

MANKUN ELECTRONIC CO., LTD.

Manufacturer Of LED Lighting Solution

满坤电子有限公司
MANKUN ELECTRONIC CO., LTD.

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ABOUT US

Mankun electronics co., ltd. was founded in August 2005, is a collection of LED lighting PCB circuit board research and development, production, sales in one of the highModern enterprise with new technology. Has a number of imported automatic production lines, strict management system and excellent technology research and development and managementTalent, and in February 2008 established Taiwan man kun electronics co., LTD.

Professional PCB PCB is engaged in the production of single and double aluminum substrate, copper substrate, FR4 fiberboard, multilayer PCB and flexible PCB.A complete set of imported advanced circuit board production equipment and electronic mounting equipment. The products are mainly used in LED lighting (LED commercial lighting,LED indoor and outdoor lighting, LED industrial lighting, LED vehicle lighting) electronics, machinery, communications, medical and other areas with high heat dissipation requirements;The company has passed UL certification (certificate number: E334090) excellent quality circuit board manufacturers.

The company is the "quality first, keep improving" quality policy, strong research and development capacity, has a number of patents to lay a solid foundationOur products are widely exported to Europe, Russia, South Korea and other countries and regions. Companies adhering to the Customer-oriented, with better quality, better efficiency, better service, to create higher value for customers at home and abroad.

滿坤電子有限公司創立於2005年8月，是集LED燈具PCB線路板研發、生產、銷售於一體的高新技術現代化企業。擁有多條進口全自動生產線，嚴格的管理體系和優秀的技術研發及管理人才，於2008年2月成立臺灣滿坤電子有限公司。

專業PCB線路板從事生產單雙面鋁基板、銅基板、FR4玻纖板、多層線路板及軟性電路板等。全套引進先進的線路板生產設備及電子貼裝設備。產品主要應用於LED照明（LED商業照明、LED室內外照明、LED工業照明、LED車燈照明）電子、機械、通訊、醫療等高散熱需求領域；公司通過了UL認證（證號：E334090）品質卓越的線路板廠家。

公司本著“質量第一、精益求精”的質量方針，強大的研發能力，擁有多項發明專利奠定了雄厚的技術實力及豐富的生產經驗，產品廣泛出口到歐洲、俄羅斯、韓國等國家和地區。公司秉承以客戶為中心，用更好的質量、更好的效率、更好的服務、為國內外客戶創造更高的價值。



MANKUN ELECTRONICS

MANKUN Electronics is a GuangZhou company established in 2005, focused on development of solid state lighting solutions (LEDs).

We continually enrich our product portfolio with state of the art LED solutions, enabling our customers to rapidly develop and deploy new fixtures with the latest technology.

We believe in each customer's unique needs. For this reason we count On our team's experience to deliver the right project.

EXPERTISE

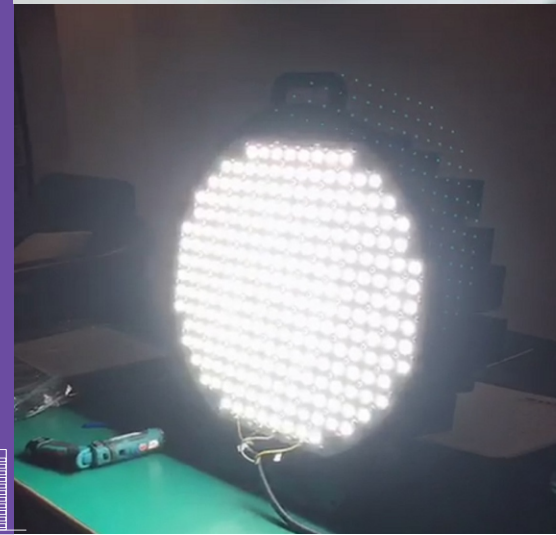
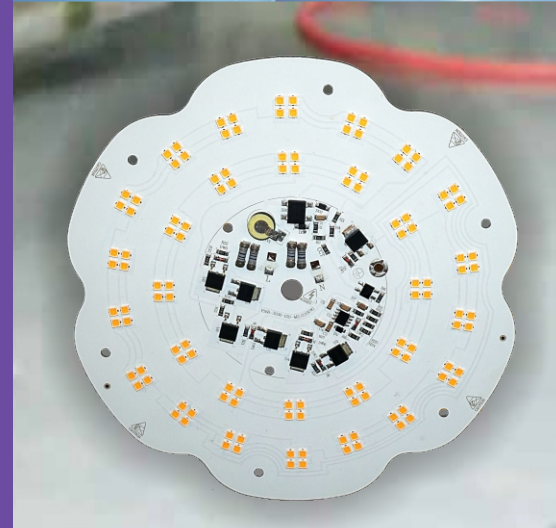
With our background and experience in the lighting industry we are able to create and offer customized products.

INNOVATION

We invest in research, development and use of the latest technologies, leading us to innovative solutions.

ENVIRONMENT

We develop products focused on conservation of energy resources.



Overview & Technology

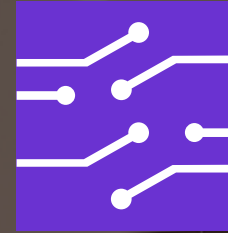
Mankun Electronics Co.,LTD is a global leader in LED Professional Lighting Program Provider.

With 15 year's PCB manufacturer experience,Mankun professional technical team is constantly improving the PCB technical level and production capacity. As a PCB vendor, We are not only provide one-stop service including PCB design, PCB manufacturer PCB assembly service. but also the LED technology enterprises which main in LED Commercial lighting, office light with design, development,production and marketing.



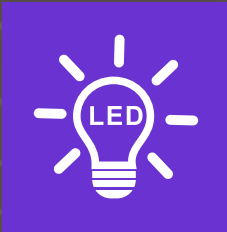
LED Module Design

Mankun designs and develops custom LED modules according to your exact needs to enable your unique LED lighting products.



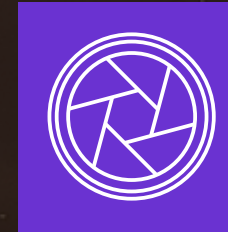
Layout

PCB is designed to meet safety standards, while considering reliable electrical and thermal characteristics.



Conceptual Design

Key aspects the LED module are determined in close communication with customers. Such conceptual design includes PCB material and LED selection, and calculation of required number of LEDs.



Optics

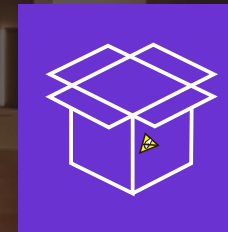
Some LED modules are supplied with integrated optics. When there is no standard lens available, custom lens is development to meet customer's unique requirements. Our experience includes.

- Street light applications based on high power LED
- Wide beam angle lens for mid power LED



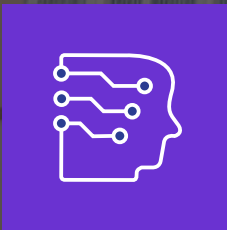
Driver Design

MANKUN currently has DMX dual-color temperature dimming controller and driver, product research and development based on "high compatibility, no flicker" for dimming, toning temperature, zoning networking, scene storage and other lighting control functions.

