



JT-M5744OBSC5744  
Outdoor Black High Brightness Molding



File No.: JT-TPS-02-096

Version No.: A0

Specification: JT-M5744OBSC

Name: 5744 Outdoor Black High  
Brightness Molding

#### Features:

- \* Durable, moisture-proof, water-proof, anti-UV.
- \* Surface matte technology for ultra-high brightness display.
- \* Adopting molding technology for good angle consistency.

#### Application:

Suitable for outdoor P8-P20 full color LED display.

#### Technical data:

Limit parameters (Ta=25℃):

Item	Symbol	Rated range of Max. and Min. parameter			Unit
		Blue	Green	Red	
Current	IF	25	25	35	mA
Pulse current	IFP	70	70	150	mA
Reverse voltage*	VR	10			V
Power	Po	80	80	80	mW
Total power*	Ptot	100			mW
Working temperature	Topr	-40 - +80			℃
Storage temperature	Tstg	-40 - +80			℃
Soldering temperature	Tsld	190℃ (highest) 10s (longest)			

- \* Reverse voltage is used for test only, otherwise, LED lamp will be damaged.
- \* Value for total power dissipation when two and more devices are lit simultaneously.
- \* IFP Conditions: Pulse Width≤10ms and duty ratio≤1/10.

Photoelectric parameter (Ta=25℃):

Item	Symbol	Blue		Green		Red		Unit
		Condition	Min	Max	Condition	Min	Max	
Light intensity	IV	IF=20mA	900	1500	IF=20mA	4500	7500	mcd
Wavelength	λd	IF=20mA	465	475	IF=20mA	521	531	nm
Forward voltage	VF	IF=20mA	2.2	3.6	IF=20mA	2.0	3.6	V
Reverse current	IR	VR=10V	≤1			≤1		μA

- \* Actual data should be referring to the label.

\* Brightness classification ratio:1:1.3, measuring tolerance ±10%.

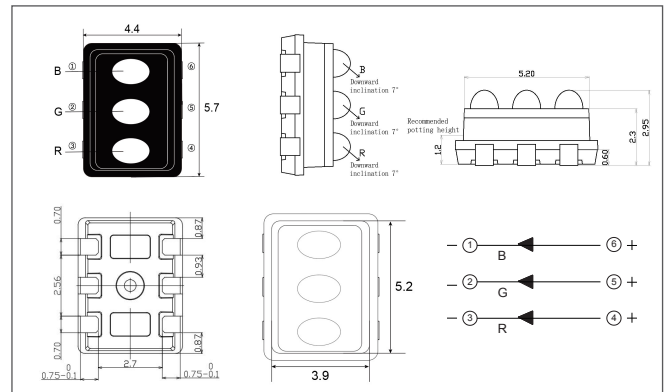
\* Wavelength classification: Red light 5nm/bin;  
Green light 3nm/bin;  
Blue light 3nm/bin.

\* Wavelength measuring tolerance:±1nm.

\* Voltage measuring tolerance:±0.1V.

\* Standard shipment one screen one bin, special requirement please contact jointec sales engineer.

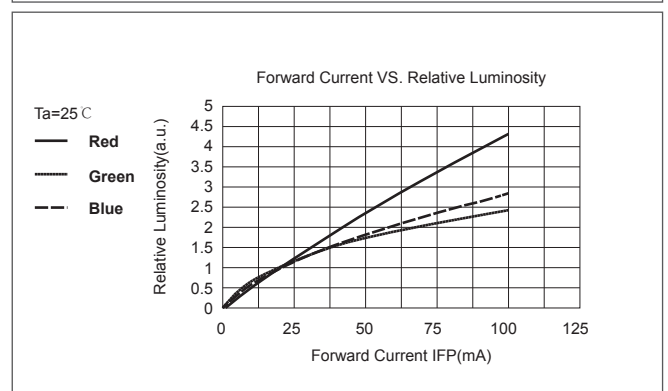
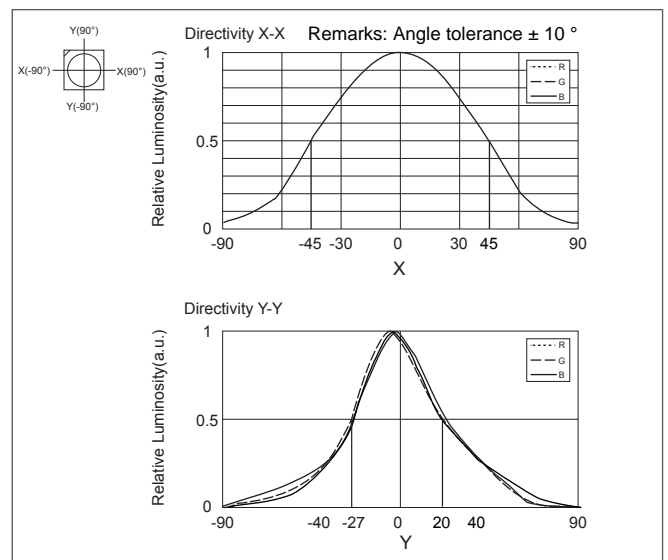
#### Sealing outline size:

