

# HELIOPTO

[www.heliopto.com](http://www.heliopto.com)

海立爾股份有限公司

HELI 

HV  
LED  
BULB  
SOLUTION  
PIONEER



*Emerging with HV Bulb®*

# ABOUT HELIOPTO



HELIOPTO, a leading brand in High power LEDs since 2006, located in Hsinchu, Taiwan. Originated from the renowned Industrial Technology Research Institute (ITRI), we focus on LED packaging technologies including silicone injection molding, AC 12V/110V emitter, HV 110V emitter, IR emitter, UV emitter and ceramic COB package.

Today, as a technology leading company, HELIOPTO advocates the most advanced solution in light bulb. Introducing the High Voltage (HV) LED solution, and the promise of 9999 from HELIOPTO, we can provide you the best way to make A19 bulb with luminous efficacy at least 90lm/W, power factor at least 0.9, and CRI at least 90.

With solid IP support and UL certification from HELIOPTO, we are looking forward to partnering with you to deliver the best packages, modules, or finished products in LED lighting market.

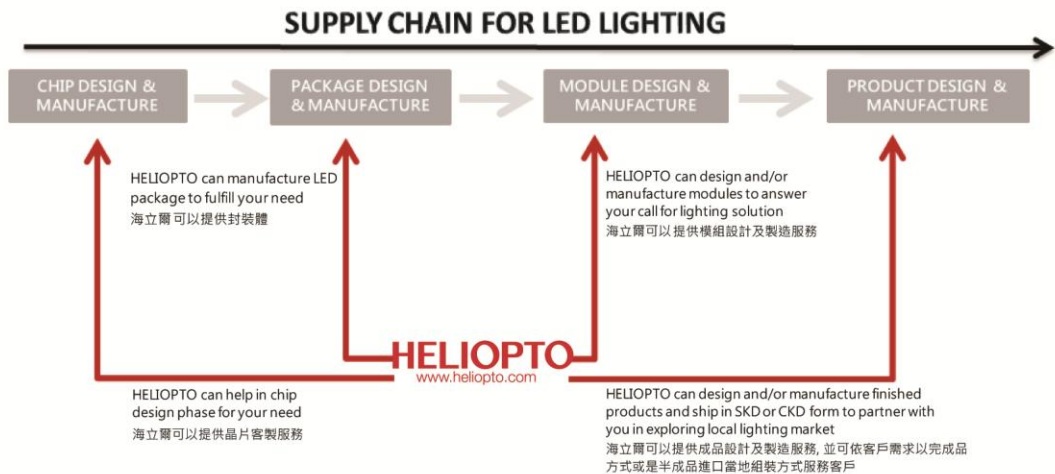
## HV Bulb<sup>®</sup> SOLUTION



A19 Bulb  
Power Factor > 0.9  
Efficacy > 90 lm/W  
CRI > 90



# BUSINESS MODEL

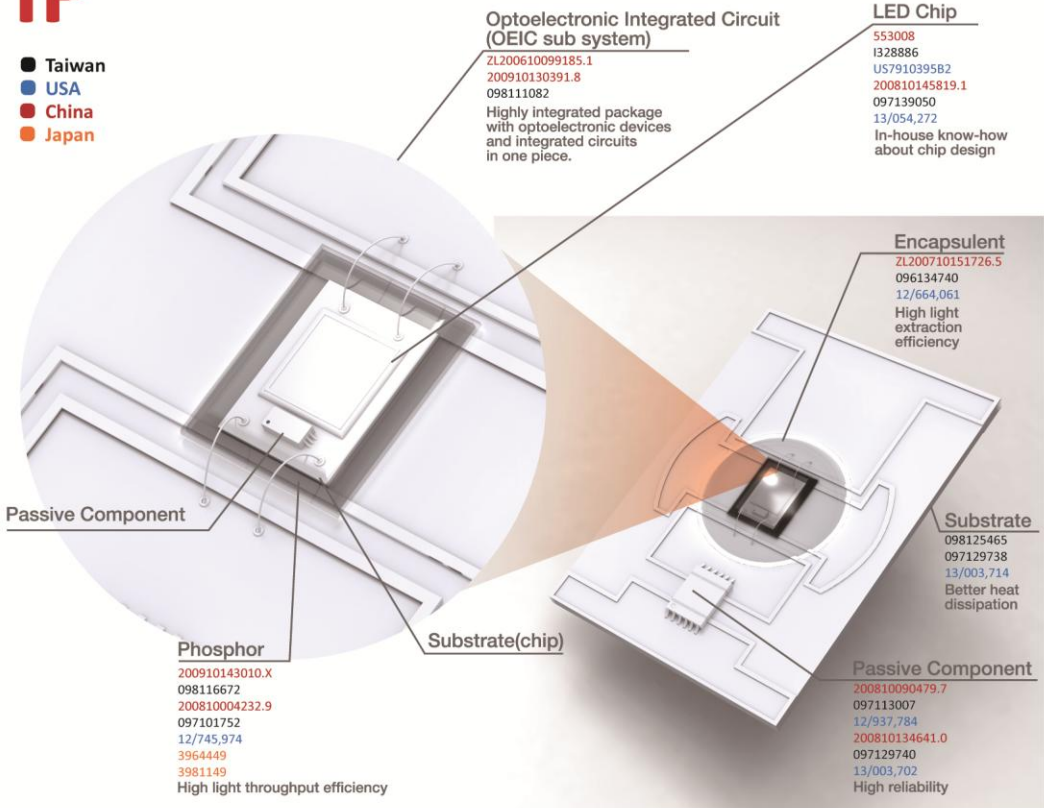


At HELIOPTO, we can provide you the lighting solution to fit your need at any phase of product development, whether it is at chip phase, package phase, module phase or finished product phase.  
With HELIOPTO, you literally have your own supply chain in LED lighting that can answer the call from your market.  
Let us work together to fight against the giants. With your commitment, together we can win it big time!

# OEIC SUB SYSTEM



- Taiwan
- USA
- China
- Japan



