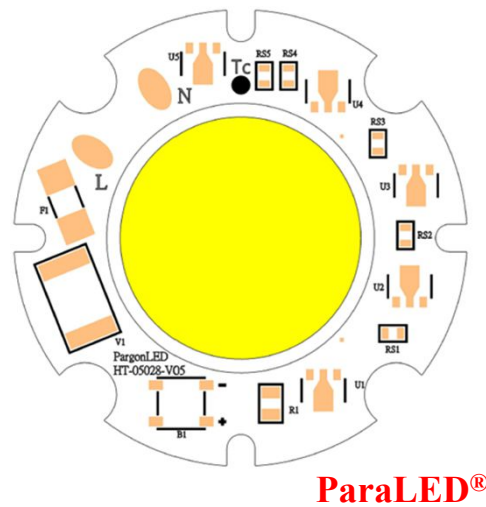


## ParaLED AC 5028 Series Datasheet



### Introduction :

Compared with DC LED modules, ParagonLED AC COB(Driver on Board)ParaLED® Series module does not need an external driver so that it is able to enhance lifespan and shows compact dimension.

### Description :

- 120/220/230/277/347/480VAC
- 10/20/30W
- 80-130 LM/W
- 2700/3000/3500/4000K CCT
- 4500/5000/5700/6500K CCT
- 70/80/90 CRI
- PF>0.85
- Customized available

### Feature and Benefits:

- Driver on Board
- Industry grade solid state components
- Up to 2.5KV Surge protection built-in
- Lifespan>50K hrs TC<105°C
- Lowest thermal resistance



## Table of Contents

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## General Information

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### Ordering Code Format

<u>C</u>	<u>B</u>	<u>AC</u>	-	<u>xx</u>	-	<u>50</u>	<u>28</u>	-	<u>yyyV</u>	-	<u>zzzz</u>
1	2	3		4		5	6		7		8
									120V		2700
									220V		3000
									230V		3500
									277V		4000
									347V		4500
									480V		5000
											5700
											6500

1 . Model type

2 . Chip efficacy

3 . Driving condition

4 . Numbers of chips

5 . Outline dimension

6 . Dimension of emission area

7 . Forward voltage (AC)

8 . Correlated color temperature (K)



## Characteristics

Parameter	Symbol	Value		Unit
Forward Voltage	V <sub>F</sub>	120/220/230/277	347/480	VAC
Forward Voltage	V <sub>F</sub>	±10%	±5%	VAC
Operation Frequency	F <sub>op</sub>	50/60		Hz
Power Dissipation	P <sub>D</sub>	10/20/30		W
Operating Temperature	T <sub>op</sub>	-40 ~ +105		°C
Storage Temperature	T <sub>st</sub>	-40 ~ +105		°C
Surges Protection(L/N)	V <sub>s</sub>	2.5		KV
Insulation voltage	Viso[RMS]	120V:1240 / 220V:1440 230V:1460 / 277V:1554 347V:1694 / 480V:1960		VAC
Power Factor	PF	>0.85		
Color coordination	ANSI C78.377:2008	IEC 60081:1997		

ANSI CCT	step*	C <sub>x</sub>	C <sub>y</sub>
2700K	3	0.458	0.410
3000K	3	0.434	0.403
3500K	3	0.407	0.392
4000K	3	0.382	0.380
4500k	3	0.361	0.366
5000K	3	0.345	0.355
5700k	5	0.329	0.342
6500K	5	0.312	0.328

\*Color region stay within MacAdam ellipse from the chromaticity center.

IEC CCT	step*	C <sub>x</sub>	C <sub>y</sub>
2700K	3	0.463	0.420
3000K	3	0.440	0.403
3500K	3	0.409	0.394
4000K	3	0.380	0.380
5000K	3	0.346	0.359
6500K	5	0.313	0.337

\* Color region stay within MacAdam ellipse from the chromaticity center.



