

# **UV LED MODULE SPECIFICATION**

## **Model: NS375M-CPFX**

Nitride Semiconductors Co., Ltd.

1. Name: UV LED MODULE
2. Model: NS375M-CPFX
3. Absolute maximum ratings (3 /W heat sink in use)

Item	Symbol	Maximum rating	Unit
DC Forward current	$I_F$	600	mA
Reverse voltage	$V_R$	15	V
Power dissipation	$P_D$	6.6	W
Operating temperature	$T_{OPR}$	-25 to +80	
Storage temperature	$T_{STG}$	-30 to +85	
Soldering temperature	$T_{SOL}$	260 within 3 seconds	

4. Optical and electrical characteristics (  $T_a=25$  )

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward voltage	$V_F$	$I_F=480\text{mA}$	-	11.0	-	V
Peak wavelength*1	$\lambda_p$	$I_F=480\text{mA}$	375	-	380	nm
Full width at half maximum	$\lambda$	$I_F=480\text{mA}$	10	-	20	nm
Optical output power *2	$P_o$	$I_F=480\text{mA}$	-	450	-	mW

\*1 Measurement error:  $\pm 2\text{nm}$

\*2 Measurement error: 10%

5. Standard optical and electrical characteristics  
To be hereinafter described.
6. Dimensional outline, circuit diagram and materials (This product complies with RoHS.)  
To be hereinafter described.

## 7. Cautions

- (1) The LEDs emit very strong UV radiation. Do not look directly at the LEDs. UV radiation can harm your eyes. To prevent inadequate exposure of UV radiation, wear UV protective glasses.
- (2) The LEDs are very sensitive to static and surge. Take a full protection against static and surge.  
Use of Wristband, body grounding (via 1MΩ), conductive mat, conductive working uniform and shoes, containers.  
The using equipment, appliance, work area should be connected to ground adequately. **An ionizer should be installed where risk of static generation is high.**
- (3) The powered LEDs generate heat. Heat dissipation should be considered in the application design to avoid the environmental conditions for operation in excess of the absolute maximum ratings.
- (4) The humidity environment of products should be maintained 40 ~ 70%RH in design and use whether keeping or operating.
- (5) Do not stress encapsulation resin because silicone resin is soft and must be damaged by any stress.
- (6) The LEDs are intended to be used for ordinary electronics equipment. Do not use the LEDs for the applications that may require a higher reliability and security and that the failure or malfunction of the LEDs may threat to life.
- (7) Do not reverse engineering by disassembling or analysis of the LEDs without our consent. If there's any defectives found, please contact our sales division.

## 8. Mounting instruction

### (1) Mounting precautions

Please assemble the Product on the flat area to avoid the change in shape or damage of the Product.

Do not pull the wire lead strongly because the solder moiety may be damaged.

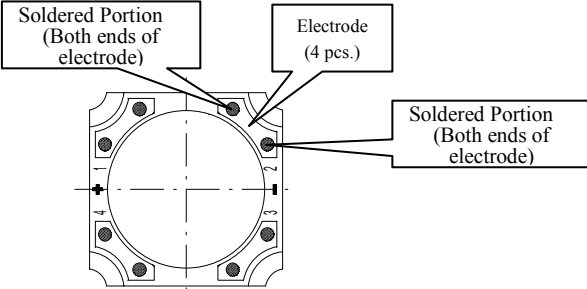

### (2) Soldering conditions

Do not solder the Product to the base which has discharge characteristics.

Do not perform preliminary soldering in electrode.

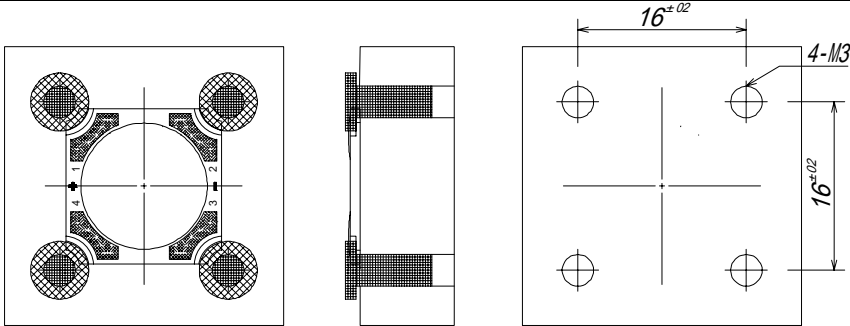
Do not solder in electrode twice and revise soldering.

