

## YL-C625nM-400mcd

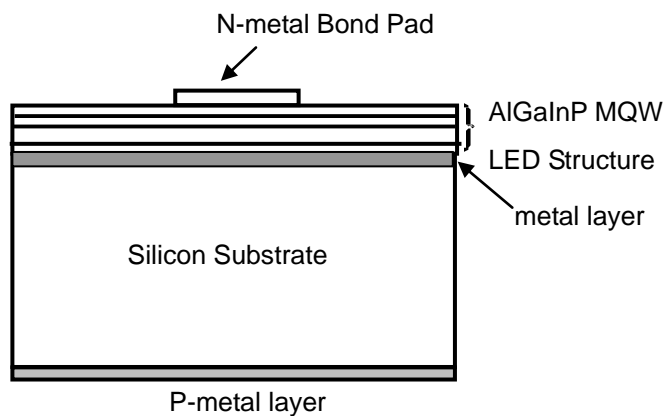
### 1. Descriptions:

YL-C625nM-400mcd is a reddish-orange LED chip made from Aluminum Gallium Indium Phosphide (AlGaInP) MOCVD process and bonded with Silicon. It is fabricated by the YESLED's proprietary metal Bonding mechanism, YL-C625nM-400mcd is featured by homogeneous and high light output at all sides with superior beam pattern. Excellent performance under sunlight and reliable life-long stability make YL-C625nM-400mcd ideal for both lighting and outdoor applications.

### 2. Chip Diagram:



Chip pattern



Chip Side view

### 3. Chip characteristics:

Substrate	Si
Emitting material	AlGaInP
p-pad electrode	Au-alloy
n-pad electrode	Au-alloy
Chip size	260±25um × 260±25um
Chip thickness	150±25um
Pad Diameter	90±15um

## 4. Electrical and Optical Characteristics(Ta=25°C):

Parameter	Condition *1	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	I <sub>F</sub> =20mA	V <sub>F1</sub>	1.8	2.0	2.4	V
Threshold voltage	I <sub>F</sub> =10uA	V <sub>F3</sub>	1.3	1.6	1.8	V
Reverse current	V <sub>R</sub> =5V	I <sub>R</sub>	-	-	10.0	uA
Peak wavelength	I <sub>F</sub> =20mA	λ <sub>p</sub>	620	-	650	nm
Dominant wavelength	I <sub>F</sub> =20mA	λ <sub>d</sub>	615	-	640	nm
Half width *2	I <sub>F</sub> =20mA	Δλ	-	15	-	nm
Luminous Intensity *3	I <sub>F</sub> =20mA	LOP	400	-	-	mcd

Note:

- \*1 I<sub>F</sub> : DC Forward current    V<sub>R</sub> : Reverse voltage
- \*2 Value of Half width is only for reference
- \*3 Luminous Intensity is measured by YESLED's equipment on bare chips.
- 4 Characteristic curves are measured on standard TO-46 package type without encapsure.

## 5. Characteristic Curves:

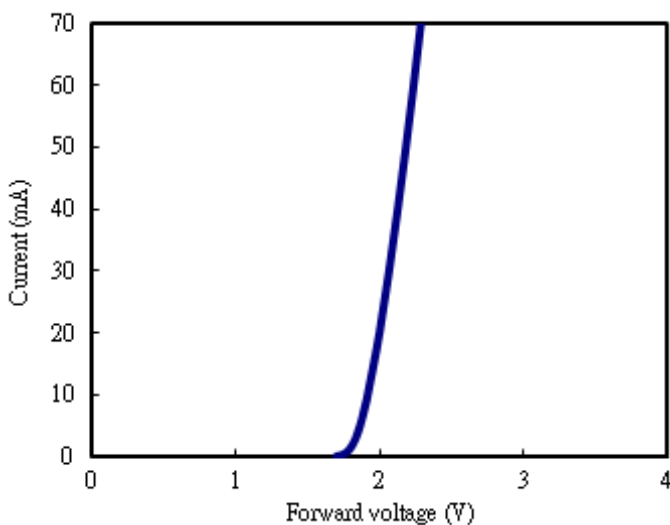


Fig.1 The I-V characteristics (0-70mA)

