StructureLight Module

SLM-3235-940-2000-flood-110-90

Description

The structure light module provided accurate flood pattern with MLA & laser emitting technology. It can project flood pattern with large field of view. The bandwidth of structure light module is narrow under stable thermal condition (VCSEL laser).

Features

- **High power applications**
- **High reliability**
- **Large FOV projection**
- **Near-IR illumination (940nm)**
- **Narrow bandwidth under stable thermal condition**
- **Photodiode Detection mechanism**

Applications

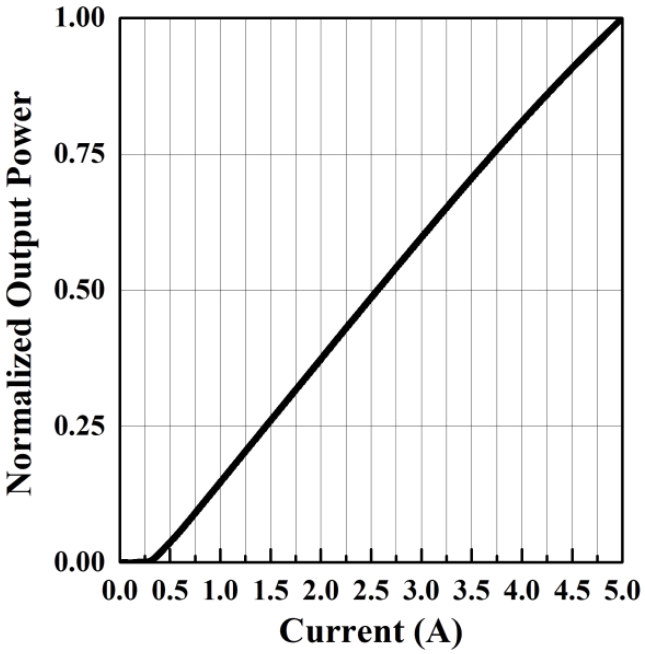
- **3D object distance measurement**
- **3D scanning**
- **3D Gesture Recognition**
- **3D Liveness Detection**
- **Security monitor**
- **Infrared lighting**
- **Robot vision**

Absolute Maximum Rating

Parameters	Condition	typical	unit
Max. Operating current	Room 25℃, Chip 60℃, CW	3000	mA
Max. Operating voltage	Room 25℃, Chip 60℃, CW	2.2	V

Electronical Characteristics (CW)

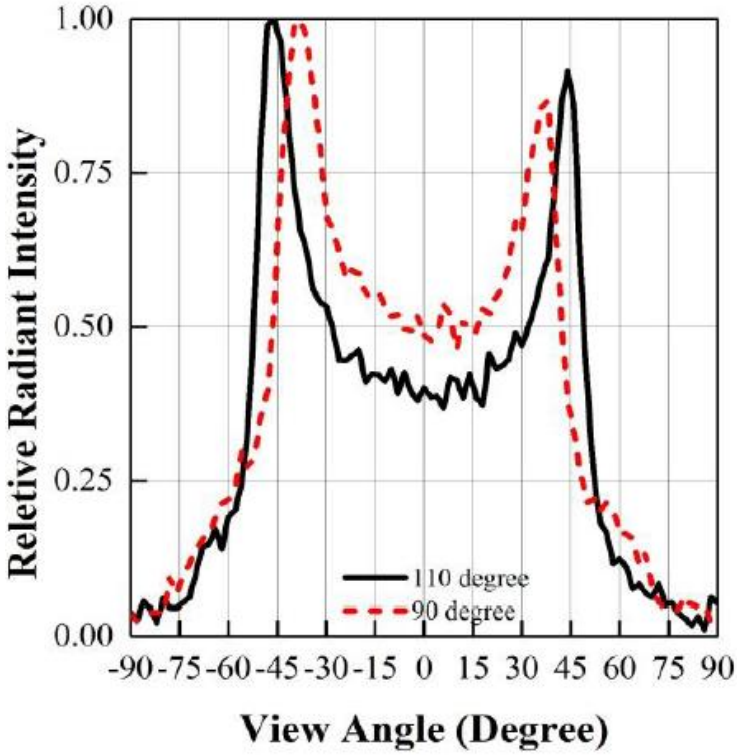
Parameters	Condition	min	typical	max	unit
Threshold current	Room 25℃, Chip 60℃	-	500	-	mA
Operating current	Room 25℃, Chip 60℃	-	3000	-	mA
Operating voltage	Room 25℃, Chip 60℃, I=3.0A	1.8	2.0	2.2	V
Convert efficiency	Room 25℃, Chip 60℃, I=3.0A	34	37	40	%
PD Forward voltage	Room 25℃, I=10mA	0.5	-	1.3	V
PD Reverse current	Room 25℃, V=10V	-	2	10	nA