Do not touch the tip of soldering iron because resin portion will be damaged.

Solder	Eutectic solder
Wire solder diameter	0.6 mm
Soldering temperature	260 , 3 seconds max.
Wire lead diameter	Below AWG26 wire diameter
Wire lead core length	2 mm ( Including the preparatory wire lead to solder )
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Position for the soldering of electrode</p>  </div> <div style="width: 45%;"> <p>Condition of the soldering</p>  </div> </div> <p>Please solder only one time for an electrode.</p>	

### (3) Mounting

Use the thermally-conductive greases or Si sheet between the back surface of the Product and mounted area to help dissipate the heat from the back surface of the Product.

Fixing screw	Hexagon socket head bolt M3
Tightening torque	MAX 0.45 N · m
Recommended screw hole size	
	

## 9. Warranty

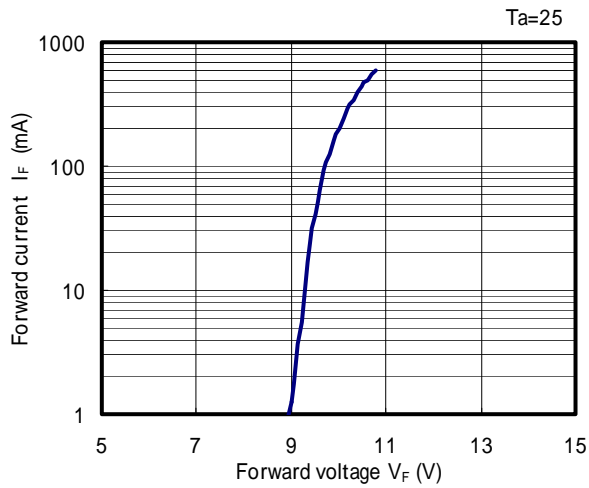
- (1) The warranty is valid for UV LED module only.
- (2) Perform an acceptance inspection on arrival of the goods. Return the defectives if any stipulating the disqualification and quantity.
- (3) Embedding the LEDs into the application and the verification of life and other qualities in practical use shall be executed by user.
- (4) Do not use the LEDs for the applications that require the higher reliability and security and that may endanger life and health by the breakdown and the malfunction. Seller shall not bear any responsibility or liability with respect to any claims and damages caused by user's usage of the LEDs without following our intended purpose or any written consent.
- (5) Seller shall not bear responsibility for any damages or defects caused by improper operation at the current in excess of the absolute maximum ratings that are not covered by warranty.

## 10. Miscellaneous

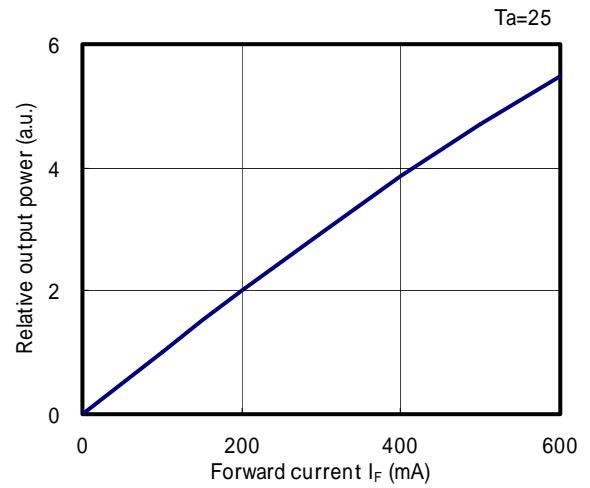
- (1) The surface of the LEDs may be changed in quality by exposing to the air contains corrosive gas. Be careful with the storage environment. The LEDs in the sealed bag can be stored for maximum 6 months. For the storage more than 6 months up to 1 year, the LEDs should be stored in the suitable environment of the stable temperature and humidity.
- (2) The technical information in this specification is not to guarantee the intellectual property rights of seller's nor a third party and not to grant the license.
- (3) The appearance and specifications are subject to change for improvement without prior notice.