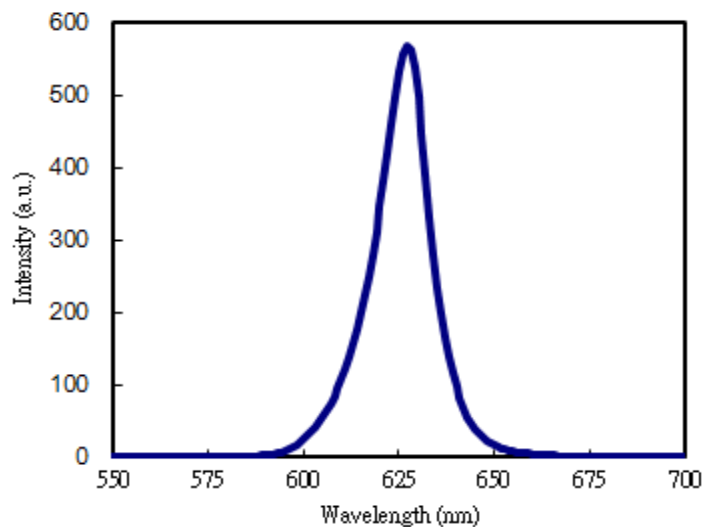


Fig.2 The EL spectrum

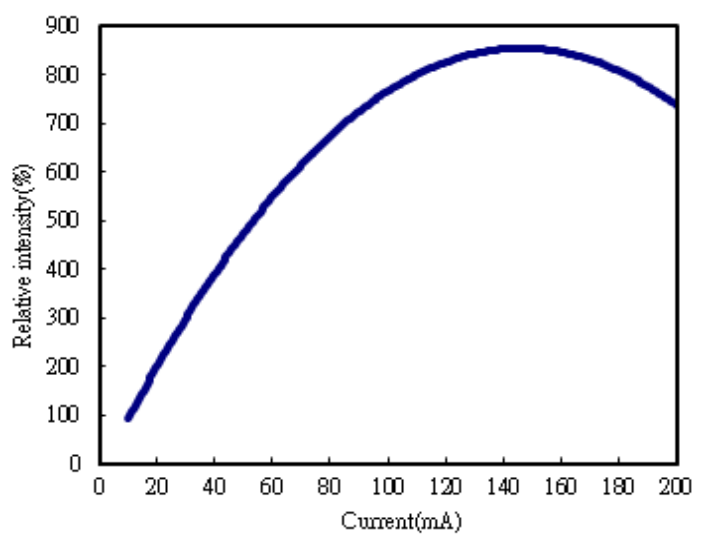


Fig.3 Relative intensity vs forward current

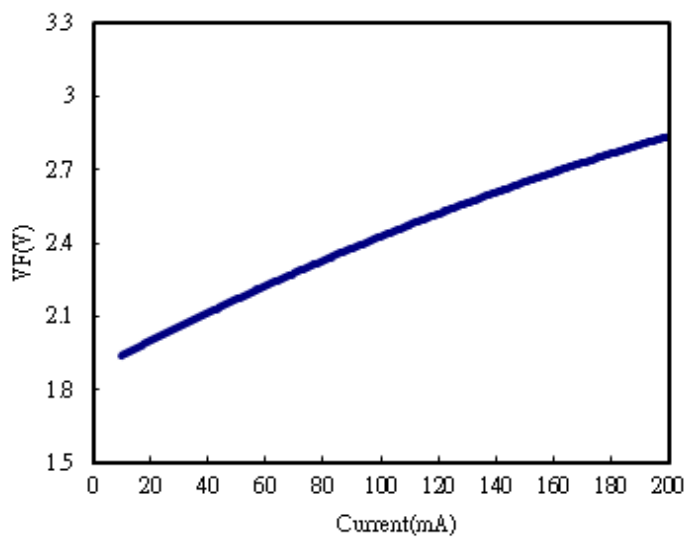


Fig.4 The V-I characteristics (0-200mA)