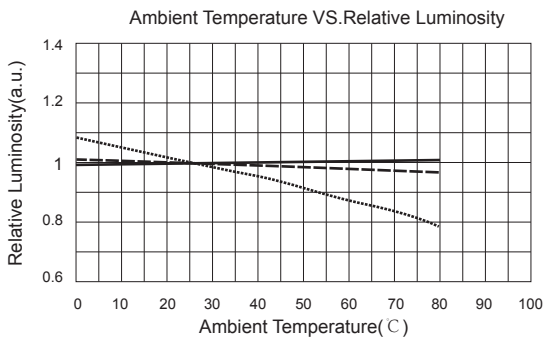
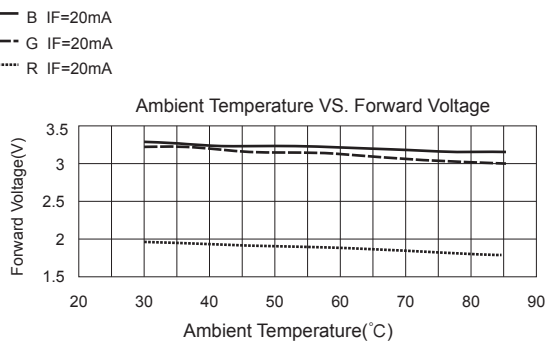
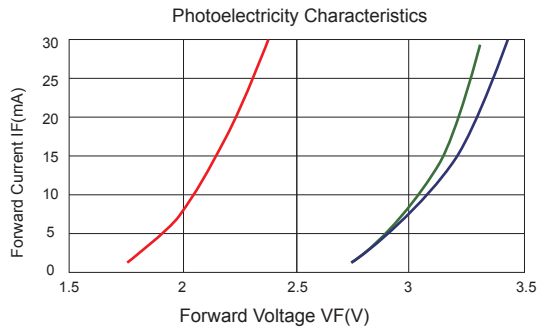
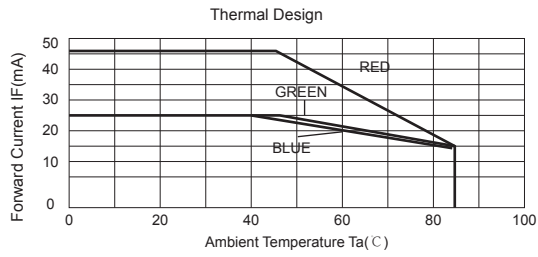


#### Remarks:

- \* All size should be in mm(unit).
- \* Undeclared tolerance ±0.1mm.

Item	Description
Lead frame	Black PPA
Surface	Black
Encapsulation material	Epoxy
Electrode material	Silver plated





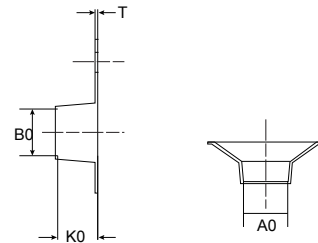
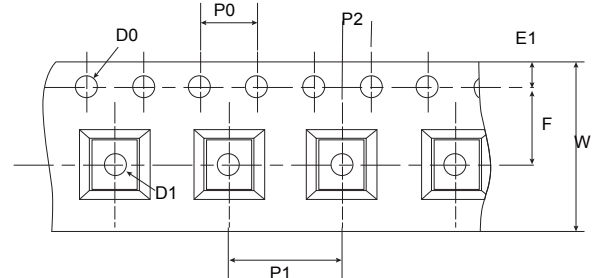
#### R & D test project conditions