Optical and electrical characteristics

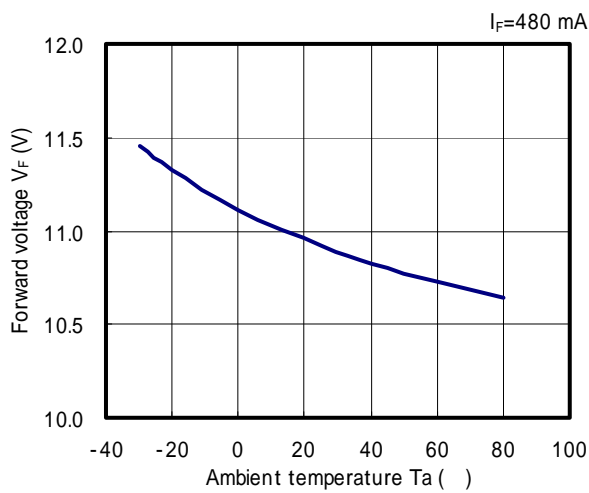
Forward voltage vs. Forward current



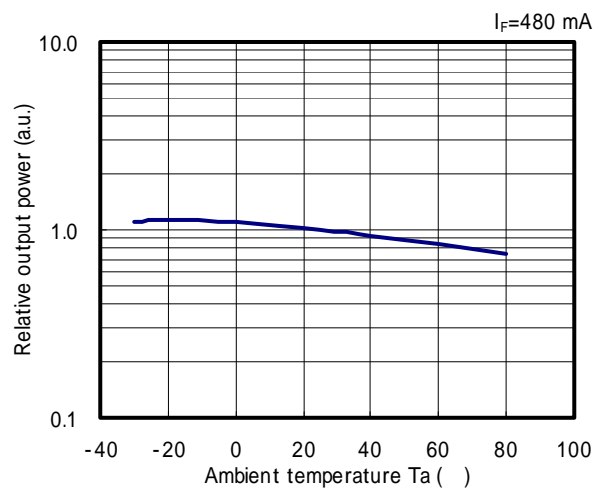
Forward current vs. Relative output power



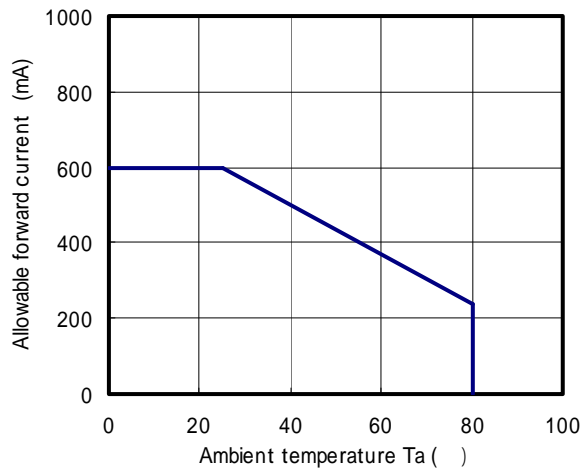
Ambient temperature vs. Forward current



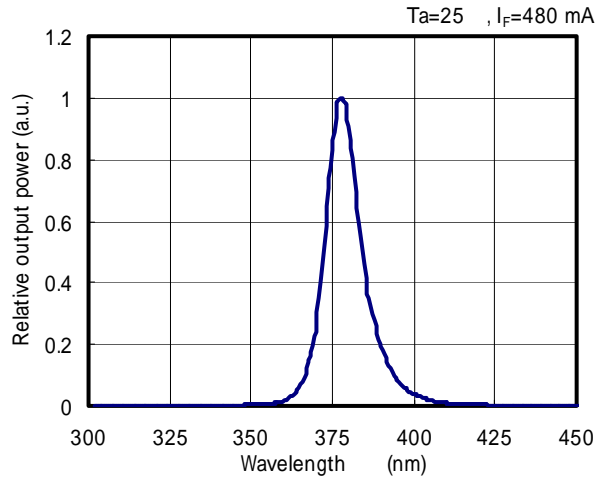
Ambient temperature vs. Relative output power