## Luminous Flux Characteristic

Product No	Forward Voltage	Watt	lm/W	Lumen	Color rendering	Color Temperature
CDAC-080-05028-120V-2700	120V	10	105	1050	80	2700
CDAC-080-05028-120V-2700	120V	10	100	1000	90	2700
CDAC-080-05028-120V-3000	120V	10	105	1050	80	3000
CDAC-080-05028-120V-3000	120V	10	100	1000	90	3000
CDAC-080-05028-120V-5000	120V	10	115	1150	70	5000
CDAC-080-05028-120V-5000	120V	10	110	1100	80	5000
CDAC-080-05028-120V-2700	120V	20	105	2100	80	2700
CDAC-080-05028-120V-2700	120V	20	100	2000	90	2700
CDAC-080-05028-120V-3000	120V	20	105	2100	80	3000
CDAC-080-05028-120V-3000	120V	20	100	2000	90	3000
CDAC-080-05028-120V-5000	120V	20	115	2300	70	5000
CDAC-080-05028-120V-5000	120V	20	110	2200	80	5000
CFAC-080-05028-120V-2700	120V	30	105	3150	80	2700
CFAC-080-05028-120V-2700	120V	30	100	3000	90	2700
CFAC-080-05028-120V-3000	120V	30	105	3150	80	3000
CFAC-080-05028-120V-3000	120V	30	100	3000	90	3000
CFAC-080-05028-120V-5000	120V	30	95	2850	70	5000
CFAC-080-05028-120V-5000	120V	30	90	2700	80	5000
CDAC-078-05028-220V-2700	220V	10	115	1150	80	2700
CDAC-078-05028-220V-2700	220V	10	110	1100	90	2700
CDAC-078-05028-220V-3000	220V	10	115	1150	80	3000
CDAC-078-05028-220V-3000	220V	10	110	1100	90	3000
CDAC-078-05028-220V-5000	220V	10	125	1250	70	5000
CDAC-078-05028-220V-5000	220V	10	120	1200	80	5000
CDAC-078-05028-220V-2700	220V	20	115	2300	80	2700
CDAC-078-05028-220V-2700	220V	20	110	2200	90	2700
CDAC-078-05028-220V-3000	220V	20	115	2300	80	3000
CDAC-078-05028-220V-3000	220V	20	110	2200	90	3000
CDAC-078-05028-220V-5000	220V	20	125	2500	70	5000
CDAC-078-05028-220V-5000	220V	20	120	2400	80	5000
CFAC-078-05028-220V-2700	220V	30	105	3150	80	2700
CFAC-078-05028-220V-2700	220V	30	100	3000	90	2700
CFAC-078-05028-220V-3000	220V	30	105	3150	80	3000
CFAC-078-05028-220V-3000	220V	30	100	3000	90	3000
CFAC-078-05028-220V-5000	220V	30	115	3450	70	5000
CFAC-078-05028-220V-5000	220V	30	110	3300	80	5000



## Luminous Flux Characteristic

Product No	Forward Voltage	Watt	lm/W	Lumen	Color rendering	Color Temperature
CDAC-083-05028-230V-2700	230V	10	115	1150	80	2700
CDAC-083-05028-230V-2700	230V	10	110	1100	90	2700
CDAC-083-05028-230V-3000	230V	10	115	1150	80	3000
CDAC-083-05028-230V-3000	230V	10	110	1100	90	3000
CDAC-083-05028-230V-5000	230V	10	125	1250	70	5000
CDAC-083-05028-230V-5000	230V	10	120	1200	80	5000
CDAC-083-05028-230V-2700	230V	20	115	2300	80	2700
CDAC-083-05028-230V-2700	230V	20	110	2200	90	2700
CDAC-083-05028-230V-3000	230V	20	115	2300	80	3000
CDAC-083-05028-230V-3000	230V	20	110	2200	90	3000
CDAC-083-05028-230V-5000	230V	20	125	2500	70	5000
CDAC-083-05028-230V-5000	230V	20	120	2400	80	5000
CFAC-083-05028-230V-2700	230V	30	105	3150	80	2700
CFAC-083-05028-230V-2700	230V	30	100	3000	90	2700
CFAC-083-05028-230V-3000	230V	30	105	3150	80	3000
CFAC-083-05028-230V-3000	230V	30	100	3000	90	3000
CFAC-083-05028-230V-5000	230V	30	115	3450	70	5000
CFAC-083-05028-230V-5000	230V	30	110	3300	80	5000
CDAC-096-05028-277V-2700	277V	10	115	1150	80	2700
CDAC-096-05028-277V-2700	277V	10	110	1100	90	2700
CDAC-096-05028-277V-3000	277V	10	115	1150	80	3000
CDAC-096-05028-277V-3000	277V	10	110	1100	90	3000
CDAC-096-05028-277V-5000	277V	10	125	1250	70	5000
CDAC-096-05028-277V-5000	277V	10	120	1200	80	5000
CDAC-096-05028-277V-2700	277V	20	115	2300	80	2700
CDAC-096-05028-277V-2700	277V	20	110	2200	90	2700
CDAC-096-05028-277V-3000	277V	20	115	2300	80	3000
CDAC-096-05028-277V-3000	277V	20	110	2200	90	3000
CDAC-096-05028-277V-5000	277V	20	125	2500	70	5000
CDAC-096-05028-277V-5000	277V	20	120	2400	80	5000
CFAC-096-05028-277V-2700	277V	30	105	3150	80	2700
CFAC-096-05028-277V-2700	277V	30	100	3000	90	2700
CFAC-096-05028-277V-3000	277V	30	105	3150	80	3000
CFAC-096-05028-277V-3000	277V	30	100	3000	90	3000
CFAC-096-05028-277V-5000	277V	30	115	3450	70	5000
CFAC-096-05028-277V-5000	277V	30	110	3300	80	5000