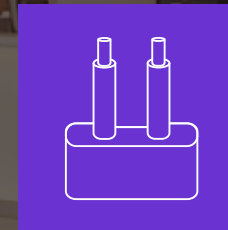


Packaging

Reliable and ESD-safe export packaging is designed for each model and applied to protect LED modules during transportation.



Mechanical drawing is also finalized during this stage defining external dimension, component and hole positions etc.



Wire Harness

For some applications, wire harness is developed and supplied together with LED modules to ensure convenient and reliable electrical connection.

现有产品方案 / PROTOTYPES

供货方式 / WE OFFER

-  数量不限
No MOQ
-  2个星期交货
Shipment in 2 weeks

所享服务 / YOU GET

-  定制要求设计生产
Customized design
-  订货数量大价便
Rebate on high VOLUME ORDERS

小批量订货方案 / SMALL VOLUME

供货方式 / WE OFFER

-  数量不限
No MOQ
-  4个星期交货
Shipment in 4 weeks

所享服务 / YOU GET

-  定制要求设计生产
Customized design
-  减少库存或试验性经营批量
Reduced inventory or pilot run lots

大批量订货方案 / HIGH VOLUME

供货方式 / WE OFFER

-  1000套起批量起订
Orders over 1,000pcs
-  4个星期交货
Shipment in 4 weeks

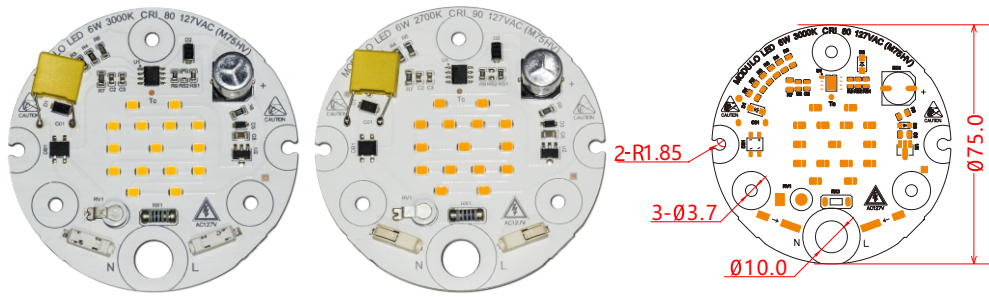
所享服务 / YOU GET

-  按客户需求定制及行业前景
Customized design and Competitiveness
-  减少库存、周转时间短、降低产品报废风险
Reduced inventory due to short lead time and lower risk of product obsolescence

MODULE-LED-6W-127VAC-Ø75mm-20135



Notes:
1. All dimensions are in millimeters.
2. Tolerance: ±0.2mm



3000K CRI80-20135

2700K CRI90-20333

Product description

Dimensiones in mm	75 x 75 x 15 mm
LED Chip	LumiLEDs 2835 9V 1W
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 127V
Power (W)	6W (@ 127V)
Power Factor	>0.95
Dimming & Flicker	TRIAC Dimmable, Flicker Free
THD (%)	<15%
Surge Tolerance	2.5KV Ring Wave Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	>80
Lumens Output (Lm)	660lm @Ra80 3000K
Light Distribution	LED Even Allgned
LED Thermal Resistance	12°C / W
Work Temperature	-40 ~ +50 °C
Life Time	>50,000 hours

Features

- Works in a 127V environment
- Compatible with TRIAC dimmers
- High power factor
- Low THD
- Low flicker(0%)
- 120V UL compliance

Typical Applications

- Ceiling Light
- Down Light
- Pendant Light
- Table lighting

Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
6W-20135	Ø75*15mm	127V AC	6W	660	3000K	80	>0.95	0%	0%	Triac
6W-20333			6W	630	2700K	90				
6W-20355		220V AC	6W	600	2700K					

Notes:
1. Luminous flux and power consumption are measured at 120 Vac, Tc=25°C
2. Luminous flux has 10% tolerance.
3. Power consumption has 10% tolerance.
4. The hot-cold factor of Tc=25°C and Tc=65°C is 0.9.
5. Surge withstand in accordance with IEC61000-4-5.

MODULE-LED-12W-220VAC-Ø75mm-20159



Notes:
1. All dimensions are in millimeters.
2. Tolerance: ±0.2mm



220V 6W-20355

120V 12W-20158

220V 12W-20159

Product description

Dimensiones in mm	75 x 75 x 15mm
LED Chip	LumiLEDs 2835 9V 1W
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 220V
Power (W)	12W (@ 220V)
Power Factor	>0.95
Dimming & Flicker	TRIAC Dimmable, Flicker Free
THD (%)	<15%
Surge Tolerance	2.5KV Ring Wave Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	Ra90
Lumens Output (Lm)	1200lm @Ra90 2700K
Light Distribution	LED Even Allgned
LED Thermal Resistance	12°C / W
Work Temperature	-40 ~ +50 °C
Life Time	>50,000 hours

Features

- Works in a 220V environment
- Compatible with TRIAC dimmers
- High power factor
- Low THD
- Low flicker(0%)
- 230V UL compliance

Typical Applications

- Ceiling Light
- Indoor Light
- Pendant Light
- Wall lighting

Technical data

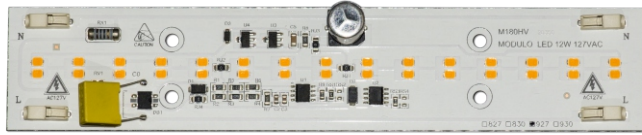
Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
12W-20158	Ø75*15mm	127V AC	12W	1230	2700K	90	>0.95	0%	0%	Triac
12W-20159		220V AC	12W	1200	2700K					

Notes:
1. Luminous flux and power consumption are measured at 120 Vac, Tc=25°C
2. Luminous flux has 10% tolerance.
3. Power consumption has 10% tolerance.
4. The hot-cold factor of Tc=25°C and Tc=65°C is 0.9.
5. Surge withstand in accordance with IEC61000-4-5.

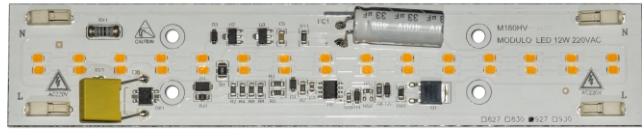
MODULE-LED-12W-127VAC-180X35mm-20356



Notes:
1. All dimensions are in millimeters.
2. Tolerance: ±0.2mm



AC127V 12W 2700K CRI90-20356



AC220V 12W 2700K CRI90-20357

Product description

Dimensiones in mm	180 x 35 x 15 mm
LED Chip	LumiLEDs 2835 9V 1W
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 127V
Power (W)	12W (@ 127V)
Power Factor	>0.95
Dimming & Flicker	TRIAC Dimmable, Flicker Free
THD (%)	<15%
Surge Tolerance	2.5KV Ring Wave Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	>90
Lumens Output (Lm)	1200lm @Ra90 2700K
Light Distribution	LED Even Allgned
LED Thermal Resistance	12°C / W
Work Temperature	-40 ~ +50 °C
Life Time	>50,000 hours

Features

- Works in a 127V environment
- Compatible with TRIAC dimmers
- High power factor
- Low THD
- Low flicker(0%)
- 120V UL compliance

Typical Applications

- Ceiling Light
- Down Light
- Pendant Light
- Table lighting

Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
12W-20356	Ø75*15mm	127V AC	12W	1230	2700K	90	>0.95	0%	0%	Triac
12W-20357		220V AC	12W	1200	2700K					

Notes:
1. Luminous flux and power consumption are measured at 120 Vac, Tc=25°C
2. Luminous flux has 10% tolerance.
3. Power consumption has 10% tolerance.
4. The hot-cold factor of Tc=25°C and Tc=65°C is 0.9.
5. Surge withstand in accordance with IEC61000-4-5.