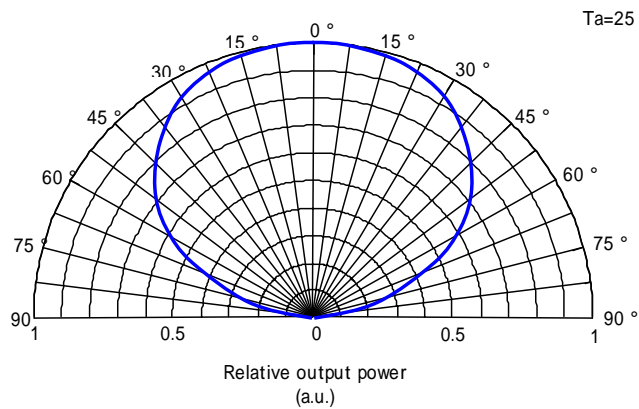
Ambient temperature vs. Allowable forward current  
(3 W heat sink in use)



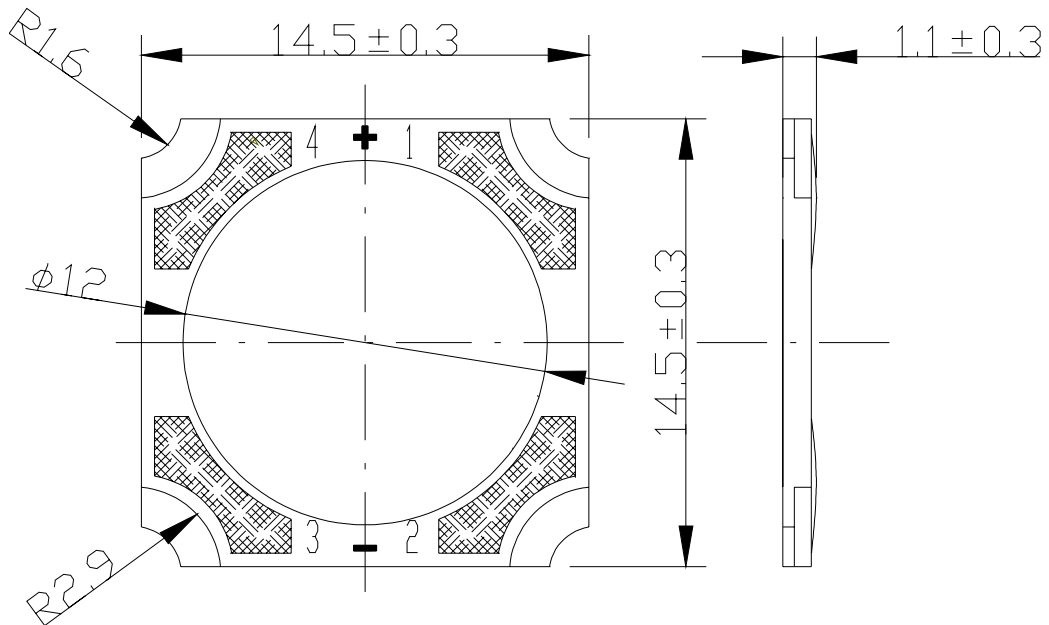
Wavelength vs. Relative output power



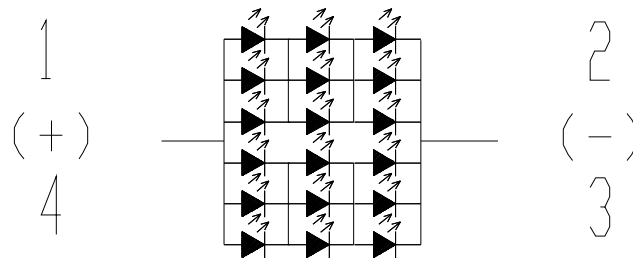
Directivity