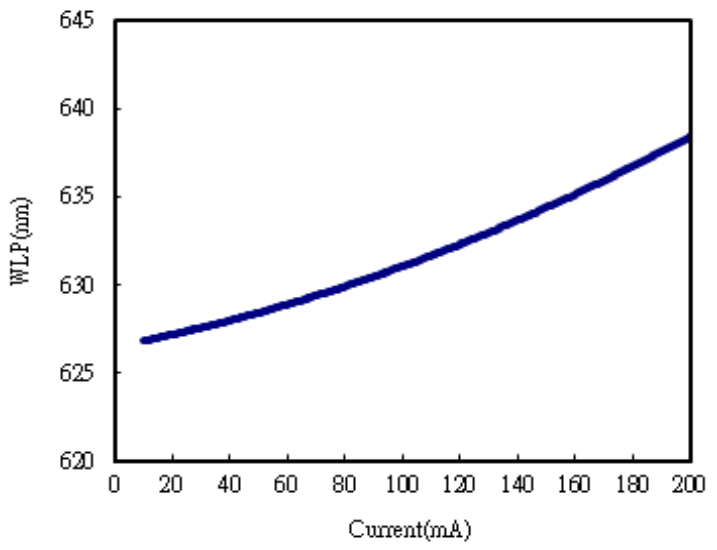


Fig.5 The WLP shift vs forward current

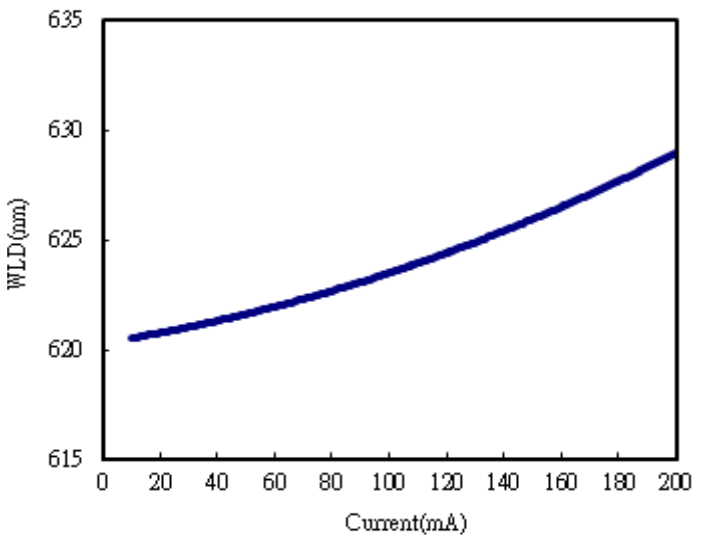


Fig.6 The WLD shift vs forward current

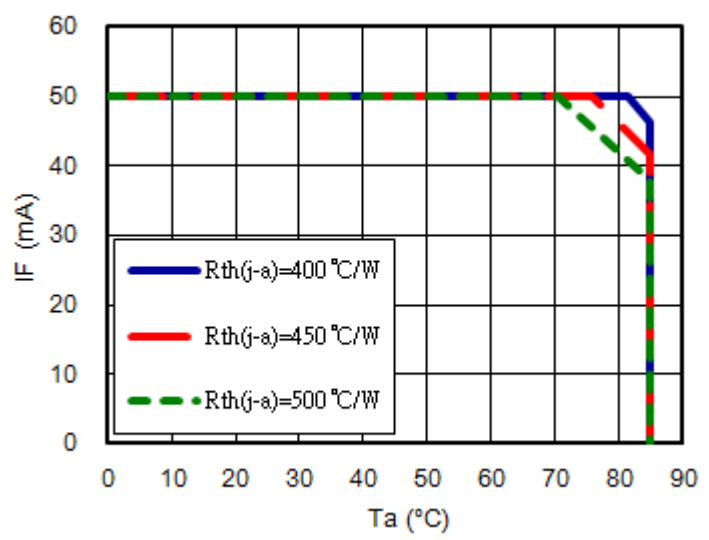


Fig.7 Derating curve based on  $T_j(\text{max})=125^{\circ}\text{C}$

