
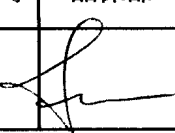
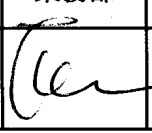



品號	UE-MHR025845 Series			申請日期	AUG/04/06	
品名	方形 25*25mm			<input checked="" type="checkbox"/> 制訂	<input type="checkbox"/> 修訂 <input type="checkbox"/> 作廢	
申請原因	新制定					
版次	制/修訂日期	制/修訂 內容			承辦人	
-	AUG/04/06	新制定			楊秀玉	
						
審	核	會簽審核部門			製	表
Ryan 8/4.06		會簽部門	品保部	業務部	研發部	楊秀玉 8/4.06
		簽核			willie 8/4	
<input checked="" type="checkbox"/> 同意 <input type="checkbox"/> 不同意						
備註:						
					核准: 	

# SPECIFICATIONS FOR UPEC POWER LIGHT SOURCE TYPE LED

**MODEL: UE-MHR025845 Series**

## Features

Highest Flux

Very long operating life ( life >> 50000hr)

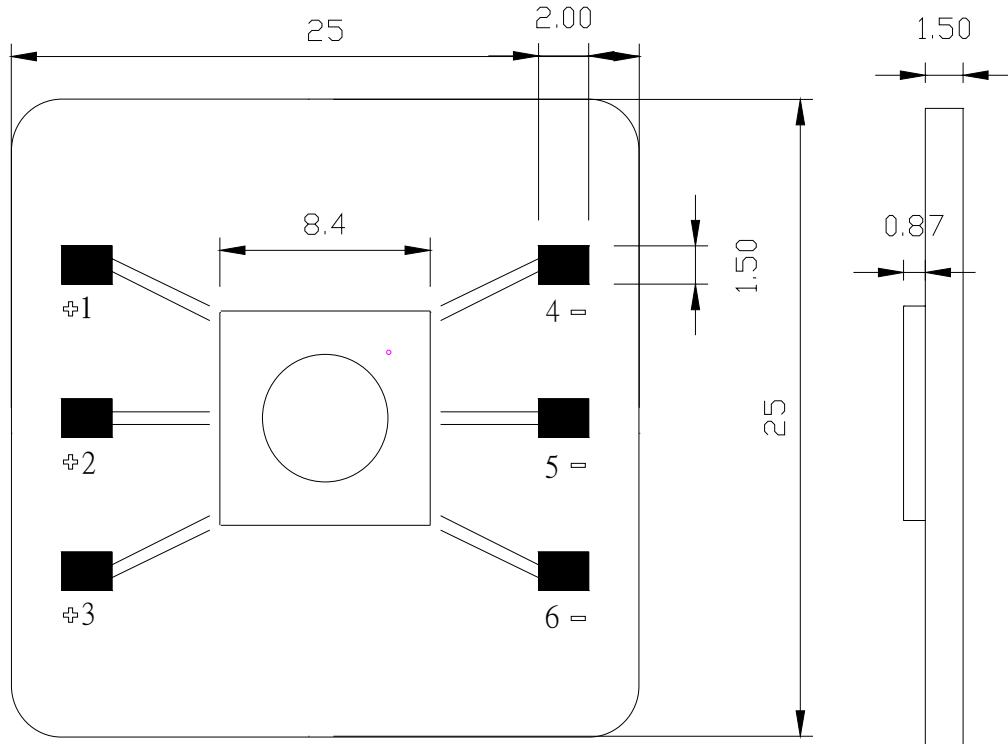
More Energy Efficient than Incandescent and most Halogen lamps

Low voltage DC operated

Instant light (less than 100 ns)

Superior ESD protection

## Package Dimensions



## Notes

1. Drawings not to scale
2. All dimensions are in millimeters .
3. Tolerance is  $\pm 0.1$ mm unless otherwise noted.
4. Protruded resin under flange is 1.0mm max.
5. Lead spacing is measured where the leads emerge from the package.
6. Specifications are subject to change without notice.
7. Precautions for ESD:  
**STATIC SHIELD** Electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded
8. This data-sheet only valid for six months