Dimensional outline drawing

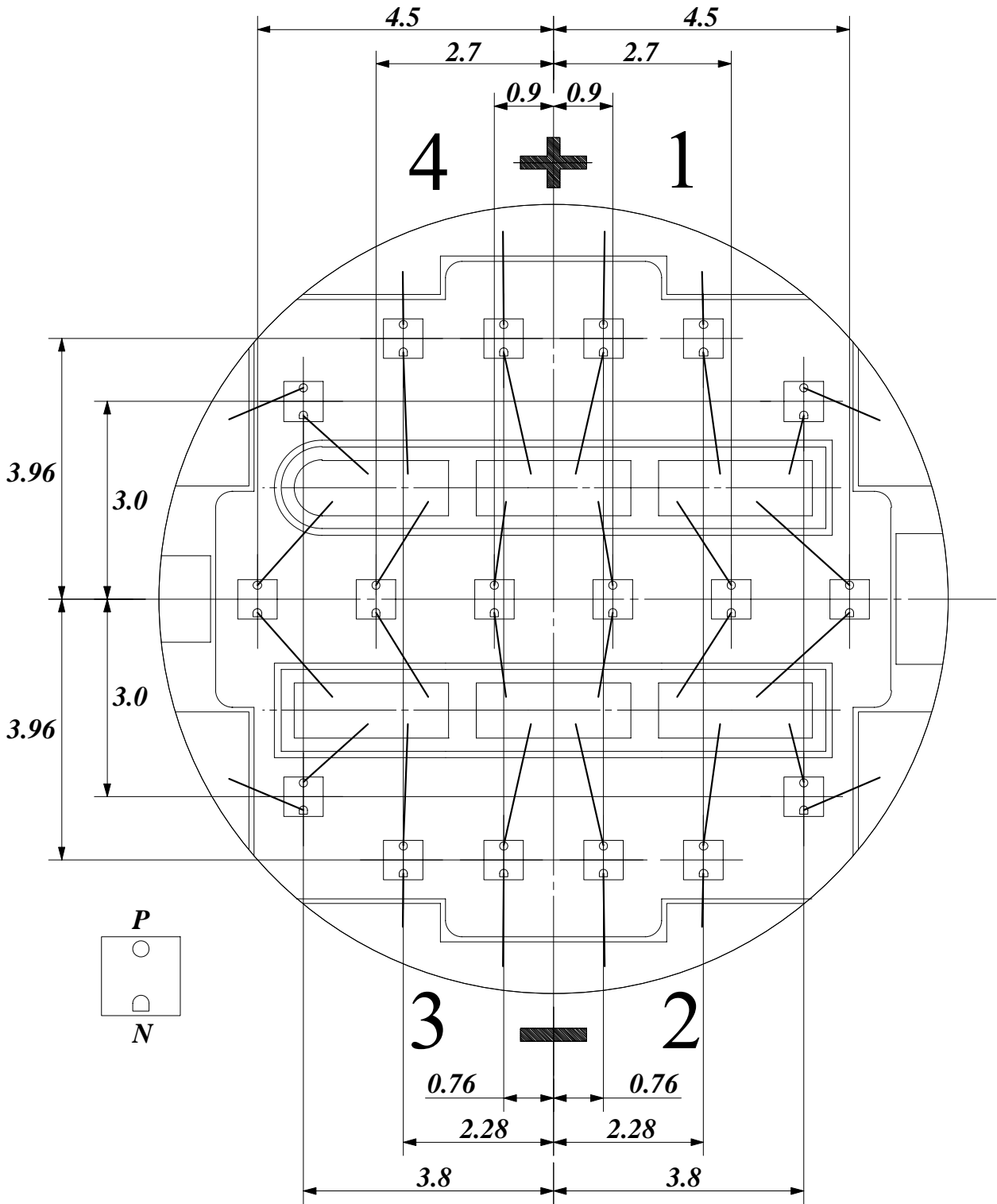


LED circuit diagram



	Material
Electrode	AgPd
Sealing	Silicone resin
Base	Metal composite substrate (Bottom : NiO)

LED chip layout dimensional drawing



Unit:mm

NS375M-CPFX  
090120-NS