MODULE-LED-10W-220VAC-300x24mm



Notes:
1. All dimensions are in millimeters.
2. Tolerance: ±0.2mm



Product description

Dimensiones in mm	300 x 24 x 15mm
LED Chip	LumiLEDs 2835 9V 1W
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 230V
Power (W)	10W (@ 220V)
Power Factor	>0.95
Dimming & Flicker	TRIAC Dimming no Flicker
THD (%)	<15%
Surge Tolerance	2.5KV Ring Wave Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	Ra80 / 90
Lumens Output (Lm)	1400lm @Ra80 4000K
Light Distribution	LED Even Allgned
LED Thermal Resistance	12°C / W
Work Temperature	-40 ~ +50 °C
Life Time	>50,000 hours

Features

- Works in a 220V environment
- Compatible with TRIAC dimmers
- High power factor
- Low THD
- Low flicker(<15%)
- 230V UL compliance

Typical Applications

- Ceiling Light
- Indoor Light
- Pendant Light
- Wall lighting

Technical data

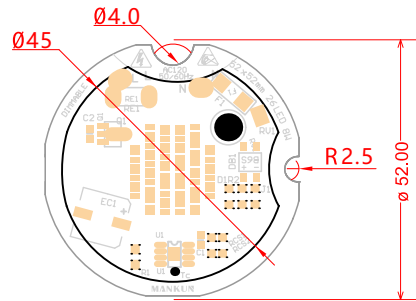
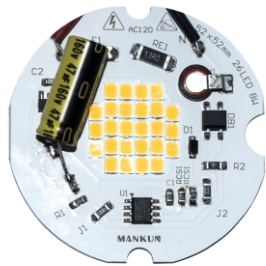
Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
10W HPF	300*24*15mm	220V AC	10W	1300	3000K	80	>0.95	<30%	<30%	Triac
				1400	4000K					
				1400	5000K					

Notes:
1. Luminous flux and power consumption are measured at 120 Vac, Tc=25°C
2. Luminous flux has 10% tolerance.
3. Power consumption has 10% tolerance.
4. The hot-cold factor of Tc=25°C and Tc=65°C is 0.9.
5. Surge withstand in accordance with IEC61000-4-5.

MANKUN-LED-8W-120VAC-Ø52mm-17763



Notes:
1. All dimensions are in millimeters.
2. Tolerance: ±0.2mm



Product description

Dimensiones in mm	52 x 52mm
LED Chip	Samsung 2835 LED
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 120V
Power (W)	8W (@ 120V)
Power Factor	>0.7
Dimming & Flicker	Flicker Free
THD (%)	NA
Surge Tolerance	500V Surge Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	Ra80
Lumens Output (Lm)	900lm @5000K
Light Distribution	LED Even Allgned
LED Thermal Resistance	12°C / W
Work Temperature	-40 ~ +80 °C
Life Time	>30,000 hours

Features

- Works in a 120V environment
- High power factor
- Low THD
- Low flicker(<30%)
- 120V UL compliance

Typical Applications

- Ceiling Light
- Down Light
- Pendant Light
- Table lighting

Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
8W-17763	Ø52*15mm	120V AC	8W	830	3000K	80	>0.7	<30%	<30%	NO
				900	4000K					
				900	5000K					

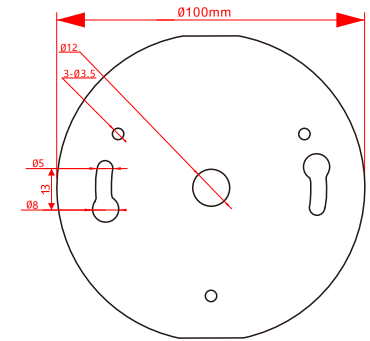
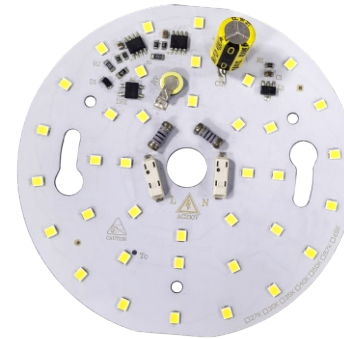
Note:

- "Input Voltage" doesn't indicate the maximum voltage which customers use but means tolerable voltage according to each country's voltage variation rate. It is recommended that the thermal measurement point temperature(Tc) should be below 85°C.
- The Tc recommended under 85°C while operating temperature is between -30°C ~ 85°C.
- When getting through voltage operation, the IC's temperature must be less than 100°C(<100°C). Otherwise, IC will start overtemperature protection,and make wattage decreased.
- The operating emperature must below 85°C for life time 35,000 hrs.

MODULE-LED-16W-220VAC-Ø100mm-19465



Notes:
1. All dimensions are in millimeters.
2. Tolerance: ±0.2mm



Product description

Dimensiones in mm	100 x 100mm
LED Chip	LumiLEDs 2835 9V 1W
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 220V
Power (W)	16W (@ 230V)
Power Factor	>0.9
Dimming & Flicker	TRIAC Dimming no Flicker
THD (%)	<20%
Surge Tolerance	500V Surge Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	Ra80
Lumens Output (Lm)	1750lm @5700K
Light Distribution	LED Even Allgned
LED Thermal Resistance	12°C / W
Work Temperature	-40 ~ +80 °C
Life Time	>30,000 hours

Features

- Works in a 230V environment
- High power factor
- Low THD
- Low flicker(<20%)
- 230V UL compliance

Typical Applications

- Ceiling Light
- Down Light
- Pendant Light
- Table lighting

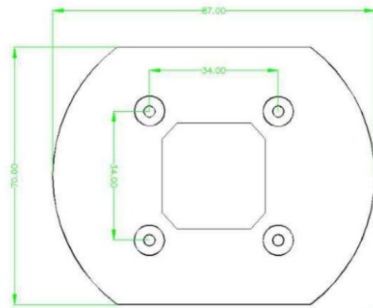
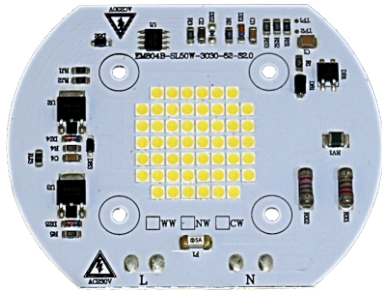
Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
16W-17763	Ø100*15mm	220V AC	16W	1600	3000K	80	>0.9	<20%	<30%	NA
				1760	4000K					
				1760	5000K					

Note:

- "Input Voltage" doesn't indicate the maximum voltage which customers use but means tolerable voltage according to each country's voltage variation rate. It is recommended that the thermal measurement point temperature(Tc) should be below 85°C.
- The Tc recommended under 85°C while operating temperature is between -30°C ~ 85°C.
- When getting through voltage operation, the IC's temperature must be less than 100°C(<100°C). Otherwise, IC will start overtemperature protection,and make wattage decreased.
- The operating emperature must below 85°C for life time 35,000 hrs.