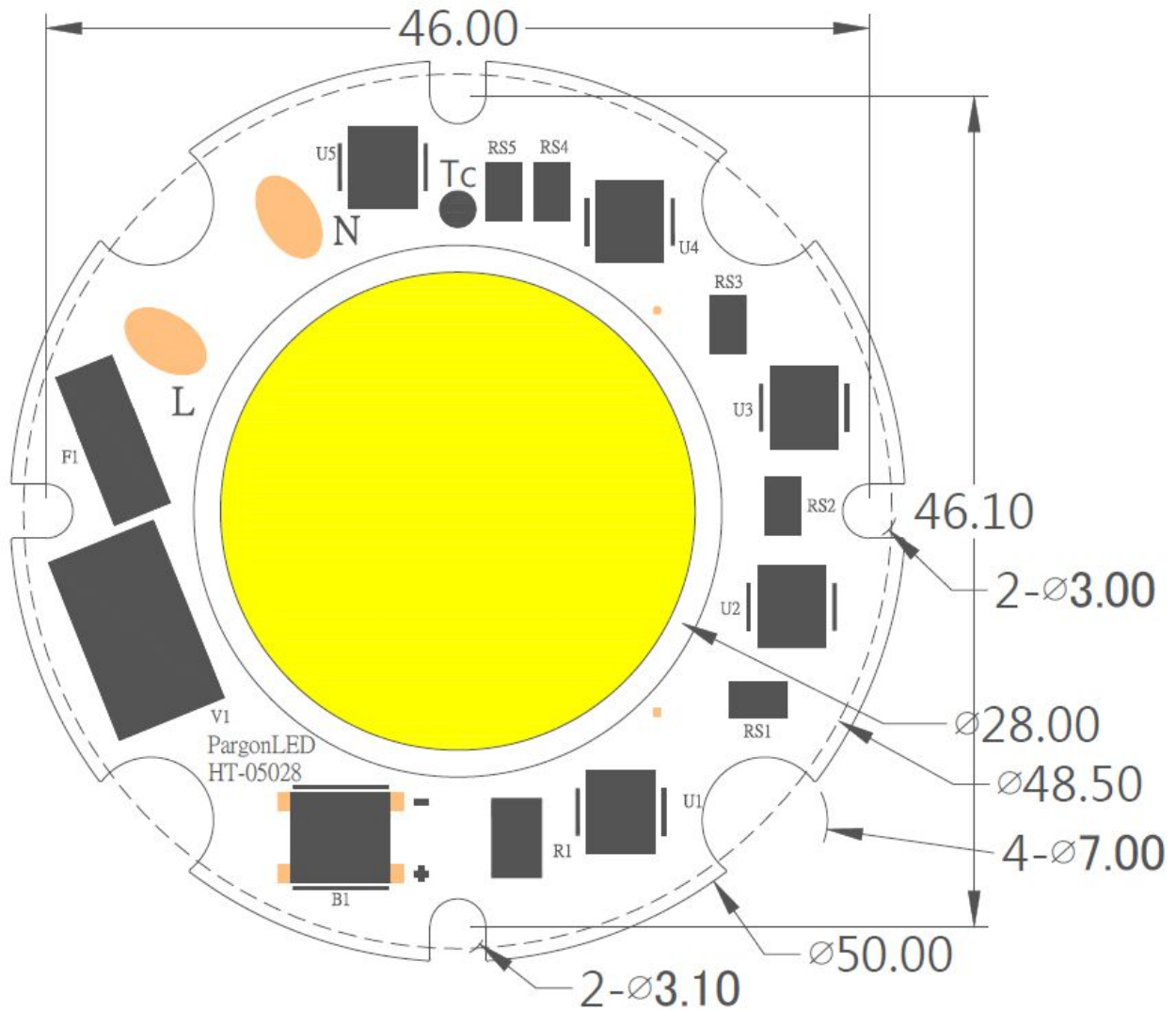


## Luminous Flux Characteristic

Product No	Forward Voltage	Watt	lm/W	Lumen	Color rendering	Color Temperature
CDAC-136-05028-347V-2700	347V	10	115	1150	80	2700
CDAC-136-05028-347V-2700	347V	10	110	1100	90	2700
CDAC-136-05028-347V-3000	347V	10	115	1150	80	3000
CDAC-136-05028-347V-3000	347V	10	110	1100	90	3000
CDAC-136-05028-347V-5000	347V	10	125	1250	70	5000
CDAC-136-05028-347V-5000	347V	10	120	1200	80	5000
CDAC-136-05028-347V-2700	347V	20	115	2300	80	2700
CDAC-136-05028-347V-2700	347V	20	110	2200	90	2700
CDAC-136-05028-347V-3000	347V	20	115	2300	80	3000
CDAC-136-05028-347V-3000	347V	20	110	2200	90	3000
CDAC-136-05028-347V-5000	347V	20	125	2500	70	5000
CDAC-136-05028-347V-5000	347V	20	120	2400	80	5000
CFAC-136-05028-347V-2700	347V	30	105	3150	80	2700
CFAC-136-05028-347V-2700	347V	30	100	3000	90	2700
CFAC-136-05028-347V-3000	347V	30	105	3150	80	3000
CFAC-136-05028-347V-3000	347V	30	100	3000	90	3000
CFAC-136-05028-347V-5000	347V	30	115	3450	70	5000
CFAC-136-05028-347V-5000	347V	30	110	3300	80	5000
