

Plant RB GT-COB2828-XX



Product Description

Getian COB series (Mirror-surface aluminum base), large luminous area with circular chip array design, is widely applied to high-end professional commercial lighting with ultimate high light efficacy, CRI and heat conduction. Its light efficacy is up to 170 lm/w. CRI can go up to 98 with smooth and cozy light quality which brings great experience of light. This newly-launched PRB(plant RB) series is optimized for horticulture lighting, which pursues the highest photosynthesis effectiveness.

Like the PW spectrum, the PRB spectrum is hard to beat in efficiency, also saturated in the blue and red areas to achieve the highest photosynthetic rate.

Because the central area of the spectrum has been dispensed with, its use is recommended for phases of the plant in which morphogenesis is not a determining factor, such as flowering or germination. Also ideal for mixing with other bulbs that lack blues and reds.

Features

- Spectrum tuning technology
- mirror-surface aluminum base
- high intensity circular chip array
- RoHS compliant, EN62471
- > 50000 hrs
- Mac Adam 3 or 5 steps available
- smooth light quality

Application

- Plant grow lights, indoor green house lamp, etc

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Characteristics

Characteristics	Unit	Min	Typical	Max
Dimension L*W	mm		28*28	
Diameter of Luminous Area Φ	mm		24.5	
Beam Angle θ	deg.		120	
Color Temperature CCT	k		/	
Luminous Efficacy	lm/w	40		70
Color Rendering Index CRI	Ra		/	
MacAdam Ellipse SDCM	step	3		5
Operating Temperature Top	°C	-40		+75
Storage Temperature Tst	°C	-40		+85
Testing Point Tc	°C			75
Junction Temperature Tj	°C			125
Reverse Current (Vr=5V) Ir	mA			1
ESD (HBM)	V			2000
Hand Soldering (Lead-Free) HST	°C			350

Coding Rules

Model	GT	COB	2828	XX	X	X	X	X	XX
Code	GT	COB	Type	Emitting Color	Chip Size	Chip QTY	Beam Angle	Power	Brightness Grade
Meaning	Getian	COB Series	2828	PRB	1 2 3	144:144EA 216:216EA 324:324EA	0:120°	37:37.5W 56:56.3W 84:84.4W	60:60-70

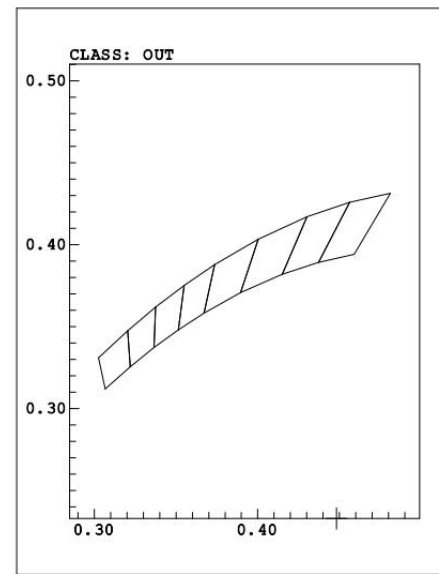
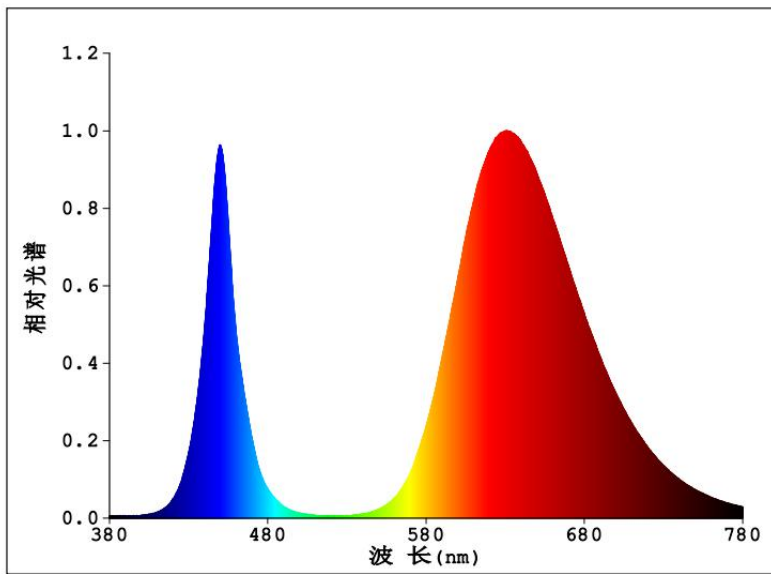
Specifications (Tc = 25°C)

Product Type	Standard Values				Maxium Ratings	
	Typ.If (mA)	Typ.Vf (V)	Power (W)	LM/W (@Typ.If)	Typ.If (mA)	LM/W
GT-COB2828PRB214403760 SP1212	1080	34.8	37.5	60-70	2160	40-50
GT-COB2828PRB221605660 SP1812	1080	52.2	56.3	60-70	2160	40-50
GT-COB2828PRB232408460 SP1818	1620	52.2	84.5	60-70	3240	40-50

Notes:
 Above charts include the most regular specs for cob leds for reference. Please consult sales representative for specs that are not listed or please visit www.getiangroup.com.
 Machine Tolerance $\pm 3\%$ on luminous flux.