MODULE-45LED-40W-220VAC-87x70mm



Product description

Dimensions in mm	87 x 70 x 6 mm
LED Chip	LumiLEDs 3030
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 220V
Power (W)	40W (@ 220V)
Power Factor	>0.97
THD (%)	<15%
Surge Tolerance	4KV Surge Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	Ra80
Lumens Output (Lm)	4,000lm @Ra80 4000K
Light Distribution	LED Even Alligned
LED Thermal Resistance	12°C / W
Work Temperature	-40 ~ +80 °C (PCB Temperature)
Life Time	>30,000 hours

Features

- Light weight easy assembly
- Design-in quick expansion
- Elliptical light distribution
- Non Waterproof
- Conectores tipo push-pull

Typical Applications

- Luminarias comerciais
- High bay lighting
- Flood and Area lighting
- Urban street lighting
- Road lighting

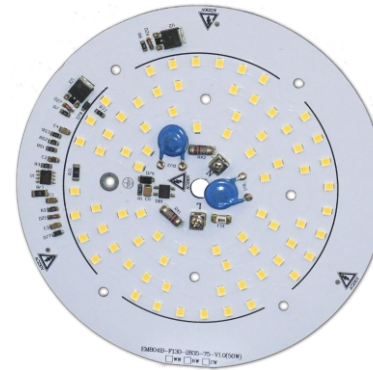
Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
EM804-DOB2050-S1	87 x 70 x 6mm	220V AC	30W	3,500	3000K	80	>0.9	<15%	<30%	NA
			40W	4,100	4000K					
			50W	4,450	6000K					

Note:

- "Input Voltage" doesn't indicate the maximum voltage which customers use but means tolerable voltage according to each country's voltage variation rate. It is recommended that the thermal measurement point temperature(Tc) should be below 85°C.
- The Tc recommended under 85°C while operating temperature is between -30°C ~ 85°C.
- When getting though voltage operation, the IC's temperature must be less than 100°C(<100°C). Otherwise, IC will start overtemperature protection, and make wattage decreased.
- The operating emperature must below 85°C for life time 35,000 hrs.

MODULE-75LED-50W-220VAC-Ø130mm



SMD2835-75LED-50W-Ø130mm

SMD2835-75LED-Ø146mm-17526

Product description

Dimensions in mm	130 x 130 x 8 mm
LED Chip	LumiLEDs 2835
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 220V
Power (W)	50W (@ 220V)
Power Factor	>0.95
THD (%)	<15%
Surge Tolerance	4KV Surge Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6000K
High colour rendering index CRI	Ra70
Lumens Output (Lm)	6,500lm @Ra70 5700K
Light Distribution	LED Even Alligned
LED Thermal Resistance	12°C / W
Work Temperature	-40 ~ +80 °C (PCB Temperature)
Life Time	>30,000 hours

Features

- Light weight easy assembly
- Design-in quick expansion
- Elliptical light distribution
- Non Waterproof
- Conectores tipo push-pull

Typical Applications

- Luminarias comerciais
- High bay lighting
- Flood and Area lighting
- Pendant lighting
- Industrial lighting

Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
F130-50W SM50W-17526	Ø130 x 8 mm Ø146 x 8 mm	220V AC	50W	5,500	3000K	70	>0.9	<15%	<30%	NA
				6,000	4000K					
				6,500	5700K					

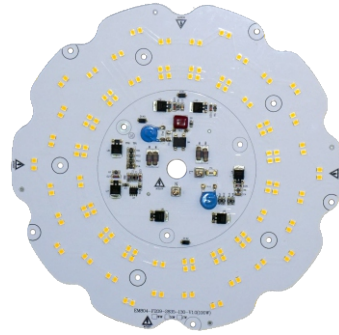
Note:

- "Input Voltage" doesn't indicate the maximum voltage which customers use but means tolerable voltage according to each country's voltage variation rate. It is recommended that the thermal measurement point temperature(Tc) should be below 85°C.
- The Tc recommended under 85°C while operating temperature is between -30°C ~ 85°C.
- When getting though voltage operation, the IC's temperature must be less than 100°C(<100°C). Otherwise, IC will start overtemperature protection, and make wattage decreased.
- The operating emperature must below 85°C for life time 35,000 hrs.

MODULE-LED-100W-220VAC



3030-120LED-Ø168mm-18360



2835-130LED-Ø209mm

Product description

Dimensiones in mm	168 x 168 x 8 mm
LED Chip	LumiLEDs 3030
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 220V
Power (W)	100W (@ 220V)
Power Factor	>0.95
THD (%)	<15%
Surge Tolerance	4KV Surge Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	Ra80
Lumens Output (Lm)	13,000lm @Ra70 5700K
Light Distribution	Angel 60 90 Degree
LED Thermal Resistance	6°C / W
Work Temperature	-40 ~ +85 °C (PCB Temperature)
Life Time	>50,000 hours

Features

- Light weight easy assembly
- Design-in quick expansion
- Elliptical light distribution
- Non Waterproof
- Conectores tipo push-pull

Typical Applications

- Luminarias comerciais
- High bay lighting
- Flood and Area lighting
- Pendant lighting
- Industrial lighting

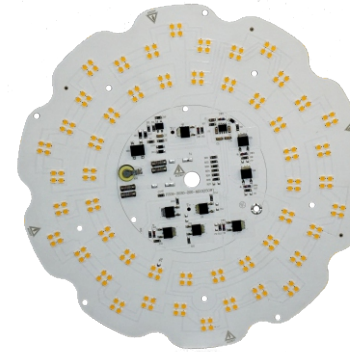
Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
100W-18360	Ø168 x 8 mm Ø209 x 8 mm	220V AC	100W	12,000	3000K	80	>0.9	<15%	<30%	NA
				12,500	4000K					
				13,000	5000K					

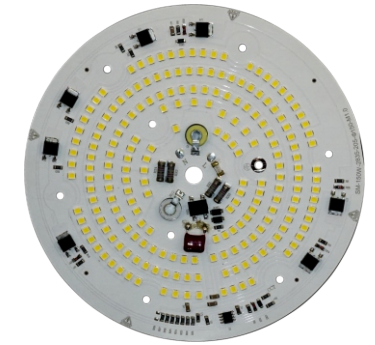
Note:

- "Input Voltage" doesn't indicate the maximum voltage which customers use but means tolerable voltage according to each country's voltage variation rate. It is recommended that the thermal measurement point temperature(Tc) should be below 85°C.
- The Tc recommended under 85°C while operating temperature is between -30°C ~ 85°C.
- When getting through voltage operation, the IC's temperature must be less than 100°C(<100°C). Otherwise, IC will start overtemperature protection,and make wattage decreased.
- The operating emperature must below 85°C for life time 35,000 hrs.