CDAC-192-05028-480V-2700	480V	10	115	1150	80	2700
CDAC-192-05028-480V-2700	480V	10	110	1100	90	2700
CDAC-192-05028-480V-3000	480V	10	115	1150	80	3000
CDAC-192-05028-480V-3000	480V	10	110	1100	90	3000
CDAC-192-05028-480V-5000	480V	10	125	1250	70	5000
CDAC-192-05028-480V-5000	480V	10	120	1200	80	5000
CDAC-192-05028-480V-2700	480V	20	115	2300	80	2700
CDAC-192-05028-480V-2700	480V	20	110	2200	90	2700
CDAC-192-05028-480V-3000	480V	20	115	2300	80	3000
CDAC-192-05028-480V-3000	480V	20	110	2200	90	3000
CDAC-192-05028-480V-5000	480V	20	120	2400	70	5000
CDAC-192-05028-480V-5000	480V	20	125	2500	80	5000
CFAC-192-05028-480V-2700	480V	30	105	3150	80	2700
CFAC-192-05028-480V-2700	480V	30	100	3000	90	2700
CFAC-192-05028-480V-3000	480V	30	105	3150	80	3000
CFAC-192-05028-480V-3000	480V	30	100	3000	90	3000
CFAC-192-05028-480V-5000	480V	30	115	3450	70	5000
CFAC-192-05028-480V-5000	480V	30	110	3300	80	5000



## Mechanical Dimensions



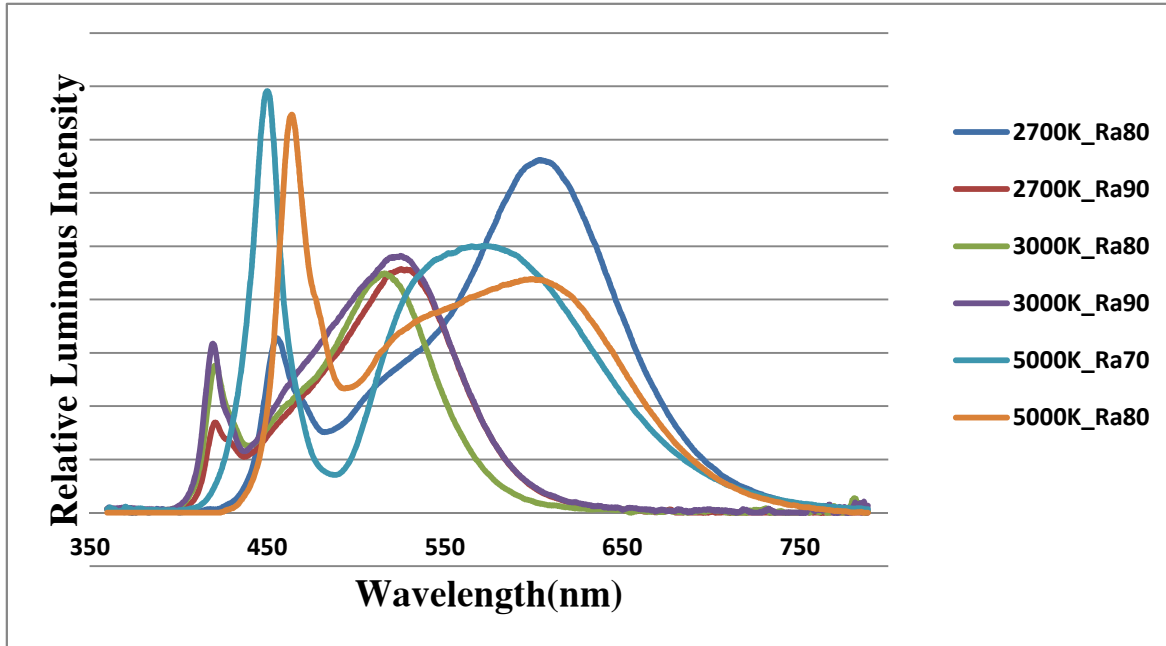
1. All dimensions are measured in mm.
2. Tolerance :  $\pm 0.2\text{mm}$
3. Thickness:  $1.0\pm 0.1\text{mm}$



