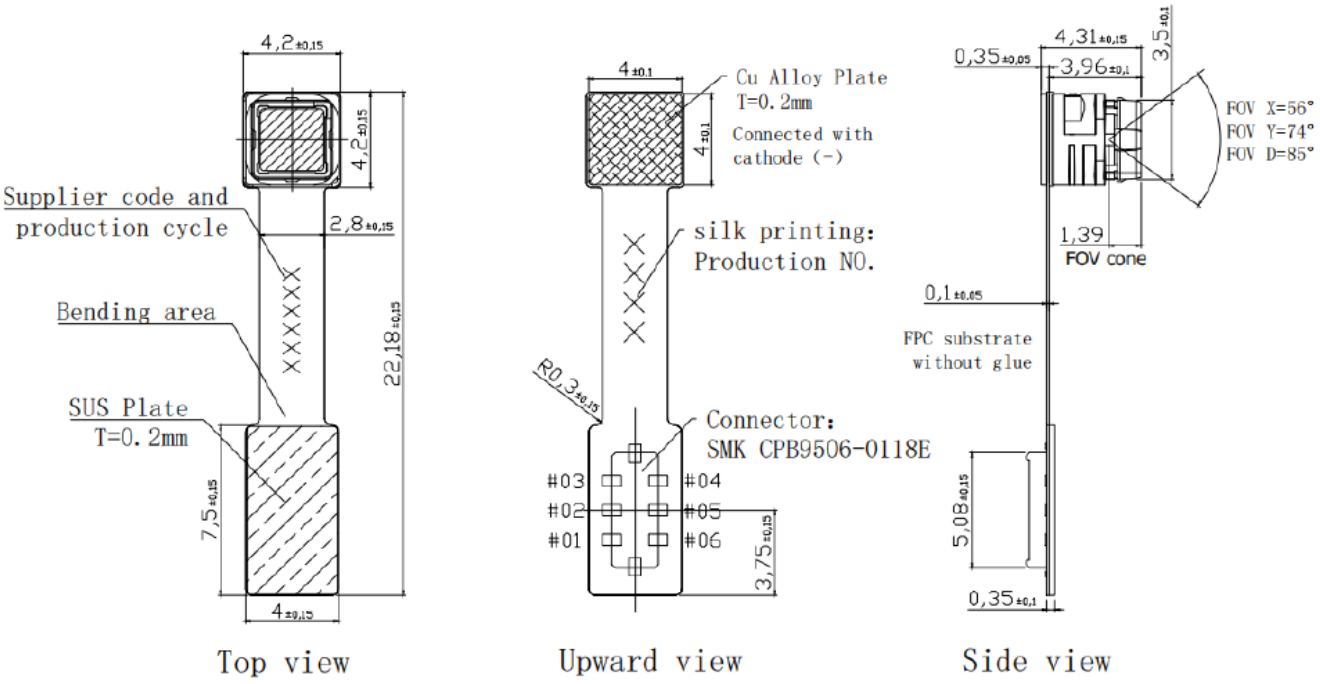
2D Drawing





Side view

Foot PIN Reference



NTC RES = 10Kohm ± 1%

Cu Alloy Plate_connected with cathode (-)

Pin	#01	#02	#03	#04	#05	#06
	Anode(+)	NTC(+)	Anode(+)	Cathode(-)	NTC(-)	Cathode(-)

Caution

1. **Wearing ESD protections device before handling the moulde.**
2. **Avoid to touch the emitting area or optical items of the module.**
3. **Never look into the light from emitting area directly.**

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