			Approved	Checked	Symbol	UPEC LED
			Ryan	Afra	Name	UE- MHR025845 Series
-	AUG/04/06	NEW				
Mark	Date	Description Approve			Drawing No	

### Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Max	Unit
Power Dissipation	PD	5	W
Pulse Forward Current	IPF	1000	mA
Forward Current	IF	700	mA
Reverse Voltage	VR	5	V
Operating Temperature Range	Topr	- 40 to +85	°C
Storage Temperature Range	Tstg	- 40 to + 100	°C

### Flux Characteristics at 700mA , Junction Temperature, TJ= 25°C

Color	Model	Min.	Typ.
White	UE-MHR02845NW	100	200
Warm White	UE--MHR02845WW	80	120
Blue	UE--MHR02845NB	35	50
Cyan	UE--MHR02845CN	120	160
Pure Green	UE--MHR02845PG	120	160
Amber	UE--MHR02845NO	100	150
Red	UE--MHR02845NR	100	150

### Optical Characteristics at 700mA , Junction Temperature, TJ = 25°C

Color	CCT / λD			Δλ	Δλ/ΔT Min.
	Min.	Typ.	Max.		
White	4500K	7000K	---	White	4500K
Warm White	2850K	3300K	---	Warm White	2850K
Blue	460nm	470nm	475nm	Blue	460nm
Cyan	495nm	505nm	510nm	Cyan	495nm
Pure Green	515nm	520nm	530nm	Pure Green	515nm
Amber	587nm	590nm	595nm	Amber	587nm
Red	615nm	620nm	630nm	Red	615nm

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**Electrical Characteristics at 700mA , Junction Temperature, TJ = 25°C**

Color	Forward Voltage			Thermal Resistance, Junction To Case °C/W	$\Delta V/\Delta T$
	Min.	Typ.	Max.		
White	5.6 v	7 v	9 v	20	-2.0
Warm White	5.6 v	7 v	9 v	20	-2.0
Blue	5.6 v	7 v	9 v	20	-2.0
Cyan	5.6 v	7 v	9 v	20	-2.0
Pure Green	5.6 v	7 v	9 v	20	-2.0
Amber	4.0 v	5.0 v	6.0 v	25	-2.0
Red	4.0 v	5.0 v	6.0 v	25	-2.0