MODULE-LED-150W-220VAC



3030-200LED-Ø209mm-18359



2835-205LED-Ø150mm-17425

Product description

Dimensiones in mm	209 x 209 x 8 mm
LED Chip	LumiLEDs 3030
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 220V
Power (W)	150W (@ 220V)
Power Factor	>0.95
THD (%)	<15%
Surge Tolerance	4KV Surge Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	Ra80
Lumens Output (Lm)	21,000lm @Ra70 5700K
Light Distribution	ButterFly type I
LED Thermal Resistance	6°C / W
Work Temperature	-40 ~ +85 °C (PCB Temperature)
Life Time	>50,000 hours

Features

- Light weight easy assembly
- Design-in quick expansion
- Elliptical light distribution
- Non Waterproof
- Conectores tipo push-pull

Typical Applications

- Luminarias comerciais
- High bay lighting
- Flood and Area lighting
- Pendant lighting
- Industrial lighting

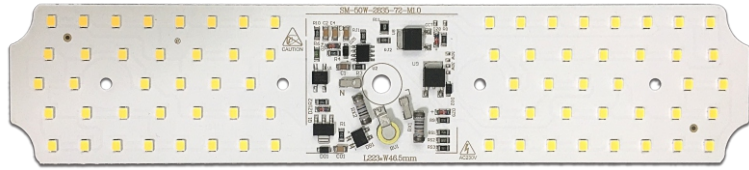
Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
150W-18359 150W-17425	Ø209 x 8 mm Ø150 x 8 mm	220V AC	150W	19,500	3000K	80	>0.9	<15%	<30%	NA
				20,500	4000K					
				21,000	5000K					

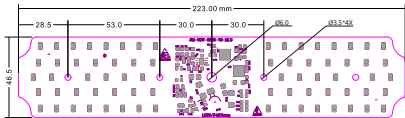
Note:

- "Input Voltage" doesn't indicate the maximum voltage which customers use but means tolerable voltage according to each country's voltage variation rate. It is recommended that the thermal measurement point temperature(Tc) should be below 85°C.
- The Tc recommended under 85°C while operating temperature is between -30°C ~ 85°C.
- When getting through voltage operation, the IC's temperature must be less than 100°C(<100°C). Otherwise, IC will start overtemperature protection,and make wattage decreased.
- The operating emperature must below 85°C for life time 35,000 hrs.

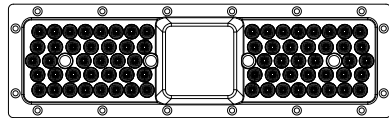
MODULE-72LED-50W-220VAC-223x46.5mm-18411



Notes:
1. All dimensions are in millimeters.
2. Tolerance: ±0.2mm



72H1 IP65 HIGH-BAY LENSES OF DARKOO.



Product description

Dimensoes in mm	223 x 46.5 x 8 mm
LED Chip	LumiLEDs 2835
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 220V
Power (W)	50W (@ 220V)
Power Factor	>0.95
THD (%)	<15%
Surge Tolerance	4KV Surge Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	Ra80
Lumens Output (Lm)	6,000lm @Ra70 5700K
Light Distribution	ButterFly type I
LED Thermal Resistance	6°C / W
Work Temperature	-40 ~ +85 °C (PCB Temperature)
Life Time	>50,000 hours

Features

- Light weight easy assembly
- Design-in quick expansion
- Elliptical light distribution
- Non Waterproof
- Conectores tipo push-pull

Typical Applications

- Luminarias comerciais
- High bay lighting
- Flood and Area lighting
- Urban street lighting
- Road lighting

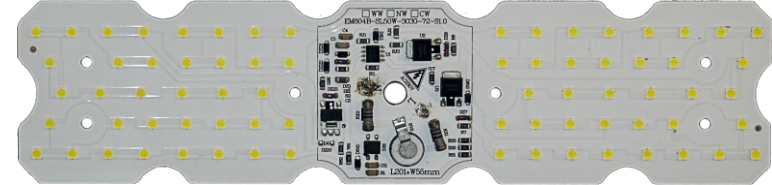
Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
DK236-50W-17763	223X46.5X8mm	220V AC	50W	5,500	3000K	80	>0.9	<15%	<30%	NA
				6,000	4000K					
				6,000	5000K					

Note:

- "Input Voltage" doesn't indicate the maximum voltage which customers use but means tolerable voltage according to each country's voltage variation rate. It is recommended that the thermal measurement point temperature(Tc) should be below 85°C.
- The Tc recommended under 85°C while operating temperature is between -30°C ~ 85°C.
- When getting though voltage operation, the IC's temperature must be less than 100°C(<100°C). Otherwise, IC will start overtemperature protection,and make wattage decreased.
- The operating emperature must below 85°C for life time 35,000 hrs.

MODULE-72LED-50W-220VAC-201x51mm



Notes:
1. All dimensions are in millimeters.
2. Tolerance: ±0.2mm

72H1 IP65 HIGH-BAY LENSES OF DARKOO.

Product description

Dimensoes in mm	201 x 55 x 8 mm
LED Chip	LumiLEDs 3030
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 220V
Power (W)	50W (@ 220V)
Power Factor	>0.95
THD (%)	<15%
Surge Tolerance	4KV Surge Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	Ra80
Lumens Output (Lm)	7,500lm @Ra70 5700K
Light Distribution	ButterFly type I
LED Thermal Resistance	6°C / W
Work Temperature	-40 ~ +85 °C (PCB Temperature)
Life Time	>50,000 hours

Features

- Light weight easy assembly
- Design-in quick expansion
- Elliptical light distribution
- Non Waterproof
- Conectores tipo push-pull

Typical Applications

- Luminarias comerciais
- High bay lighting
- Flood and Area lighting
- Urban street lighting
- Road lighting

Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
DK236-50W	201 x 55 x 8mm	220V AC	50W	6,500	3000K	80	>0.9	<15%	<30%	NA
				7,000	4000K					
				7,500	5000K					

Note:

- "Input Voltage" doesn't indicate the maximum voltage which customers use but means tolerable voltage according to each country's voltage variation rate. It is recommended that the thermal measurement point temperature(Tc) should be below 85°C.
- The Tc recommended under 85°C while operating temperature is between -30°C ~ 85°C.
- When getting though voltage operation, the IC's temperature must be less than 100°C(<100°C). Otherwise, IC will start overtemperature protection,and make wattage decreased.
- The operating emperature must below 85°C for life time 35,000 hrs.

MODULE-64LED-50W-220VAC-244x48mm-18803



Notes:
1. All dimensions are in millimeters.
2. Tolerance: ±0.2mm

64H1 IP65 HIGH-BAY LENSES OF DARKOO.