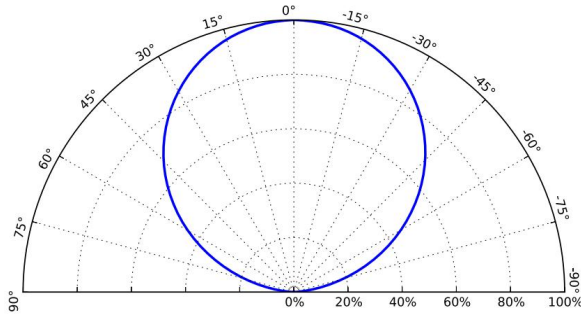
Spectral Features (Tc = 25°C)

Spectrum: PRB

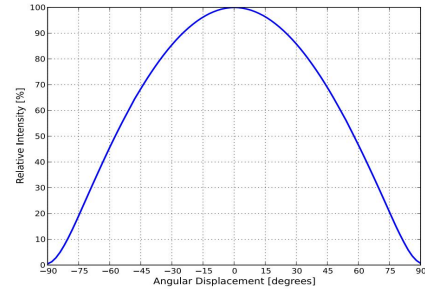


Typical Spatial Distribution(Tc = 25°C)

Intensity Distribution Diagram

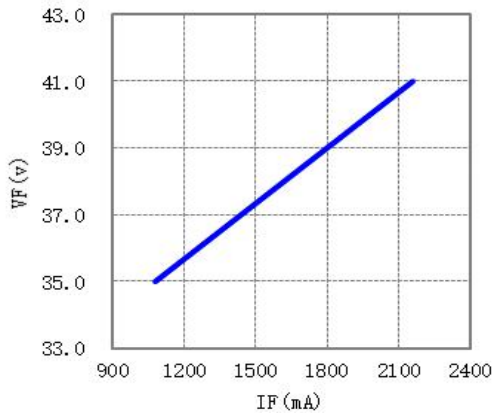


Intensity Distribution Curve

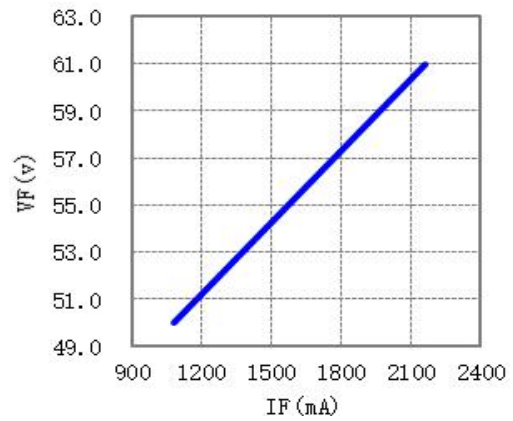


Electrical Features (Tc = 25°C)