## Phosphor | LED Chip | Passive Component | Substrate | Encapsulent

A light-sensitive layer is formed over the light-emitting diode and the substrate.

A phosphor-adhesive material is filled on the area of the light-emitting diode chip.

Provide a novel LED structure that remedies the defects of the conventional products while facilitating interconnection between LEDs and easy manufacture of an LED single-structure.

The LED carrier structure comprises a body, at least one pair of metal layers, at least one dielectric layer and at least two conducting channels.

A LED structure includes the circuit substrate and at least one LED die.

The circuit substrate has a substrate, a metallic heat-conducting layer and at least two conductive layers.

A manufacturing method and a structure of a light-emitting diode (LED) with a multilayered optical lens.

# HIGH VOLTAGE SERIES



Saving energy and cost reduction from transformer  
 Easy adaption for existing dimming circuit  
 Compact design  
 UL certified

## HV series

### HMD5-E1LW

Color	Luminous flux	CCT	CRI	Forward Current	Forward Voltage
White	100lm/140lm	5000-10000K	70	20mA/30mA	50V

### HMD5-E1LV

Color	Luminous flux	CCT	CRI	Forward Current	Forward Voltage
Warm White	80lm/110lm	2650-3650K	80	20mA/30mA	50V

### HMD6-E1LW

Color	Luminous flux	CCT	CRI	Forward Current	Forward Voltage
White	90lm/125lm	5000-10000K	70	20mA/30mA	60V

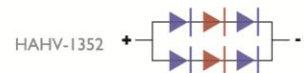
### HMD7-E1LW

Color	Luminous flux	CCT	CRI	Forward Current	Forward Voltage
White	90lm/120lm	5000-10000K	70	15mA/20mA	70V

## HV COB series

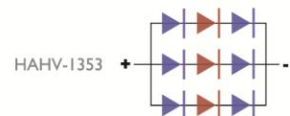
### HAHV-1352

Luminous flux	CCT	CRI	Forward Current	Forward Voltage	Suitable to Replace Incandescent Light Bulb
540lm/750lm	2650-3650K	90	40mA/60mA	135V	40W (460 lm)



