

GT-FCHB-XX



Product Description

Getian FCHB series (Flip Chip for High Bay), super luminous flux 20000+ lm with circular chip array design, is widely applied to industrial high bay light, balloon light with ultimate high light efficacy, heat conduction. Its power is up to 200W with flexible beam angle. It equipped with lens, lower the system cost a lot.

Features

- Super high Flux output and high Luminance
- No gold wire encapsulation, High reliability
- Low thermal resistance: 0.06-0.2°C/W
- Wide viewing angle , Integrated package
- RoHS compliant

Application

- High Bay Light
- Balloon Light

Table of Content

Characteristics.....	2
Coding Rules.....	2
Specifications.....	3
Dimension.....	4
Typical Curves.....	5
CIE Diagram.....	6
Reliability Test.....	7
Packaging.....	8
Notes.....	9



Characteristics

Characteristics	Unit	Min	Typical	Max
Dimension L*W	mm		55*40	
Diameter of Luminous Area Φ	mm		34	
Beam Angle θ	deg.		90/120	
Correlated Color Temperature CCT	k	5000		6000
Luminous Flux	lm	6600		23000
Color Rendering Index CRI	Ra		70	
Forward Voltage	V	28		34
Operating Temperature Top	°C	-20		+70
Storage Temperature Tst	°C	-40		+80
Power Dissipation	W	53.2		201.8
Junction Temperature Tj	°C			150
Forward Current	mA	1900		6200
ESD (HBM)	V			2000

Coding Rules

Model	GT	FC	HB	X	XXX	X	X	X
Code	GT	FC	Type	Viewing Angle	Power	Color Temperature	CRI	Luminous flux grade
Meaning	Getian	Flip chip Series	High Bay	9: 90° 120: 120°	60: 60W 100: 100W 150: 150W 200: 200W	B: 4000-4500K C: 5000-5500K D: 5500-6000K E: 6000-6500K	A: ≥95 B: ≥90 C: ≥80 D: ≥70 E: ≥60	A: <80lm/w B: 80-90lm/w C: 90-100lm/w D: 100-110lm/w E: 110-120lm/w

Notes:

Above charts include the most regular specs for FCHB LED series for reference. Please consult sales representative for specs that are not listed or please visit www.getiangroup.com.

Machine Tolerance ±3% on luminous flux.

Specifications (Tc = 25°C)
Thermal Resistance: 0.2°C/W

Power(W)	Voltage(V)	Current (mA)	CRI	lm/w	Color	CCT(K)	Beam Angle (°)	Part Number
60	28-34	2000	70	110-120	Natural White	4000-4500	90	GT-FCHB960BDE
							120	GT-FCHB1260BDE
					Pure White	5000-5500	90	GT-FCHB960CDE
							120	GT-FCHB1260CDE
						5500-6000	90	GT-FCHB960DDE
							120	GT-FCHB1260DDE
					Cool White	6000-6500	90	GT-FCHB960EDE
							120	GT-FCHB1260EDE

Thermal Resistance: 0.15°C/W

Power(W)	Voltage(V)	Current (mA)	CRI	lm/w	Color	CCT(K)	Beam Angle (°)	Part Number
100	28-34	3100	70	110-120	Natural White	4000-4500	90	GT-FCHB9100BDE
							120	GT-FCHB12100BDE
					Pure White	5000-5500	90	GT-FCHB9100CDE
							120	GT-FCHB12100CDE
						5500-6000	90	GT-FCHB9100DDE
							120	GT-FCHB12100DDE
					Cool White	6000-6500	90	GT-FCHB9100EDE
							120	GT-FCHB12100EDE