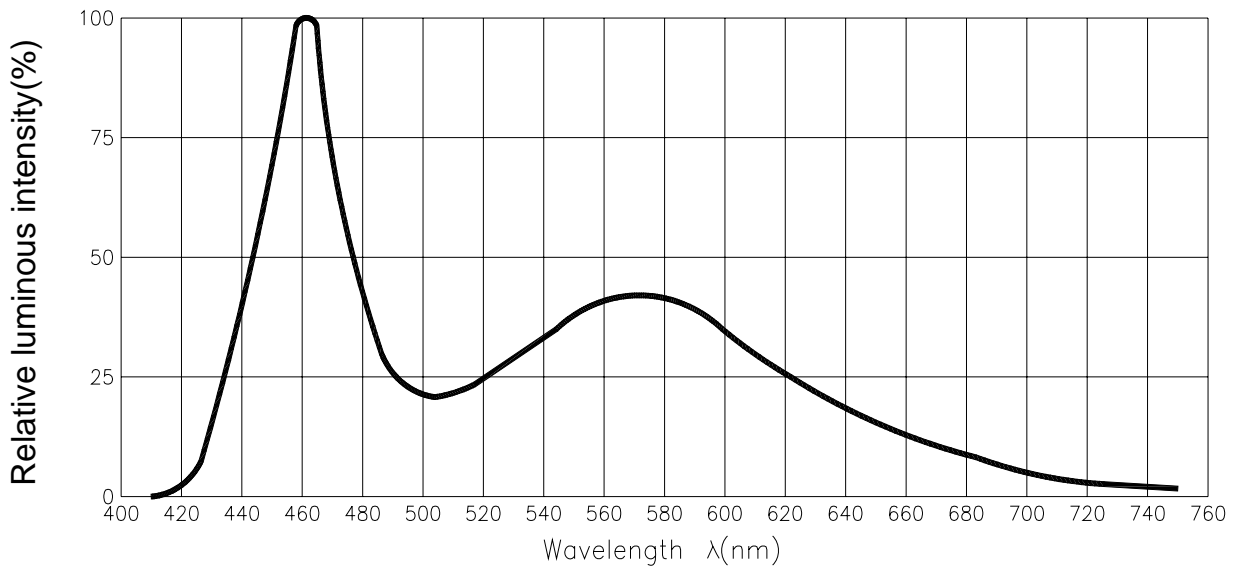
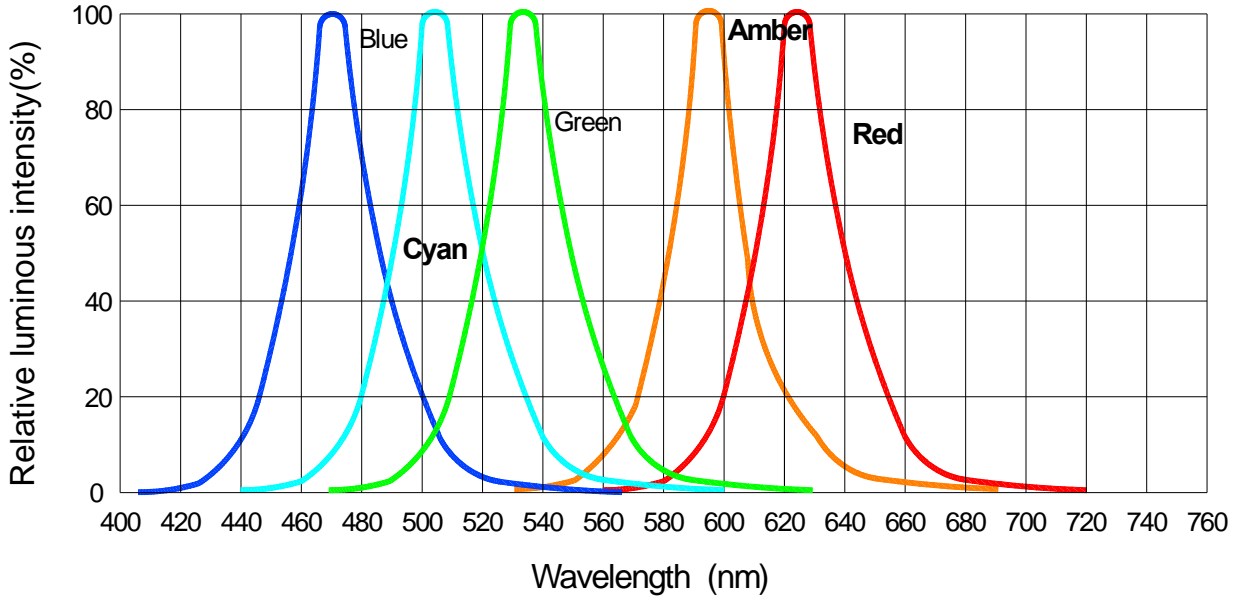
**Notes**

1. Minimum luminous flux or radiometric power performance guaranteed within published operating conditions. maintains a tolerance of  $\pm 10\%$  on flux and power measurements
2. Dominant wavelength is derived from the CIE 1931 Chromaticity diagram and represents the perceived color. maintains a tolerance of  $\pm 1$  nm for dominant wavelength measurements.
3. CCT  $\pm 5\%$  tester tolerance.
4. CRI (Color Rendering Index) for White product types is 70. CRI for Warm White product type is 90 with typical R9 value of 70.
5. Voltage maintains a tolerance of  $\pm 0.1V$  on forward voltage measurements.