Product description

Dimensions in mm	224 x 48 x 8 mm
LED Chip	LumiLEDs 3030
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 220V
Power (W)	50W (@ 220V)
Power Factor	>0.95
THD (%)	<15%
Surge Tolerance	4KV Surge Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	Ra80
Lumens Output (Lm)	6,000lm @Ra70 5700K
Light Distribution	ButterFly type I
LED Thermal Resistance	6°C / W
Work Temperature	-40 ~ +85 °C (PCB Temperature)
Life Time	>50,000 hours

Features

- Light weight easy assembly
- Design-in quick expansion
- Elliptical light distribution
- Non Waterproof
- Conectores tipo push-pull

Typical Applications

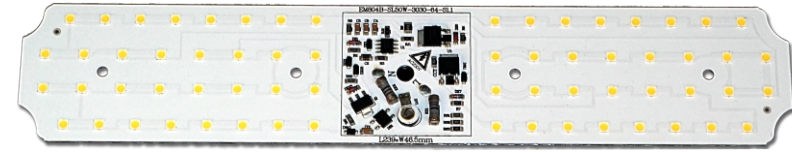
- Luminarias comerciais
- High bay lighting
- Flood and Area lighting
- Urban street lighting
- Road lighting

Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
DK263-50W-18803	224X48X8mm	220V AC	50W	6,000	3000K	80	>0.9	<15%	<30%	NA
				6,500	4000K					
				6,500	5000K					

Note:
1. "Input Voltage" doesn't indicate the maximum voltage which customers use but means tolerable voltage according to each country's voltage variation rate. It is recommended that the thermal measurement point temperature(Tc) should be below 85°C.
2. The Tc recommended under 85°C while operating temperature is between -30°C ~ 85°C.
3. When getting through voltage operation, the IC's temperature must be less than 100°C(<100°C). Otherwise, IC will start overtemperature protection, and make wattage decreased.
4. The operating emperature must below 85°C for life time 35,000 hrs.

MODULE-64LED-50W-220VAC-239X46.5mm-17594



Notes:
1. All dimensions are in millimeters.
2. Tolerance: ±0.2mm

64H1 IP65 HIGH-BAY LENSES OF DARKOO.

Product description

Dimensions in mm	239 x 46.5 x 8 mm
LED Chip	LumiLEDs 3030
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 220V
Power (W)	50W (@ 220V)
Power Factor	>0.95
THD (%)	<15%
Surge Tolerance	4KV Surge Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	Ra80
Lumens Output (Lm)	6,000lm @Ra70 5700K
Light Distribution	ButterFly type I
LED Thermal Resistance	6°C / W
Work Temperature	-40 ~ +85 °C (PCB Temperature)
Life Time	>50,000 hours

Features

- Light weight easy assembly
- Design-in quick expansion
- Elliptical light distribution
- Non Waterproof
- Conectores tipo push-pull

Typical Applications

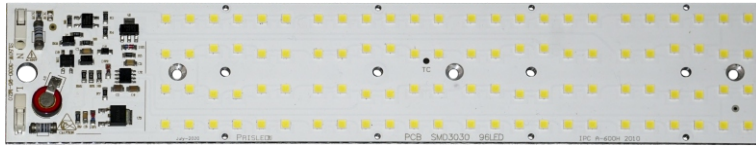
- Luminarias comerciais
- High bay lighting
- Flood and Area lighting
- Urban street lighting
- Road lighting

Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
DK263-50W-17594	239X46.5X8mm	220V AC	50W	6,000	3000K	80	>0.9	<15%	<30%	NA
				6,500	4000K					
				6,500	5000K					

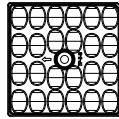
Note:
1. "Input Voltage" doesn't indicate the maximum voltage which customers use but means tolerable voltage according to each country's voltage variation rate. It is recommended that the thermal measurement point temperature(Tc) should be below 85°C.
2. The Tc recommended under 85°C while operating temperature is between -30°C ~ 85°C.
3. When getting through voltage operation, the IC's temperature must be less than 100°C(<100°C). Otherwise, IC will start overtemperature protection, and make wattage decreased.
4. The operating emperature must below 85°C for life time 35,000 hrs.

MODULE-96LED-50W-220VAC-250X49mm-18237



Notes:
1. All dimensions are in millimeters.
2. Tolerance: ±0.2mm

24H1 HIGH-BAY LENSES OF DARKOO.



Product description

Dimensions in mm	250 x 49 x 8 mm
LED Chip	LumiLEDs 3030
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 220V
Power (W)	50W (@ 220V)
Power Factor	>0.95
THD (%)	<15%
Surge Tolerance	4KV Surge Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	3000K / 4000K / 5000K /6500K
High colour rendering index CRI	Ra80
Lumens Output (Lm)	8,000lm @Ra80 5700K
Light Distribution	ButterFly type I
LED Thermal Resistance	6°C / W
Work Temperature	-40 ~ +85 °C (PCB Temperature)
Life Time	>50,000 hours

Features

- Light weight easy assembly
- Design-in quick expansion
- Elliptical light distribution
- Non Waterproof
- Conectores tipo push-pull

Typical Applications

- Luminarias comerciais
- High bay lighting
- Flood and Area lighting
- Urban street lighting
- Road lighting

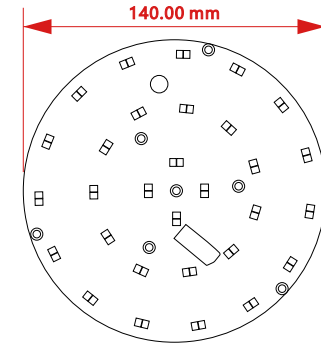
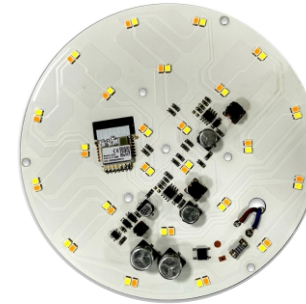
Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
DK5050-50W-18237	250x49x8mm	220V AC	50W	7,500	3000K	80	>0.9	<15%	<30%	NA
				8,000	4000K					
				8,000	5000K					

Note:

1. "Input Voltage" doesn't indicate the maximum voltage which customers use but means tolerable voltage according to each country's voltage variation rate. It is recommended that the thermal measurement point temperature(Tc) should be below 85°C.
2. The Tc recommended under 85°C while operating temperature is between -30°C ~ 85°C.
3. When getting through voltage operation, the IC's temperature must be less than 100°C(<100°C). Otherwise, IC will start overtemperature protection,and make wattage decreased.
4. The operating emperature must below 85°C for life time 35,000 hrs.