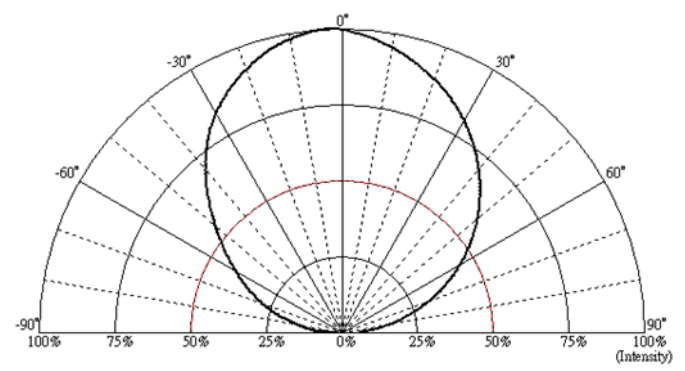


Fig.8 Light pattern and view angle of bare chip

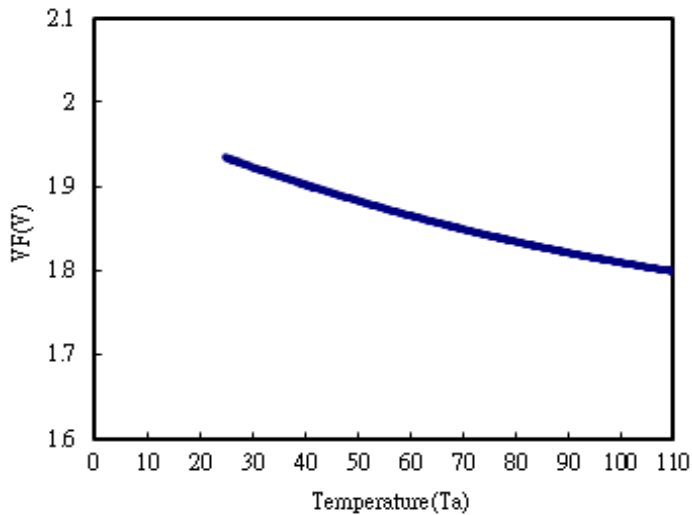


Fig.9 The forward voltage vs Ta(°C)

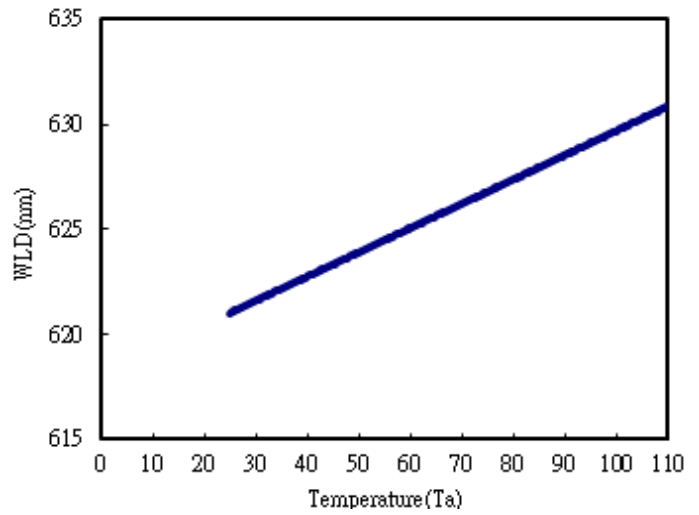


Fig.10 The WLD shift vs Ta(°C)