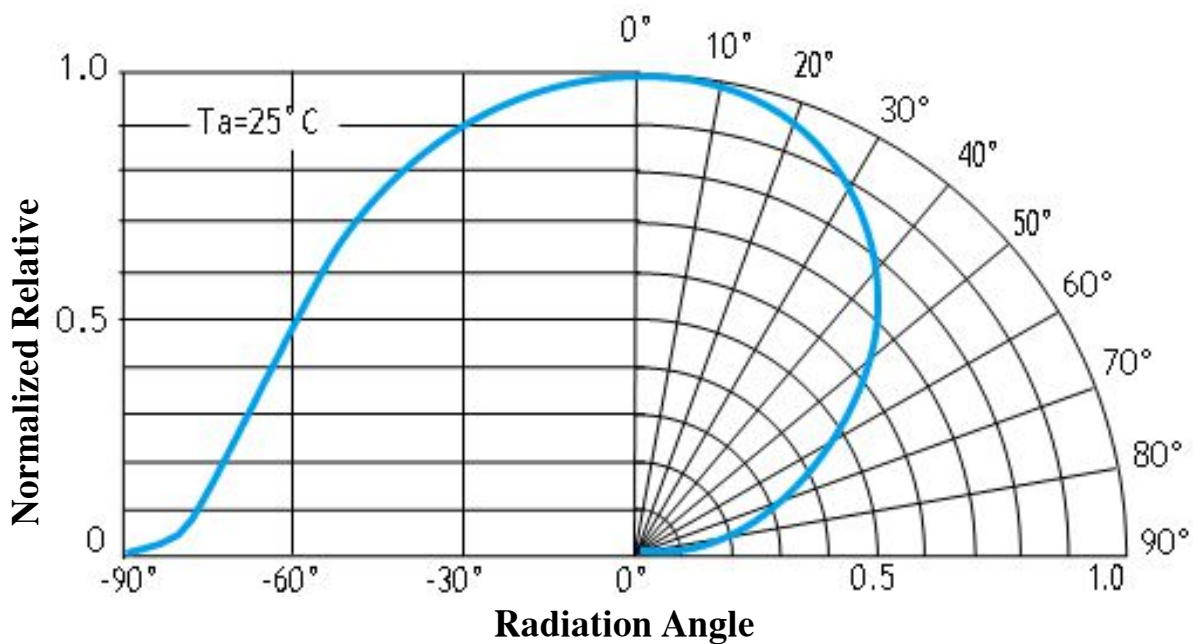


## Characteristic curve

### Color Spectrum

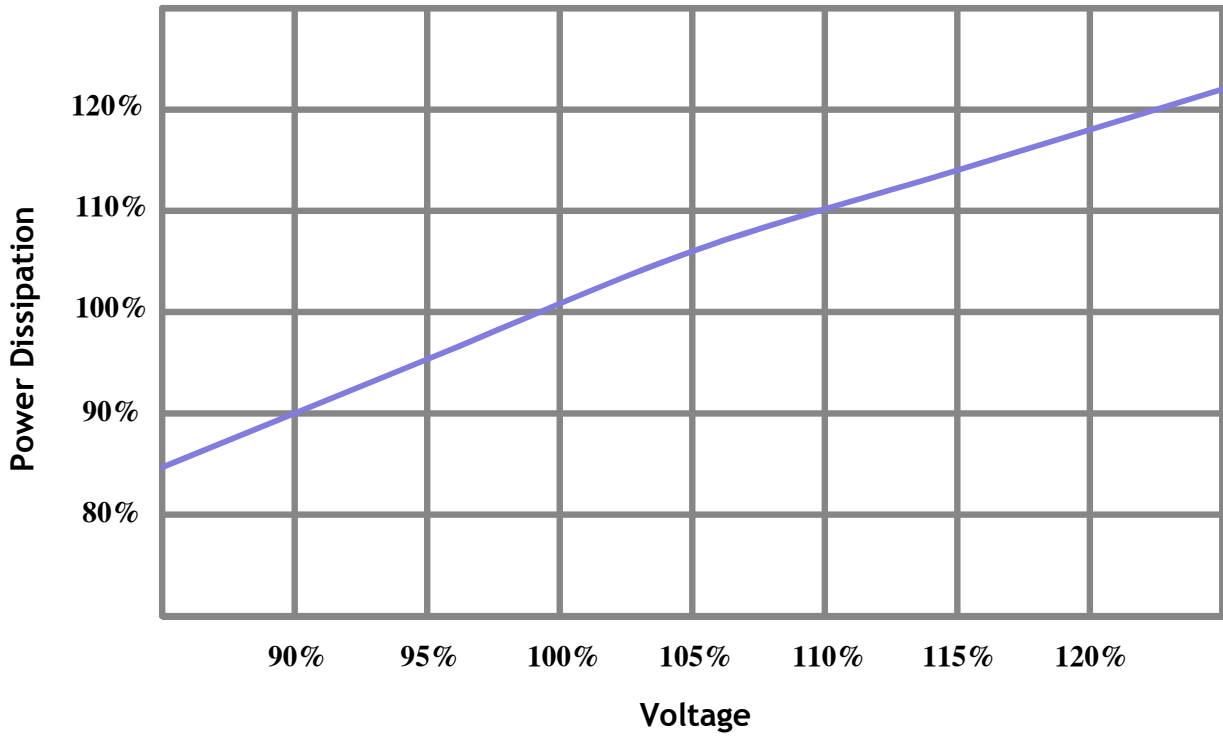


### Beam Pattern

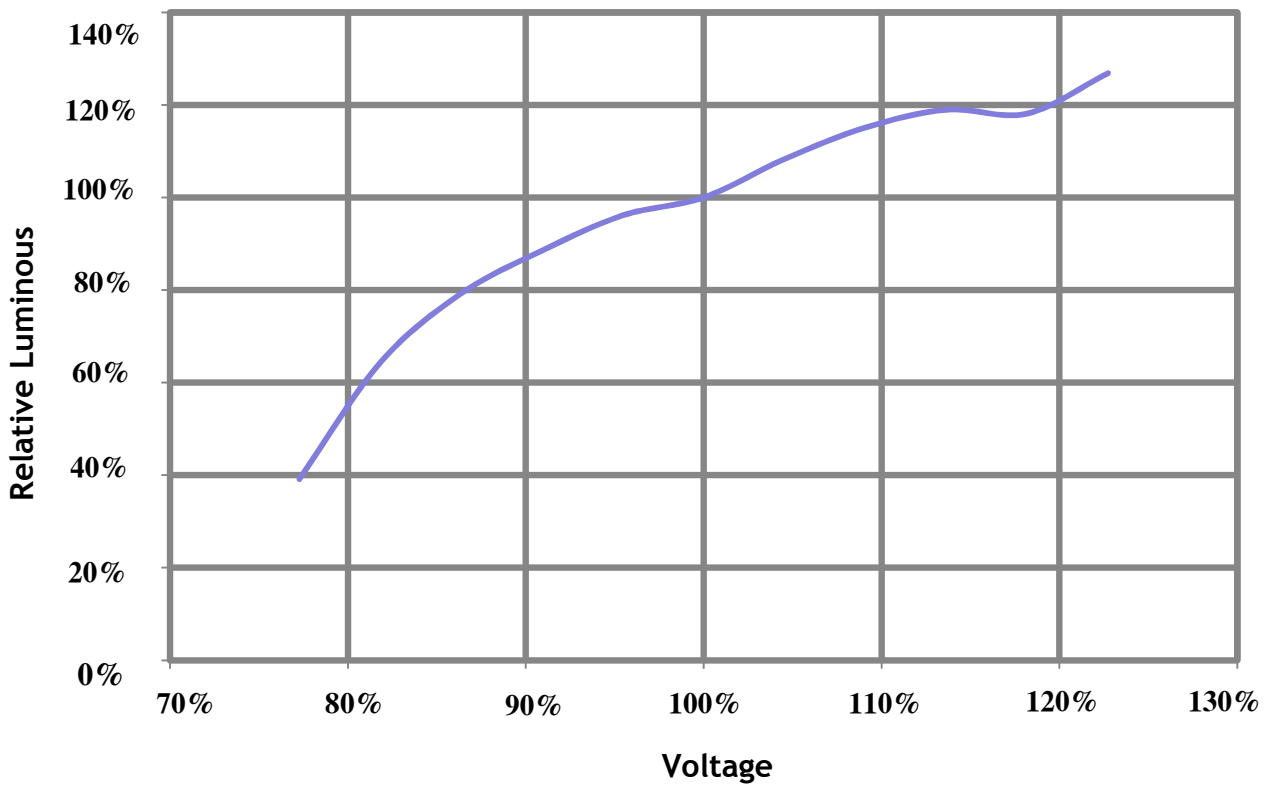


## Characteristic curve

### Power Dissipation vs. Voltage



### Relative Luminous Flux vs. Voltage



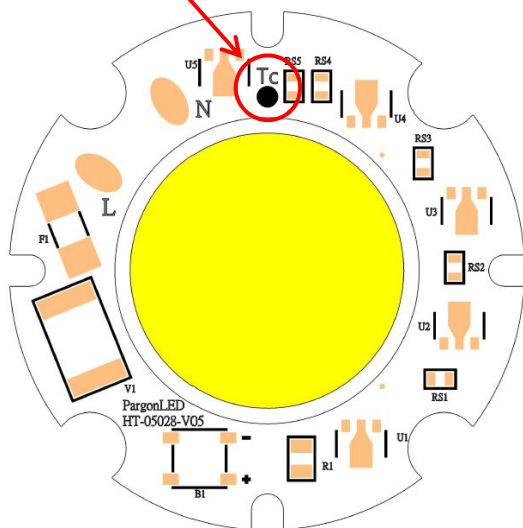
## Reliability

No.	Test Item	Test Condition	Remark
1	Temperature Cycle	-40°C~100°C ( 30 mins / 30 mins )	100 Cycle
2	Low-Temperature Storage	Ta= -40°C	1000 hrs
3	High-Temperature Storage	Ta=105°C	1000 hrs
4	High Temperature High Humidity Life test	Ta=85°C, RH=85%	500 hrs
5	High Temperature Operation Life test	Tc = 55°C / 85°C / 105°C	9000 hrs
6	Super High Temperature Operation Life test	Tc = 145°C	500 hrs
7	ON/OFF Test	3 sec ON, 3 sec OFF	2Million times