### HAHV-1353

Luminous flux	CCT	CRI	Forward Current	Forward Voltage	Suitable to Replace Incandescent Light Bulb
850lm/1120lm	2650-3650K	90	60mA/90mA	135V	60W (890 lm)



# HELIXEON SERIES

HELIO silicone injection molding technology

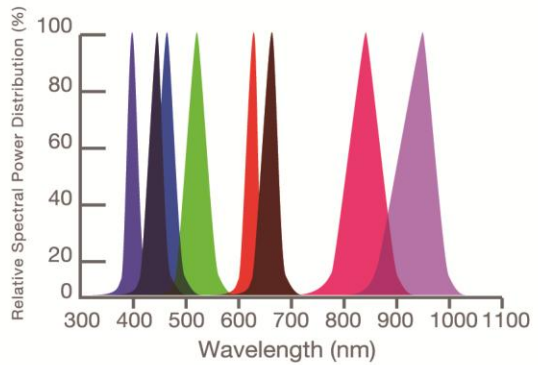
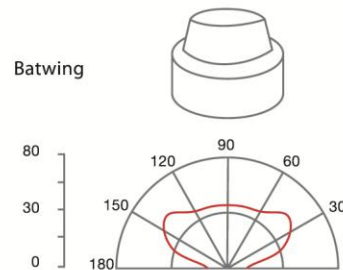
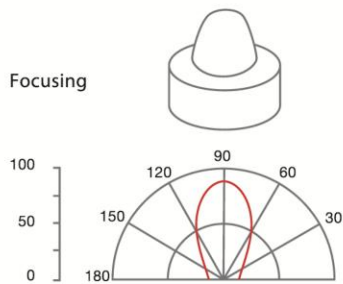
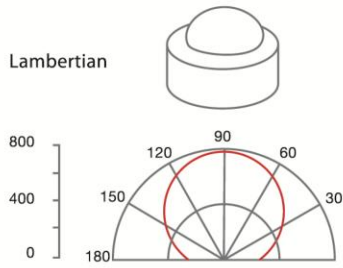
a. types of emitters :

- Lambertian (120°)
- Focusing (60°)
- Batwing (140°)

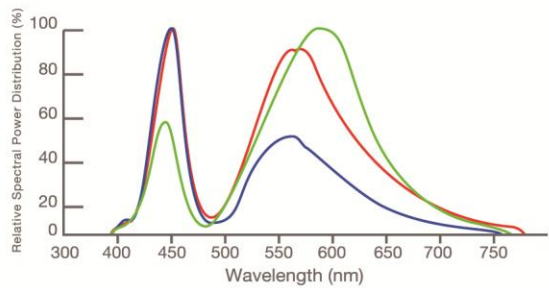


b. wide range of color with uniform quality :

- white, neutral white, warm white, red, amber, green and blue



- UV405
- RoyalBlue
- Blue
- Green
- Amber
- Red
- HyperRed
- IR850
- IR940



- White
- NeutralWhite
- WarmWhite

## HELIXEON SERIES

## White Series



## Cool White

Product	Luminous Flux	CCT	CRI	Forward Current	Forward Voltage	
1W	HMHP-E1HW	110 lm	5000K-10000K	70	350mA	3.0-3.6 V
	HMDP-E1HW	100 lm	5000K-10000K	70	350mA	3.2-3.8 V
3W	HMHP-E3HW	190 lm	5000K-10000K	70	700mA	3.2-3.8 V
	HMEP-E3HW	200 lm	5000K-10000K	70	700mA	3.0-3.6 V

## Warm White

Product	Luminous Flux	CCT	CRI	Forward Current	Forward Voltage	
1W	HMHP-E1HV	90 lm	2650K-3250K	60	350mA	3.0-3.6 V
	HMHP-E1HV9	65 lm	2580K-2870K	90	350mA	3.0-3.6 V
	HMHP-E1HV8	80 lm	2870K-3220K	80	350mA	3.0-3.6 V
	HMDP-E1HV8	75 lm	2870K-3220K	80	350mA	3.2-3.8 V
3W	HMHP-E3HV	160 lm	2650K-3250K	60	700mA	3.2-3.8 V
	HMHP-E3HV9	100 lm	2580K-2870K	90	700mA	3.2-3.8 V
	HMHP-E3HV8	140 lm	2870K-3220K	80	700mA	3.2-3.8 V