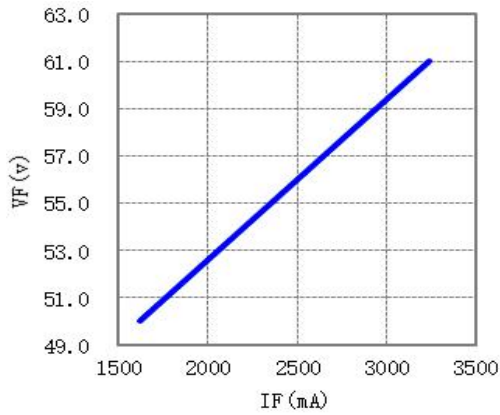
Standard Power: 37.5W



Standard Power: 56.3W

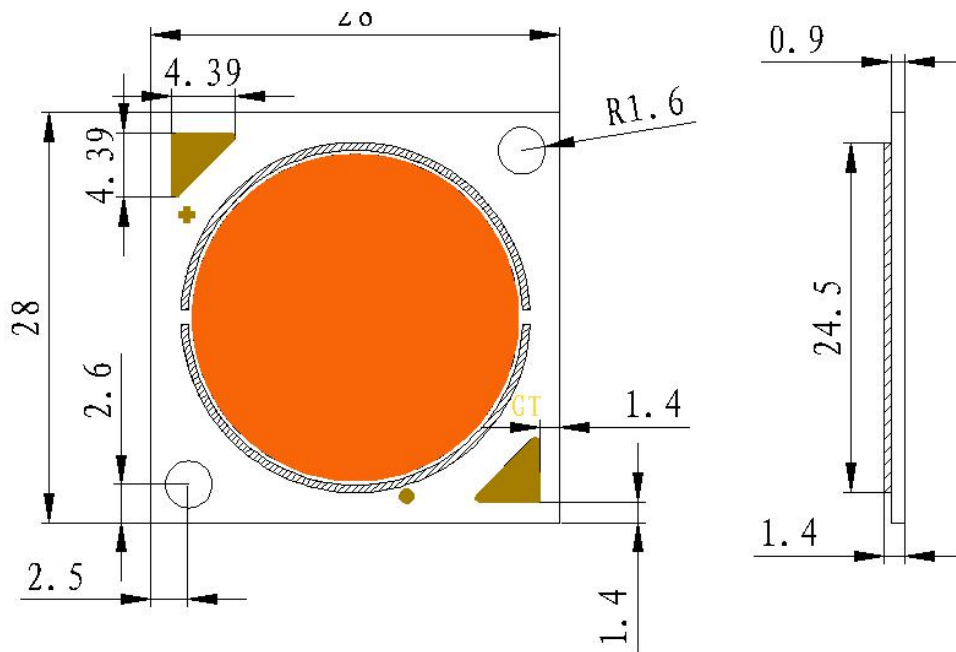
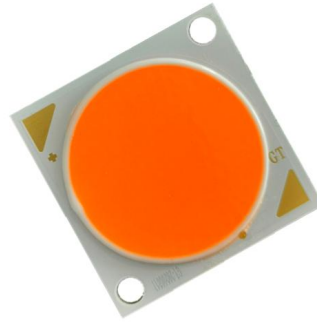


Standard Power: 84.5W



Dimension(Unit:mm)

Tolerance+/-0.3mm



Reliability Tests

Test Items	Test Conditions
Aging Test	37.5W/IF=1080mA 56.3W/IF=1080mA 84.5W/IF=1620mA Ta=25°C×1000hrs
Aging Test	37.5W/IF=1080mA 56.3W/IF=1080mA 84.5W/IF=1620mA Ta=85°C×1000hrs
High Temperature Storage	100°C × 1000 hours
Low Temperature Storage	-40°C × 1000 hours
High Temp & Humidity	37.5W/IF=1080mA 56.3W/IF=1080mA 84.5W/IF=1620Ma 85°C, 85 %RH for 1000 hours
Temperature Shock	-40°C × 30 minutes – +100°C × 30 minutes, 100 cycle
ESD (HBM)	2000V HBM/Time