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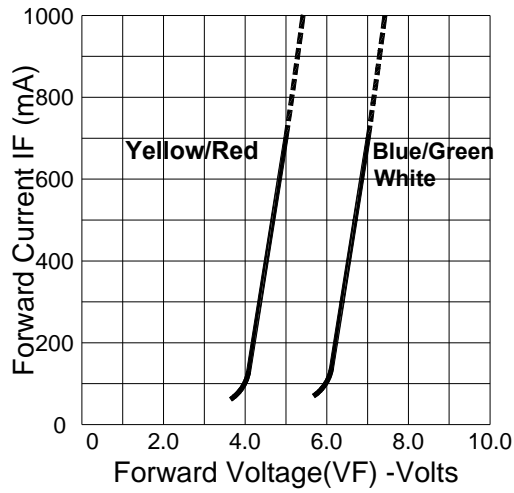
# Typical Electrical / Optical Characteristics Curves

## Spectrum Distribution

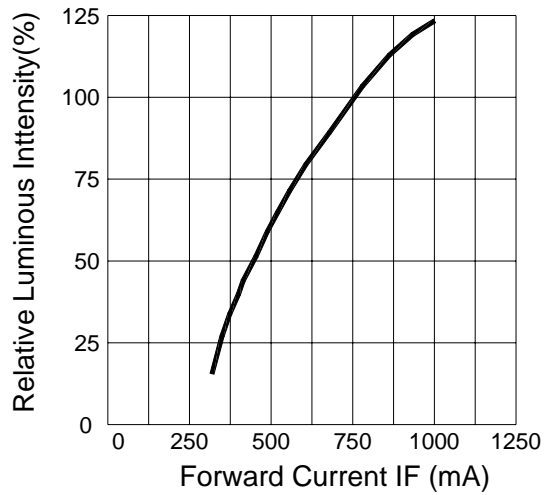


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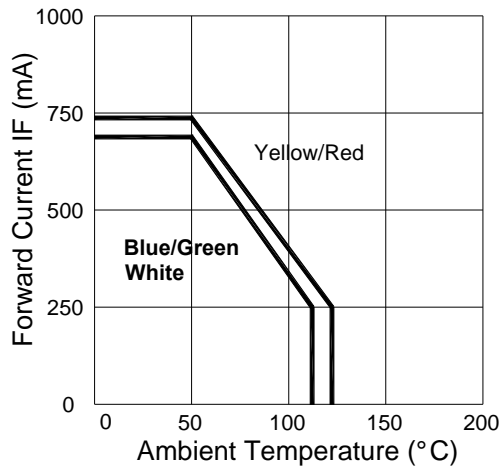
Forward Current VS. Forward Voltage