## Neutral White

Product	Luminous Flux	CCT	CRI	Forward Current	Forward Voltage	
1W	HMHP-E1HS	110 lm	3500K-4500K	70	350mA	3.0-3.6 V
	HMHP-E1HS8	85 lm	3710K-4260K	80	350mA	3.0-3.6 V
3W	HMHP-E3HS	190 lm	3500K-4500K	70	700mA	3.2-3.8 V
	HMHP-E3HS8	145 lm	3710K-4260K	80	700mA	3.2-3.8 V

## AC110V Series



Product	Luminous Flux	CCT	CRI	Forward Current	Forward Voltage	
1W	White	85 lm	4745K-7040K	70	10 mA	100-120 V
	Warm white	75 lm	2580K-3220K	80	10 mA	100-120 V

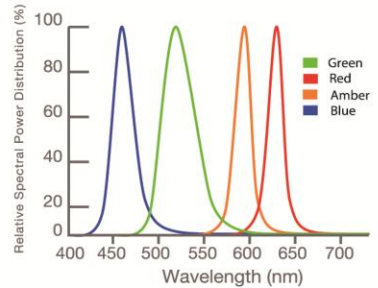
# HELIXEON SERIES

## Color Series



Product	Color	Dominant Wavelength	Luminous Flux	Forward Current	Forward Voltage	
1W	HMHP-E1HR	Red	610-630nm	55 lm	350mA	2.0-3.0 V
	HMHP-E1HA	Amber	585-595nm	55 lm	350mA	2.0-3.0 V
	HMHP-E1HG	Green	515-535nm	100 lm	350mA	3.0-4.0 V
	HMHP-E1HB	Blue	460-475nm	24 lm	350mA	3.0-4.0 V
3W	HMHP-E3HR	Red	610-630nm	100 lm	700mA	2.0-3.0 V
	HMHP-E3HA	Amber	585-595nm	100 lm	700mA	2.0-3.0 V
	HMHP-E3HG	Green	515-535nm	160 lm	700mA	3.5-4.5 V
	HMHP-E3HB	Blue	460-475nm	40 lm	700mA	3.5-4.5 V

Wavelength Characteristics



## UV/IR Series



Features	Application	Features	Application
<ul style="list-style-type: none"> <li>-High radiant flux output</li> <li>-Long life operation</li> <li>-Compact package</li> <li>-RoHS certification</li> <li>-Superior ESD protection</li> </ul>	<ul style="list-style-type: none"> <li>-Counterfeit currency</li> <li>-Defect detection</li> <li>-Medical treatment</li> <li>-Party lighting</li> </ul>	<ul style="list-style-type: none"> <li>-Low thermal resistance</li> <li>-Instant response</li> <li>-Fully dimmable</li> <li>-Superior ESD protection</li> <li>-Lead free reflow solder</li> <li>JEDEC 020c compatible</li> <li>-RoHS compliant</li> </ul>	<ul style="list-style-type: none"> <li>-CCTV</li> <li>-Wireless communication</li> </ul>

Product	Spectrum	Peak wavelength	Radiation Power	Forward Current	Forward Voltage	
UV	HMHP-C1LU	Ultraviolet	405nm	350mW	350mA	3.0-4.0 V
	HMHP-E1LU	Ultraviolet	405nm	350mW	350mA	3.0-4.0 V
IR	HMEP-E1LM	Infrared	850nm	500mW	700mA	1.4-2.4 V
	HMEP-E3LM	Infrared	850nm	1000mW	1500mA	1.4-2.4 V



## HELIXEON SERIES

### R.G.B in One Series



#### Features

- Better light-color distribution (better wavelength control)
- Forward current 350mA for HMHP-E1LF and 700mA for HMHP-E3LF on single chip
- Able to light up at the same time  
(Tb has to be at 60°C for HMHP-E3LF)
- Better price/performance ratio and smaller space usage than single red, green, and blue emitters combined