MODULE-LED-15W-120VAC-Ø140mm



Notes:
1. All dimensions are in millimeters.
2. Tolerance: ±0.2mm

Product description

Dimensions in mm	140 x 140 x 15mm
LED Chip	LumiLEDs 2835 9V 1W
PCB Base Board	1.5mm Aluminum Thermal resistance>1.0
Input Voltage (V)	AC 120V
Power (W)	15W (@ 127V)
Power Factor	>0.95
Dimming & Flicker	Wi-Fi & Bluetooth Dimming no Flicker
THD (%)	<15%
Surge Tolerance	2.5KV Ring Wave Test
Withstand Voltage (V)	1.5KV (AC)
Colour temperatures (CCT)	2700K + 6500K
High colour rendering index CRI	Ra90
Lumens Output (Lm)	1500lm @Ra90
Light Distribution	LED Even Allgned
LED Thermal Resistance	12°C / W
Work Temperature	-40 ~ +50 °C
Life Time	>50,000 hours

Features

- Works in a 120V environment
- Compatible with TRIAC dimmers
- High power factor
- Low THD
- Low flicker(<15%)
- 127V UL compliance

Typical Applications

- Ceiling Light
- Indoor Light
- Pendant Light
- Wall lighting

Technical data

Order Type	Dimension (mm)	Input Voltage	Power (w)	Typ. Flux(Lm)	CCT	CRI (Ra)	PF	THD	Percent Flicker	Dimming
15W HPF	Ø140 *15mm	127V AC	15W	1500	2700K + 6500K	80	>0.95	<30%	<30%	Wi-Fi & Bluetooth

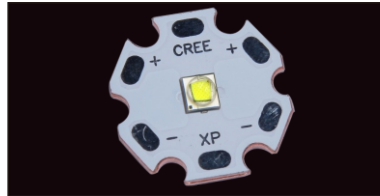
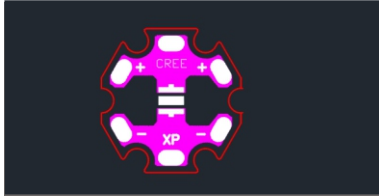
Notes:

1. Luminous flux and power consumption are measured at 120 Vac, Tc=25°C
2. Luminous flux has 10% tolerance.
3. Power consumption has 10% tolerance.
4. The hot-cold factor of Tc=25°C and Tc=65°C is 0.9.
5. Surge withstand in accordance with IEC61000-4-5.

Design of custom LED modules

LED technology allows us to create increasingly complex designs. The barriers imposed by the lamps and their shapes are no longer an impediment for the luminaires to achieve differentiated and modern designs.

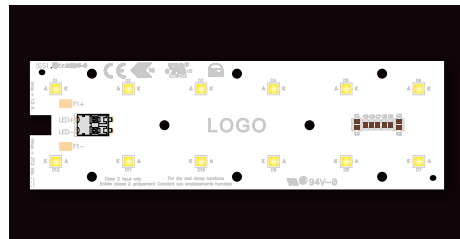
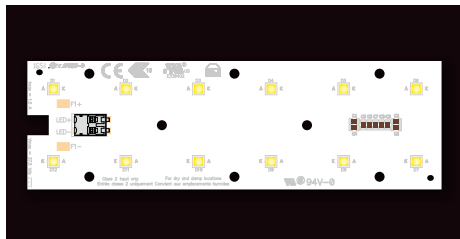
Our engineering will be able to develop customized LED modules that meet the new design demands. This brings flexibility to our customers so they can make new ideas viable.



Produtos OEM

Mankun LED Solutions has a product portfolio that meets virtually all market demands. In some cases we know that our customer wants something personalized, but does not want to have an exclusive product .

We can customize our products with your company logo. With this you will have a differentiated product without having to have high development, stock and logistics costs.



Administration of raw materials

We basically work with 3 modes of raw material administration.

- The customer manages all purchases of raw materials.
- Mankun participates in the purchase of part of the materials.
- Mankun manages all purchases.

This allows you to optimize costs of the final product. We know that depending on the type of raw material, the customer or Mankun may have a better negotiating condition with suppliers. In this way, we do not add unnecessary costs, facilitating the solution's feasibility.

Industrialization

Our goal is to work with the customer so that product feasibility is possible.

That's why we offer the industrialization service to the market, where we only assemble the LED module. Thus, we were able to optimize the final costs of the solution, bringing great flexibility to our customers.

Product Integration

Working with electronic components requires a large investment in adapting the manufacturing environment. One of the main problems found in unsuitable environments is the occurrence of electrostatic discharges. This type of aggressor damages electronic components and your product may have its useful life compromised or even suffer damages that make its operation unfeasible.

Mankun offers its customers the product integration, where we can carry out the total or partial assembly of the luminaire so that the recommendations regarding the protection of the components are met.

Assembly of General Electronics

Mankun Layout has over 15 years of experience in assembling electronic products in general. This allows that, in addition to LED modules, we can offer our customers the assembly of other electronic products that make up the final product.

An example of these products is the LED Driver. Some of our customers have their own LED Driver designs and we assemble, test and package them.

Short release

Our main launch for the first half of 2020 will be our full-module lineup.

They will be dissipator (own tool), LED module, thermal interface and lens (various options of photometry).

Main applications:

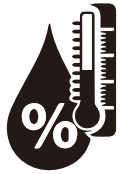
- Public lighting
- Commercial lighting
- High Bays
- Parking lots
- Industrial
- Reflectors
- Among others

Like all our products, we will use Nichia LEDs and have color temperature options of 2700K, 3000K, 4000K and 5000K.

Contact us



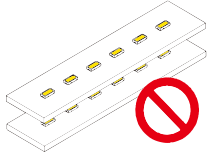
Storage and Handling



Temperature and Humidity

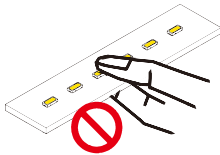
- Store in dark places.
- Do not expose to direct sunlight.
- Storage temperature should be between -40°C to +75°C
- Relative humidity should be between 5 to 85%
- During transport or short term storage, do not exceed temperatures of 100°C

Stacking LED Modules



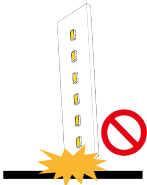
- Do not stack one module on top of another.
- We advise to keep the modules in their original packaging until the moment of integrating them in the luminaires.
- Never support objects on the modules. Even light objects can physically damage electronic components or the PCB.

Manipulation



- Always use the edges of the PCB to manipulate the LED modules.
- Avoid contact of fingers (even with gloves) or any tools with the module LEDs .
- Use gloves and other ESD components.
- Take great care so that during the process no impurities are deposited on the LEDs. (dust, oils, etc.)

Drop



- Do not drop the module.
- Do not let objects fall on the modules.

If the module falls, we recommend that these modules are no longer used, even without visible signs of damage.

Stacking and opening the cartons



- Respect the stacking recommendations present in each package.
- When stacking the boxes, always keep the stacking balanced so as not to overload the lower boxes or cause them to fall.
- Never use sharp tools to open boxes or separate blisters and trays. (Stiletos, pocket knives, etc).
- When removing modules from their packaging, consider the topic "Manipulation".

Fixation

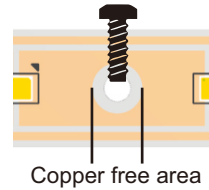


Luminaire drilling or mechanical changes to LED modules

Never use the LED module as a guide for drilling the luminaire. Residues from the process may reach the LEDs causing permanent damage to the component. Mankun has mechanical drawings of its modules containing all details about the fixing holes . We will also be able to provide 3D files for import into CAD software for correct mechanical simulation of LED modules integrated into the luminaire.