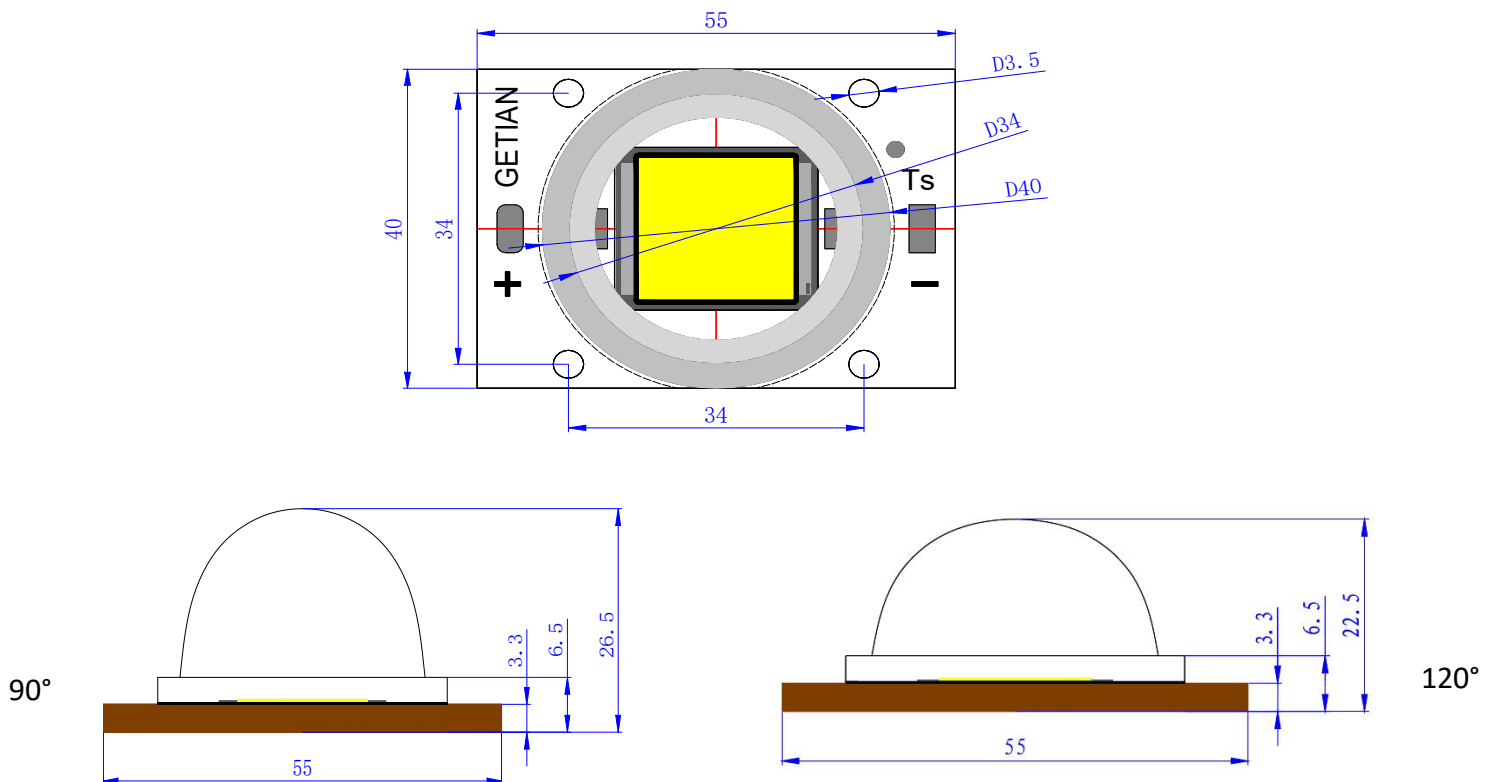
Thermal Resistance: 0.09°C/W

Power(W)	Voltage(V)	Current (mA)	CRI	lm/w	Color	CCT(K)	Beam Angle (°)	Part Number
150	28-34	4700	70	100-110	Natural White	4000-4500	90	GT-FCHB9150BDD
							120	GT-FCHB12150BDD
					Pure White	5000-5500	90	GT-FCHB9150CDD
							120	GT-FCHB12150CDD
						5500-6000	90	GT-FCHB9150DDD
							120	GT-FCHB12150DDD
					Cool White	6000-6500	90	GT-FCHB9150EDD
							120	GT-FCHB12150EDD

Specifications (Tc = 25°C)
Thermal Resistance: 0.06°C/W

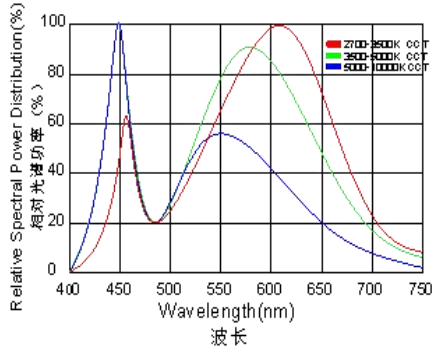
Power(W)	Voltage(V)	Current (mA)	CRI	lm/w	Color	CCT(K)	Beam Angle (°)	Part Number	
200	28-34	6200	70	100-110	Natural White	4000-4500	90	GT-FCHB9200BDD	
							120	GT-FCHB12200BDD	
						5000-5500	90	GT-FCHB9200CDD	
							120	GT-FCHB12200CDD	
					Pure White	5500-6000	90	GT-FCHB9200DDD	
							120	GT-FCHB12200DDD	
						Cool White	6000-6500	90	GT-FCHB9200EDD
								120	GT-FCHB12200EDD

- Notes:
- Above charts include the most regular specs for FCHB LED series 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.
 - Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.