Ta : Temperature Ambient

RH : Relative Humidity

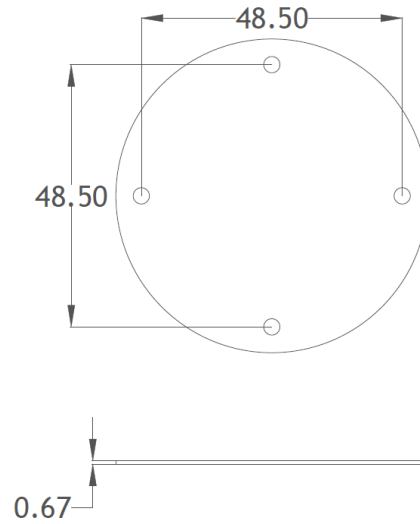
Tc Point



## Accessory

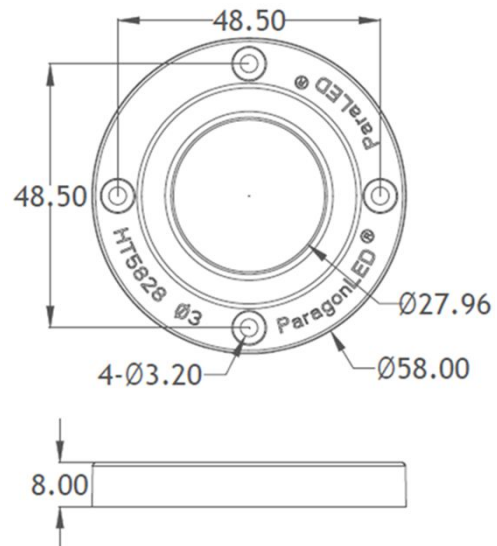
### Thermal Pad

Thermal pad applied for:  
Gray : 1.5W/mk : 10/20W  
Yellow : 3W/mk : 30W

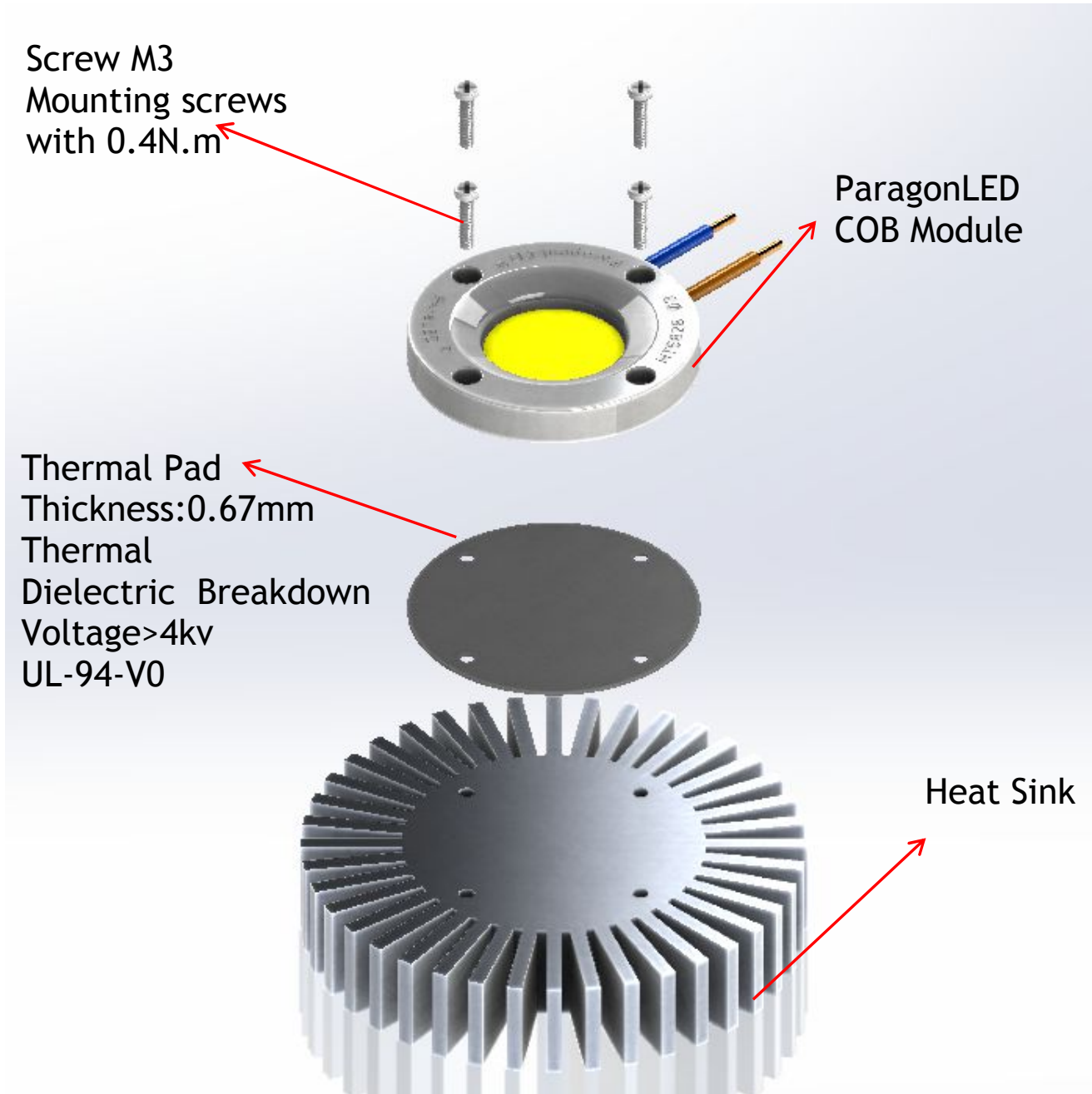


### Protection ring

Dimensions (ØxH):58x8 mm  
NO. HT5828



## Assembly Notes



**Correct**



## Assembly Notes

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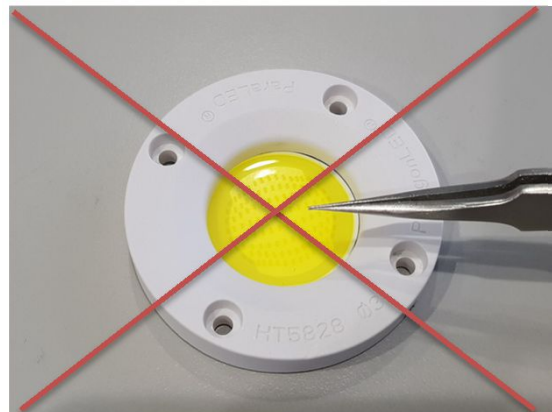
Recommended to use antistatic gloves



**Wrong**



Do not touch the emitting area



Do not touch the emitting area



## About ParagonLED

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Established in 2008, Paragon Semiconductor Lighting Technology Co., Ltd. (ParagonLED®) has been devoted to be a comprehensive supplier of COB LED products. Our product lines include 1.AC LED module 2.Thermal management integration 3.Optical integration 4.AI integration 5.Constant power module series. We have been addressed ourselves to provide good quality products to satisfy clients' needs. Meanwhile we are not in a standstill situation, but keep pursuing progression and innovation.

ParagonLED® pride ourselves on our products, so we have overall arrangement in patent; the total applied patents have been reached 135 items until now. Our manufacturing techniques are also patented by many countries, and we still keep moving forward. Meanwhile we supply good quality products with good performance on CRI and efficiency (lm/w), and strictly controlled CCT.

In ParagonLED®, we do not only supply products, but also provide technical recommendations. What's more, we are more than willing to solve problems with clients together. Hence ParagonLED® and our clients can work together to supply reliable and qualified products to end users!

Devote ourselves to bring more added-value to clients

- →Direct Marketing + Localized operation

We have offices in Taiwan, in DongGuan, China, so that we can deal with enquiries directly. Also with agents in many different countries, we and they are able to take care of clients on local basis.

- → Fast delivery

With the manufacturing site located in New Taipei City Linkou, Taiwan, we have different yet convenient transportation ways to reach the world.

- Customized service

Through professional and experienced research and development techniques, we provide customized products that can be tailored to different requirements.