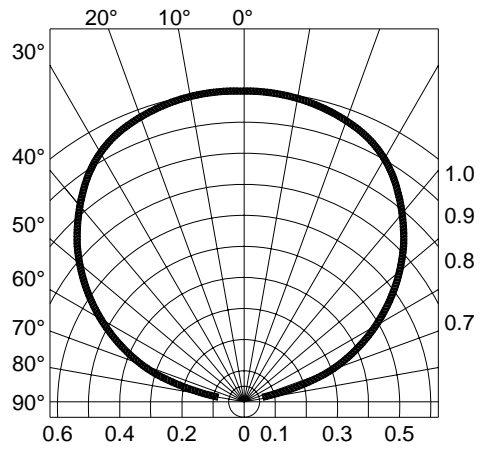
Luminous Intensity VS. Forward Current



Forward Current VS. Ambient Temperature



Radiation Diagram



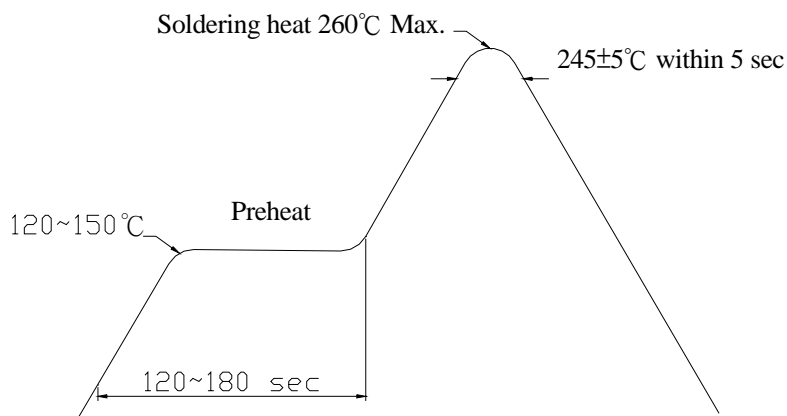
			Approved	Checked	Symbol	UPEC LED	
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Mark	Date	Description Approve				Drawing No	

### Reliability Test Items and Conditions

No.	Item	Test Conditions				Test time	Ac/Re
1	Solder Heat	260±5°C				5 sec	0/1
2	Temperature Cycle	-40°C	25°C	105°C	25°C	100cycle	0/1
		30 min	5 min	30 min	5 min		
3	Thermal Shock	-40°C		105°C		20 cycle	0/1
		5 min		5 min			
4	High Temperature Storage	85°C				1000 hrs	0/1
5	Low Temperature Storage	-35°C				1000 hrs	0/1
6	DC Operating Life	I <sub>F</sub> =700mA				1000 hrs	0/1
7	High Temperature/High Humidity	Ta 60°C · R.H 90%.				1000 hrs	0/1
Judgment Criteria		Forward Voltage V <sub>f</sub>			V <sub>fmax</sub> Increase <1.2x		
		Reverse Current I <sub>R</sub>			I <sub>Rmax</sub> Increase <2x		
		Luminous Intensity Flux			I <sub>v</sub> Decay < 50%		

Note : Measurement shall be taken after the tested samples have been returned to normal ambient conditions (generally after two hours) ; Sample Q'ty is 30 pcs.

Soldering heat reliability ( DIP ) : Please refer to the following figure



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Mark	Date	Description Approve				

## Precautions For Use

- **Over-current-proof**

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen)

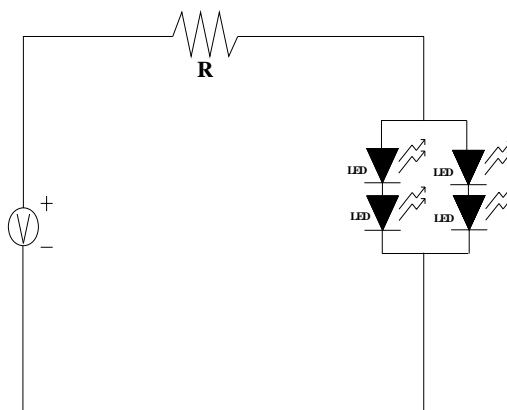
- **Storage**

1. The operation of temperature and R.H. are :  $-20^{\circ}\text{C} \sim 80^{\circ}\text{C}$ , 60%R.H. Max..
2. Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a dampproof box with desiccating agent. Considering the tape life, we suggest our customers to use our products within 1.5 year (from production date) .

It is recommended to bake before soldering when the package is unsealed after 72 hrs.

The condition is :  $60^{\circ}\text{C} \pm 5^{\circ}\text{C}$  for 15hrs.

## Test Circuit



## Soldering Conditions

Reflow soldering			Hand Soldering	
	Lead Solder	Lead – free Solder	Temp. Soldering	350°C Max.
Pre-Heat	120~150°C	180~200°C	time	3 sec .Max.
Pre-heat time	120 sec. Max.	120 sec. Max.		
Peak Temperature	240°C . Max.	260°C . Max.		
Soldering Time	10 sec . Max.	10 sec . Max.		

- Occasionally there is a brightness decrease caused by the influence of heat or ambient atmosphere during air reflow . It is recommended that the User use the nitrogen reflow method.
- Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable , a double-head soldering iron should be used. It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.
- Reflow soldering should not be done more than two times.
- When soldering ,do not put stress on LEDs during heating.
- After soldering ,do not warp the circuit board.

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