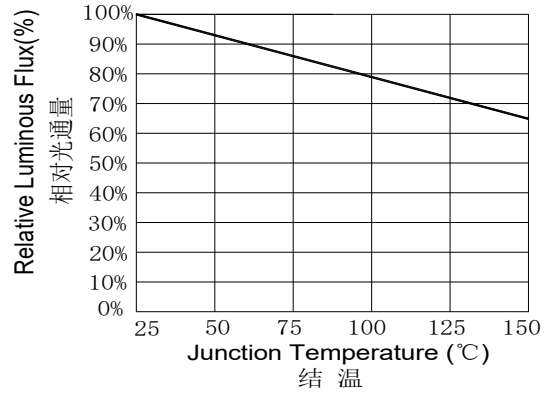
Dimension(Unit:mm) Tolerance $\pm 0.2\text{mm}$


Typical Curves (Tc = 25°C)

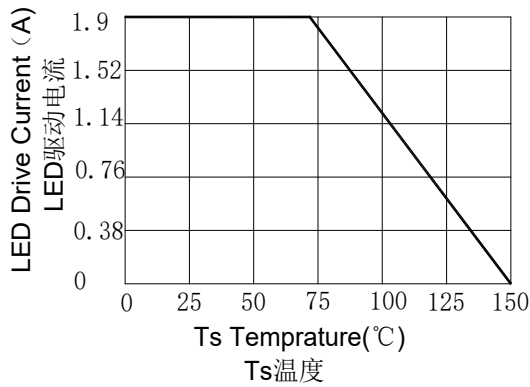
Typical white spectral distribution



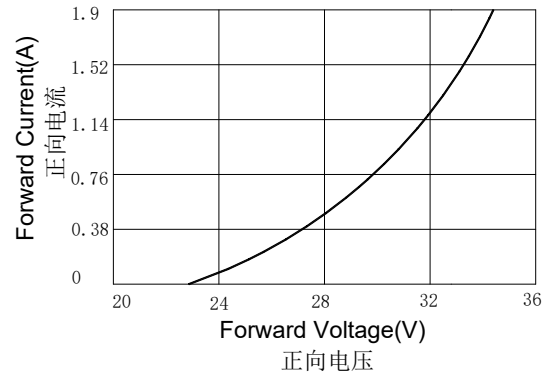
Relative Luminous Flux vs. Junction temperature