## Optimal Color Mixing

Product	Color	Dominant Wavelength	Luminous Flux	Forward Current	Forward Voltage
HMHP-E1LF	R	615-630nm	40 lm	350mA	2.0-2.6 V
	G	515-535nm	75 lm	350mA	3.0-3.6 V
	B	455-475nm	15 lm	350mA	3.0-3.6 V
HMHP-E3LF	R	615-630nm	80 lm	700mA	2.3-3.0 V
	G	515-535nm	150 lm	700mA	3.5-4.5 V
	B	455-475nm	35 lm	700mA	3.5-4.5 V

## Maximum Brightness

Product	Color	Dominant Wavelength	Luminous Flux	Forward Current	Forward Voltage
HMHP-E3LF	R	615-630nm	100 lm	700mA	2.0-2.6 V
	G	515-535nm	160 lm	700mA	3.0-3.6 V
	B	455-475nm	40 lm	700mA	3.0-3.6 V

### Biochemistry Series

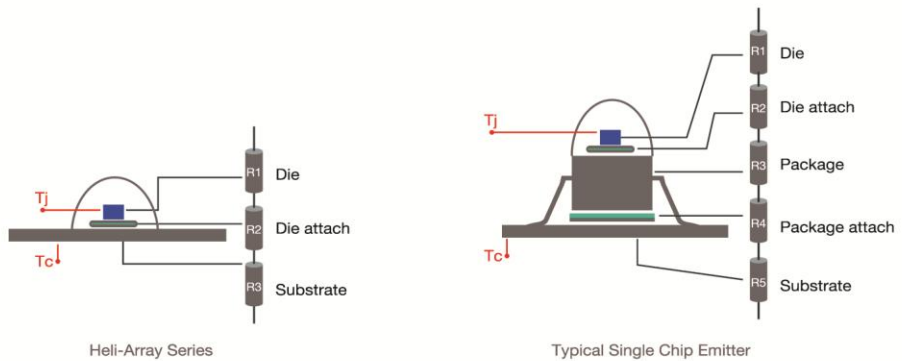


Application	Product	Peak Wavelength	Radiant Flux	Forward Current	Forward Voltage
-Horticulture plant growing	Royal Blue	440nm	320mW	350mA	3.0-4.0 V
-Dental light for curing	Blue	460nm	380mW	350mA	3.0-4.0 V
-Decoration lighting	Red	630nm	230mW	350mA	2.0-3.0 V
-Architectural lighting	Hyper Red	660nm	200mW	350mA	2.0-3.0 V
	Cherry Red	730nm	120mW	350mA	1.5-2.5 V

# HELI-ARRAY



Low Thermal Resistance  
 Easy Optical Design and Application  
 Low Assembly Cost



## 5W

CCT	Luminous Flux	CRI	Forward Current	Forward Voltage	View Angle
ANSI 5700K	400 lm	70	350mA	11-14	120°
ANSI 3000k	320 lm	80	350mA	11-14	120°

## 9W

CCT	Luminous Flux	CRI	Forward Current	Forward Voltage	View Angle
ANSI 5700k	750 lm	70	350mA	24-32	120°
ANSI 3000k	520 lm	80	350mA	24-32	120°

## 13W

CCT	Luminous Flux	CRI	Forward Current	Forward Voltage	View Angle
ANSI 5700k	1100 lm	70	1.05A	12-16	120°
ANSI 3000k	900 lm	80	1.05A	12-16	120°

## 17W

CCT	Luminous Flux	CRI	Forward Current	Forward Voltage	View Angle
ANSI 5700k	1500 lm	70	1.3A	12-16	120°
ANSI 3000k	1100 lm	80	1.3A	12-16	120°

## 30W

CCT	Luminous Flux	CRI	Forward Current	Forward Voltage	View Angle
ANSI 4100k	2100 lm	80	1750mA	17	120°

## HELIO Optoelectronics Corporation

Founded in 2006.

Headquarter : Hsinchu, Taiwan

### Main Services

High Power LED Package  
LED Chip Design  
LED Module  
TEMOC Solution

### Distributors around the world

#### Taiwan



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