The same applies to mechanical changes to the modules, such as increasing the diameter of the fastening holes. This process can expose the copper on the board and cause, among other problems, short circuits. These short circuits may cause the module or LED Driver to burn out . The same applies to changes in module dimensions.

Screws and Rivets



Screws and rivets represent one of the best costs x benefits, but they require some care for their use.

As shown in the image to the side, some modules have a copper- free region around the fixing holes. This way, if the screw or rivet damages the protection layer of the PCB, there will be no electrical contact that could cause short circuits or malfunction of the modules. However, it is not always possible to predict this region without copper. For this reason, we always recommend the use of an insulator (plastic washers for example) so that there is no electrical contact between the module and the fixing solution . Some of our modules present in this catalog have notices about the mandatory use of insulating solutions.

Another important point is the tool used to apply this type of solution. During screw tightening, the tool used may "escape" from the operator's hand reaching the LED module components. In cases where rivets are used, when breaking the rivet stem, the tool tends to move in random directions, and at this time, it may reach components of the LED module causing permanent damage.



Fixation by adhesives, glues, silicones and other chemical components

On the market it is possible to find several solutions for mechanical fixing of LED modules in luminaires, but not all of these solutions are compatible with the use of LEDs. Below we describe some necessary precautions so that the solution used does not cause damage to the components.

- Chemical composition: Some products, when heated or during the curing stage, can give off toxic gases that attack internal LED components. These gases can cause, for example, the oxidation of terminals or metal parts and this will shorten the life of the component.
- Thermal transfer: Always give preference to products with thermal conduction characteristics. Although many modules do not need heatsinks, using the luminaire housing as a heatsink will help maintain the life of the product.
- Application of the products: Take care that the product used in the fixation is not deposited on the LED. Like we advise above, it is not recommended to contact any object with the LED, it is not possible to clean the component and leave it free of residues.

Complementation

Welding wires and cables



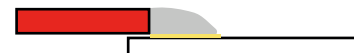
Mankun will be able to supply you with the modules with soldered wires in the dimensions necessary for your project. If you choose to solder the wires, use soldering stations and not common soldering irons.

Common soldering irons do not have temperature control. Thus, when using this type of solution, you can expose the LED to temperatures that are not recommended, thus affecting the component's integrity. Aluminum modules will quickly dissipate the temperature of the soldering iron and as they do not have systems to regulate the temperature, cold soldering may occur .

A very important point is the stripping of the wire or cable to be soldered to the module. Stripping must never exceed the size of the PAD to which the wire or cable will be soldered. The insulation jacket must always end exactly where the solder pad ends, so in case of twisting or bending, there will be no contact between the copper wire/cable and other regions of the LED module.



In the image above The cover was removed in excess, exceeding the limit of the PAD where the wire/cable was soldered.



Note that the wire/cable insulation cover does not allow copper contact with other regions of the module.

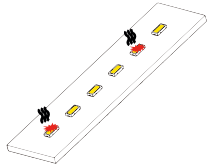


In case of cable bending, copper may come in contact with the LED module. In cases of modules with aluminum plates, this contact may lead to short circuits, causing damage to the module and the LED Driver.

Even following the above recommendations, take great care so that, when integrating the modules into the luminaire, there is no traction on the wires and cables used. This pull may dislodge the wire/cable cover and expose the copper.

Drive and thermal of LED modules

Activation of LED modules

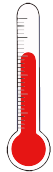


Our projects take into account the luminotechnical demand necessary for each application. Various technical data are considered so that our projects meet the nominal operating characteristics recommended by the manufacturers of the components used.

Never exceed the technical recommendations for operating voltage and current of our modules. In addition to reducing the life of the solution, use outside the nominal operating characteristics may cause the product to burn.

Our catalogs and folders have the necessary information so that you can use our products safely, maintaining the warranty and useful life of each solution. Common soldering irons do not have temperature control. Thus, when using this type of solution, you can expose the LED to temperatures that are not recommended, thus affecting the component's integrity. Aluminum modules will quickly dissipate the temperature of the soldering iron and as they do not have systems to regulate the temperature, cold soldering may occur.

Activation of LED modules

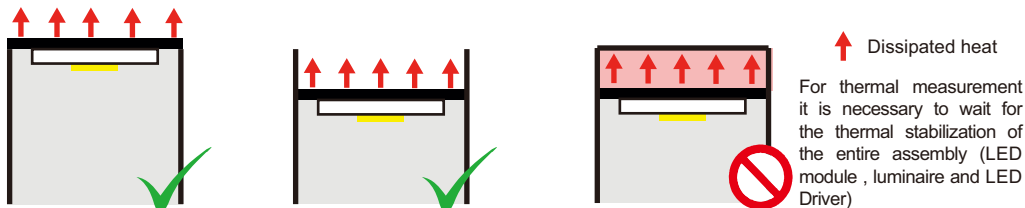


One of the factors that directly affect LED life is the operating temperature.

Normally most LED modules work properly using the luminaire body as a heatsink. However, in some cases the addition of specific heatsinks is necessary so that the LED junction temperature remains within the manufacturer's recommendations. It is important that the entire surface of the module is in direct contact with the heatsink (light fixture body). If any region is uncovered, it may heat up in an unwanted way causing the components in this region to have their useful life reduced.

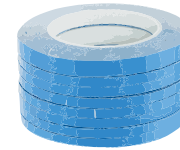
It is important that the region where the LED module will be fixed is free of impurities and, if possible, not covered by paint. The presence of impurities and other coatings can hinder the thermal transfer between the module and the luminaire.

Mankun offers all the necessary support to our customers so that the thermal operating conditions of the modules are met. It is very important that we can understand in detail the application of our modules in order, together with the customer, to define which solution fits the desired application.



Use of additional components for thermal transfer

In some cases, the use of auxiliaries for thermal transfer between the LED module and the luminaire is necessary. As mentioned in the case of fixation, there are specific products to use with LEDs. Some of them providing mechanical fixation and thermal transfer.



Avoid using poor quality thermal pastes. In addition to causing damage to LEDs (toxic components), some products harden and lose their characteristics over time. This will compromise the life of your product.

If you use any liquid solution, be careful not to deposit material on the LEDs. In case of oven curing, contact us to find out if curing conditions do not affect the LED modules.

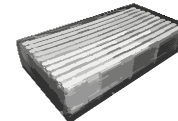
Product return

Keep the original packaging



As we demonstrate in this white paper, LEDs are sensitive components.

We maintain strict control at all stages of manufacturing our products and also develop the packaging that best suits each type of product.



We advise you not to discard the original packaging of our products until their integration into the luminaires is completed. In this way, if there is a need to return any product, it can be sent in its original packaging and thus there will be no damage to the product that could compromise the warranty.

Warranty term



It establishes the limits for guaranteeing the quality, functioning and efficiency of our products.



Mankun aspires to create new technologies and innovative products that inspire the world, while delivering new value to enhance the lives of customers, partners and employees.

Certificate & Honor

Mankun strive to continuous innovation of quality products and services to the society.

Honorary qualification
Partial patent demonstration