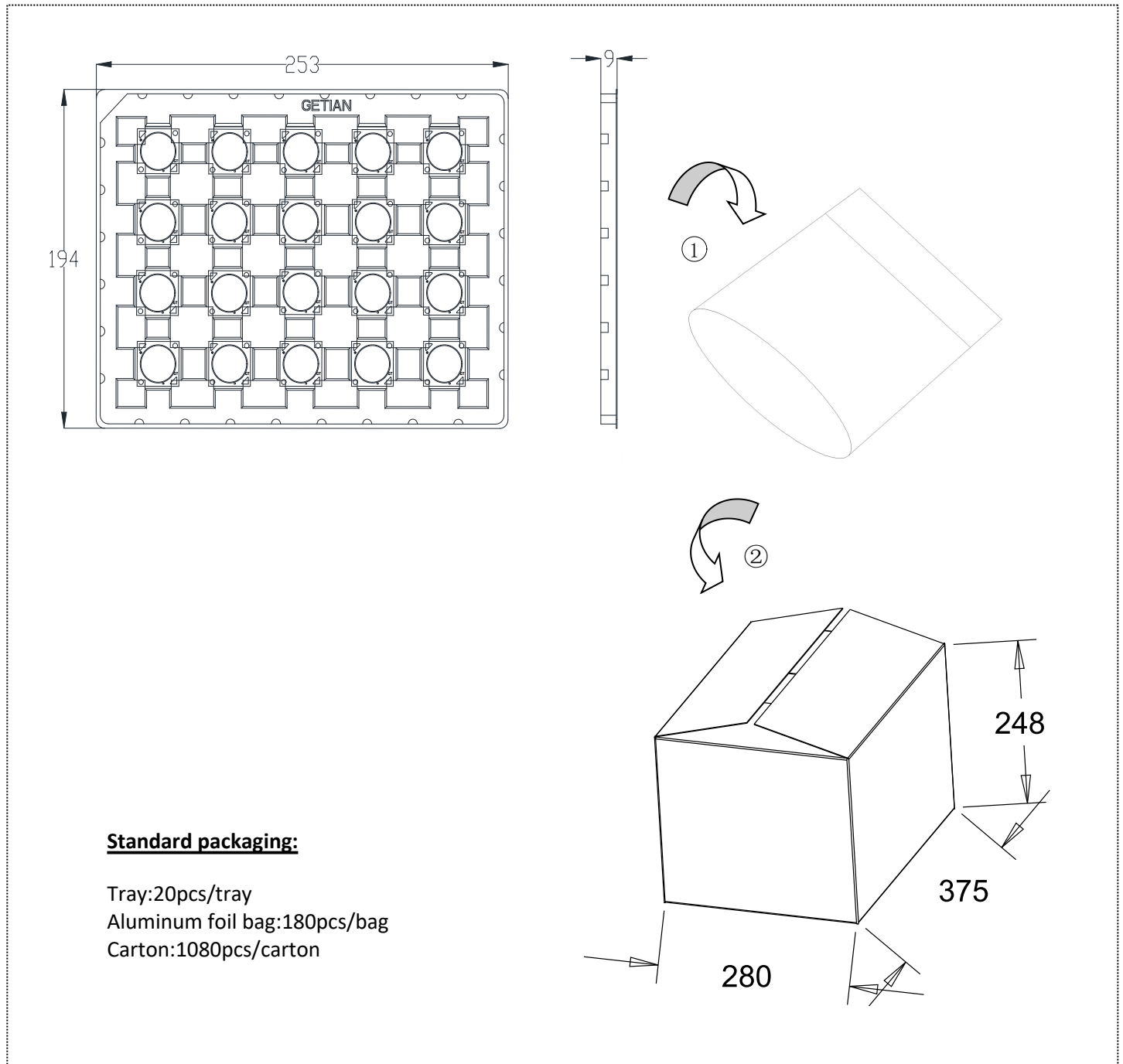
Criteria for Judging LED Failure (Tc=25°C)

Items	Symbol	Test Conditions	Criteria for Judging LED Failure
Forward Voltage	V _F	37.5W/IF=1080mA 56.3W/IF=1080mA 84.5W/IF=1620mA	>U × 1.1
Luminous Flux	φ _v	37.5W/IF=1080mA 56.3W/IF=1080mA 84.5W/IF=1620mA	<S × 0.7

U refers to max value; S refers to initial value.

Notes: Judging criteria based on Tc=25°C.

Packaging (Unit:mm)



Standard packaging:

Tray:20pcs/tray
 Aluminum foil bag:180pcs/bag
 Carton:1080pcs/carton

Notes

Product Specifications

This is a product family data sheet without extra emphasis on a specific model. The specifications in the document refers to its general value under certain test conditions. Please consult sales representative or technical people if encounters specs that are not listed. (Tolerance should be considered).

Operation Tips

1. Please do not press emitting surface;
2. Please do not pour out products from trays or overlay them;
3. Keep the power supply lines 2-3mm striped and tin immersed;
4. Do not touch the emitting surface or the white dam by the soldering iron during soldering process;
5. Soldering time should be less than 5 seconds.;
6. Keep the soldering point clean and neat with no bulge, bend or cold-joint.
7. Instant test time less than 3 seconds.
8. Recommend to use thermal grease with conductivity >2.5.
9. Please keep the thermal grease inclusion-free;
10. Thermal grease spreading area should be a bit larger than the led substrate;
11. Thermal grease evenly spread with thickness about 0.1mm;
12. Place led flatly and do no push from side in case grease scraped;
13. Lens cover should be 0.2mm diameter larger than the COB emitting surface.

Service Conditions

The products must be operated within the rated range of parameters. Constant current drivers are recommended.

ESD Protection

Statics or surge volt would cause LED failure. When using the products, we suggest wearing anti-static wrist strap or gloves. All devices, equipment and machinery must be grounded. Precautions should be taken to protect the products from the surge voltage generated by the devices. It is recommended to inspect each LED whether it is electrostatic damaged. Inspection can be done by a indicating lamp or low forward current test (suggest 90mA). The destroyed products shows different features, for example, the forward voltage becoming lower, or no light emission under low current.

Heat Dissipation

The thermal design of the end product is particularly important, please consider it seriously. Do avoid high temperature condensation on the product.

Cleaning

Recommend ethanol as the only clean solvent.

Others

The bright light emitted by LED may hurt the eyes. Do not look directly at the products when not wearing protective glasses. The strong irritant glare makes people feel uncomfortable and precautions should be taken during usage.