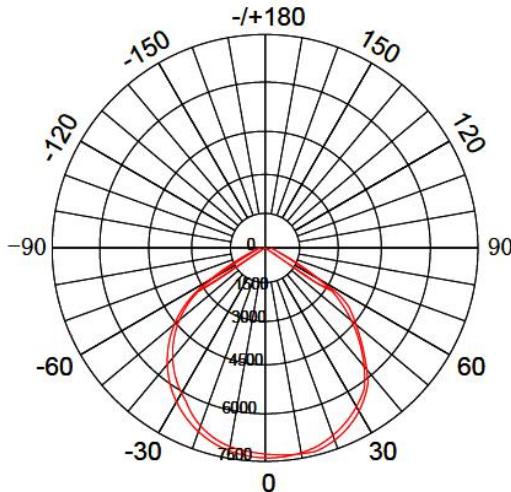
Current Derating Curve



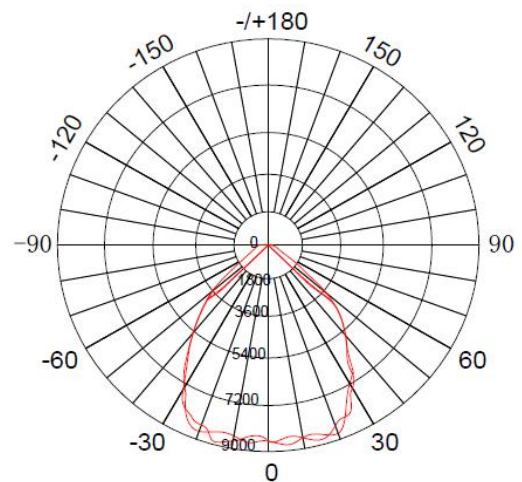
Forward Current vs. Forward voltage



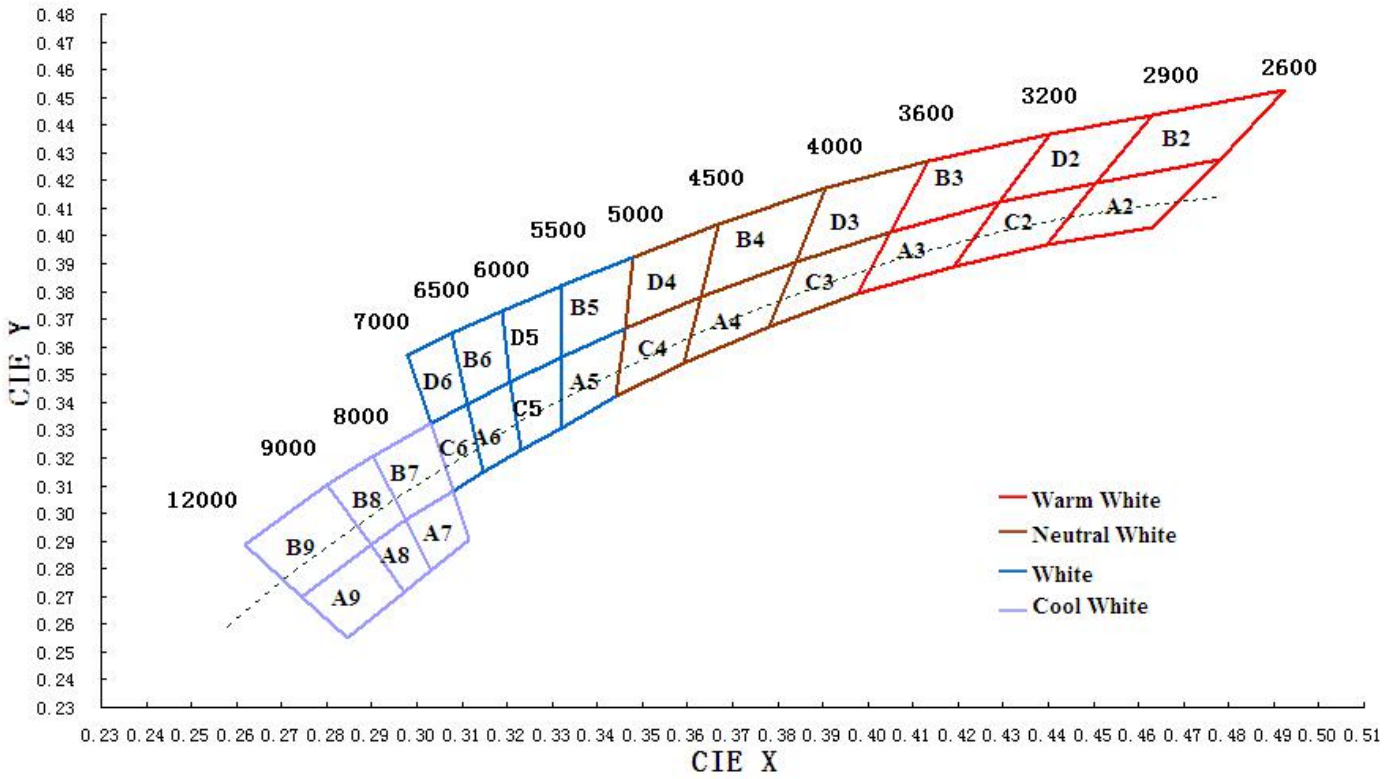
Typical Light-Emitting Angle Radiation pattern-120°



Typical Light-Emitting Angle Radiation pattern-90°



CIE Diagram



Notes:

The black line represents the black-body locus on CIE 1931 graph.