Typical electro / optical characteristics curves measured at 25℃, pulse width = 0.5ms / duty cycle = 1%

Optical Characteristics

Parameters	Condition	min	typical	max	unit
Wavelength	25℃	930	940	950	nm
Horizontal FOV of projection	850nm, 25℃	-	90	-	Deg.
Vertical FOV of projection	850nm, 25℃	-	110	-	Deg.



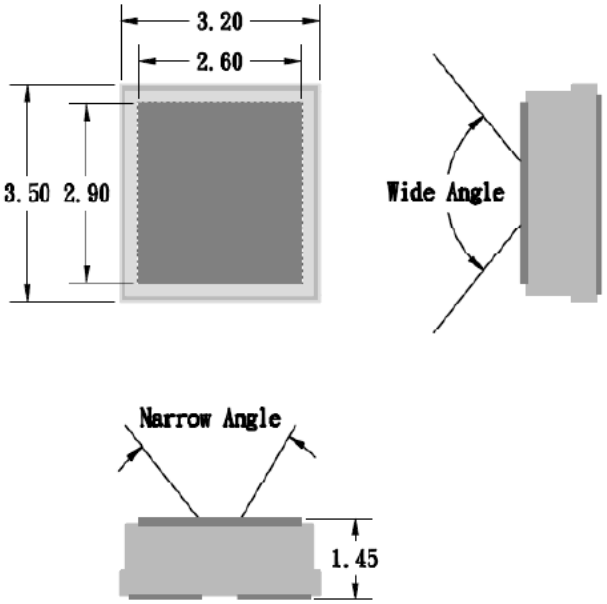
Radiant intensity curve by view angle

Mechanical characteristics

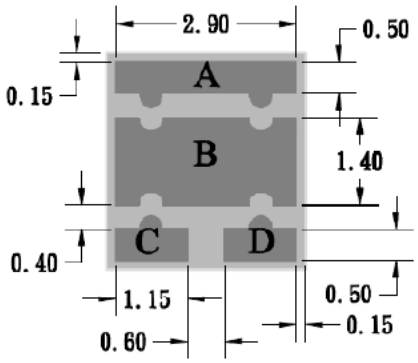
2D Drawing

Unit : mm, Tolerance : ±0.15mm

Top & side view



Back view



VCSEL

A : Anode

B : Cathode

PD

C : Anode

D : 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.**

Disclaimer

1. **Semiconductor devices generally faildue to intrinsic characteristic so does AHEAD module as it includes laser chip and laser diode (VCSEL).Hence, customer's product has to be designed with full regard to the safety by incorporating the redundancy, fire prevention, error prevention therefore, any problem or error with AHEAD module does not cause any accidents resulting in injury, death, fire, property damage, economic damage or environment damage.In case customer usesmodule in the systemrequiring higher safety, customer is responable toreview theconditions for consistency of entire system and all safety concerns to meet the specific requirements.AHEAD is not liable to the user for any losses, costs, damages or expenses incurred arising directly or indirectly from any misuse or unintended use of the product.**
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