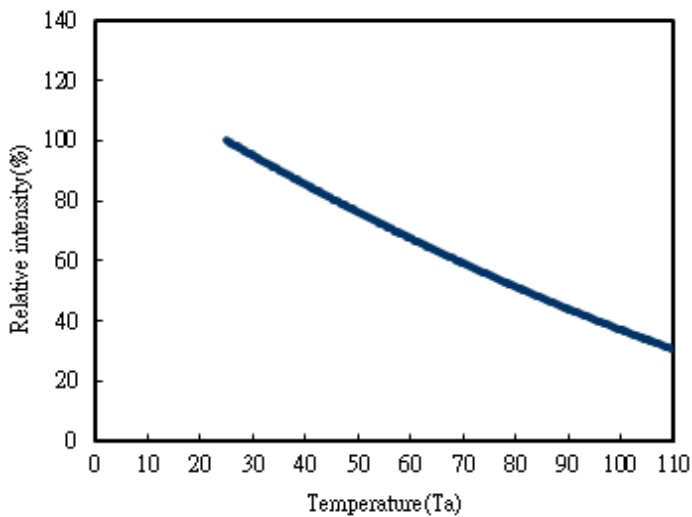


Fig.11 Relative intensity vs Ta(°C)

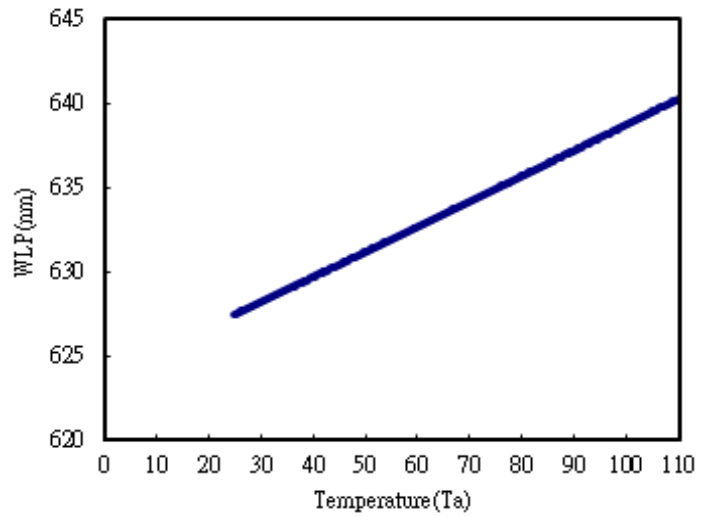


Fig.12 The WLP shift vs Ta(°C)

## 6. Absolute Maximum Ratings(Ta=25°C):

Parameter	Symbol	Condition	Rating
DC Forward Current	I <sub>F</sub>	Ta=25°C	≤ 50mA
Peak Pulsing Current	I <sub>peak</sub>	1/10 duty cycle @ 1kHz	≤ 100mA
Reverse Voltage	V <sub>R</sub>	Ta=25°C	≤ 10V
Operating Temperature Range	T <sub>OP</sub>	-	-40°C to +85°C
Storage Temperature Range	T <sub>stg</sub>	Chip-on-tape/storage	+5°C to +30°C
		Chip-on-tape/transportation	-20°C to +65°C
LED Junction Temperature	T <sub>J</sub>	-	≤ 125°C
Temperature during Packaging	-	-	280°C (<10sec)

Note: Maximum ratings are package dependent. The above maximum ratings were determined using a Metal Core Printed Circuit

Board(MCPCB) without an encapsulant. Stress in excess of the absolute maximum ratings such as forward current and junction temperature may cause damage to the LED.