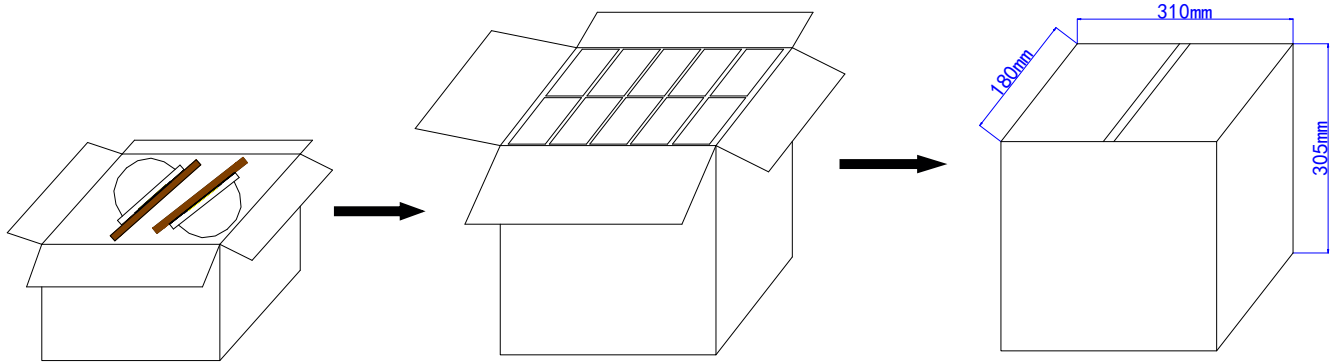
Reliability Test

Test Items	Test Conditions	Test Hours Cycles	Sample quantity	Ac/Re
DC Aging	Ta=25°C IF=1900mA	1000H	22	0/1
Hot and cold shock	-40°C/30min +100°C/30min	100Cycles	22	0/1
High Temp Storage	Ta=100°C	1000H	22	0/1
High Temp & Humidity	85°C/85%RH	1000H	22	0/1
Low Temperature Storage	Ta=-40°C	1000H	22	0/1
ESD (HBM)	2000V HBM	1Time	10	0/1

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

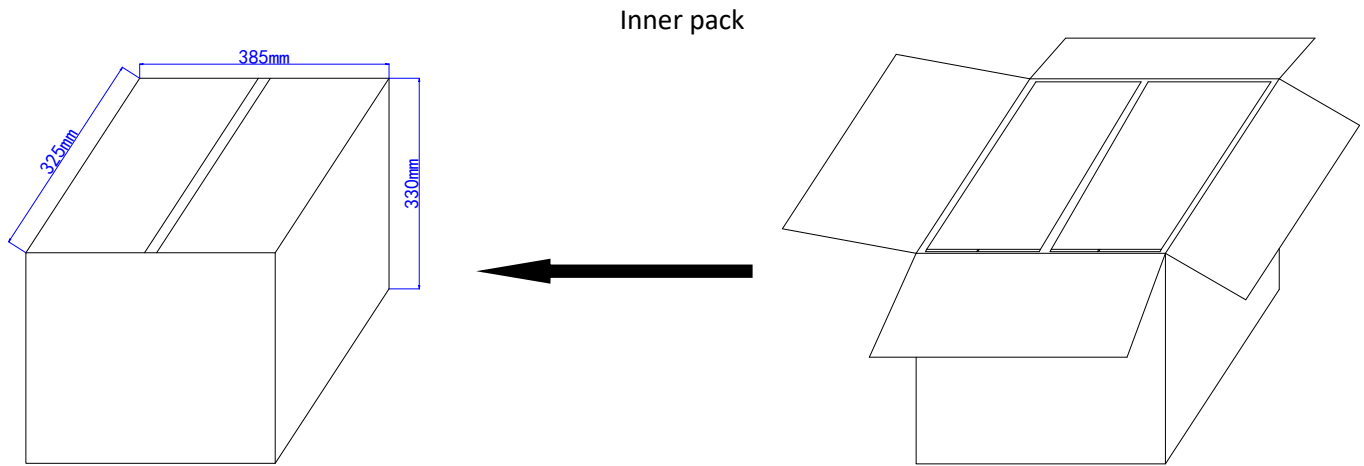
Items	Symbol	Test Conditions	Criteria for Judging LED Failure
Forward Voltage	V _F	60W/IF=1900mA 100W/IF=3100mA 150W/IF=4700mA 200W/IF=6200mA	Initial Data ± 10%
Reverse Current	I _R	VR=50V	(60W) I _R ≤ 30 μA (100W) I _R ≤ 30 μA (150W) I _R ≤ 70 μA (200W) I _R ≤ 100 μA
Luminous Flux	φ _v	60W/IF=1900mA 100W/IF=3100mA 150W/IF=4700mA 200W/IF=6200mA	Average φ _v degradation ≤ 30% Single LED φ _v degradation ≤ 50%

Packaging (Unit:mm)



Small box: 2pcs/box

Middle carton: 100pcs/carton



Inner pack

200pcs/carton

Notes:

1. All dimensions are in millimeters ;
2. Tolerance is ± 0.1 mm unless otherwise noted.

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;

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. 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.