No.	Item	Text condition	Test time	Invalid
1	1.1 Temperature/humidity storage test	85°C/85%RH	168 hours	0/22 pcs
	1.2 Reflow-soldering	260°C (-5°C)	3 times reflow soldering	0/22 pcs
	1.3 High-low temperature cycle test	-65°C - +150°C ≧ 15 min ≧ 15 min	1000 times cycle	0/22 pcs
2	Accelerated ageing test	85°C/85%RH/15mA	Illuminate 500 hours ageing and attenuation ≤ 6%	≤ 6%
3	Anti-UV test	63°C/50%RH with light intensity at 0.68W/m² and UVA irradiation at 340nm	Irradiate 500 hours, attenuations ≤ 6%	≤ 6%
4	Salt spray test	5% sodium chloride solutions as spray solution, salt spray deposit 1-3ml/80cm².h	Deposit 500 hours	0/529 pcs

#### Packaging specification

Min. packing: 2500/tray.

Symbol	A0	B0	K0	P0	P1	P2
Spec.	5.8±0.10	4.5±0.10	3.25±0.10	8.0±0.10	8.0±0.10	2.0±0.05
Symbol	T	E	F	D0	D1	W
Spec.	0.25±0.05	1.75±0.10	5.5±0.1	1.6±0.05	1.1±0.05	8.0±0.2



#### Label description:

**JOINTEC®**

工单编号: LOT NO: XXXXXXXX 产品型号: P/N: XX-XXXXXXXXXX 版本号: V/N: -XX

测试电流	IF(mA): R:XX G:XX B:XX
亮度参数	IV(mcd): R:XXX-XXX G:XXX-XXX B:XXX-XXX
波长参数	WD(nm): R:XXX-XXX G:XXX-XXX B:XXX-XXX
电压参数	VF(V): R:XX-XX G:XX-XX B:XX-XX

包装数量: QTY(EA): XXXX BIN CODE: XXX [BIN 版本号]  
 部门编号: DEPT ID: XX EQP NO: XXXX [设备编号]  
 料盘批号: S/N: XXXXXXXX  
 原产地: MADE IN CHINA  
 包装日期: QA DATE: XXXX/XX/XX

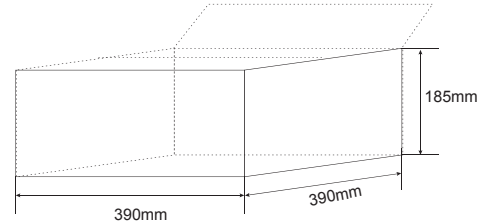
QC PASS RoHS

\* Please refer to the actual label.

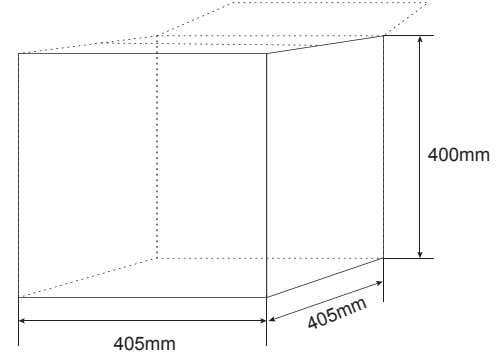
\* Carton specification: Inner box (L390mm \* W390mm \* H185mm) ;  
Carton (L405mm \* W405mm \* H400mm)

\* Weight: 12.6kg±0.5kg.

#### Inner box



#### Carton



## Code recognition :

J T - M 5744 O B S C  
① ② ③ ④ ⑤ ⑥

- ① Product categories :  
S refers to traditional flat SMD products;  
M refers to molding series SMD products
- ② Product specification:  
SMD 3535RGB series code is 3535 ;  
SMD 3030RGB series code is 3030 ;  
SMD 2727RGB series code is 2727 ;  
SMD 5744RGB series code is 5744 ;  
SMD 1921RGB series code is 1921 ;  
SMD 1515RGB series code is 1515.
- ③ Usage:  
I = Indoor; O = Outdoor.
- ④ Lead frame:  
W=white body; B = black body; S = black surface ; G = gray body ; F = flame-retardant lead frame .
- ⑤ Brightness:  
H = high brightness; N = normal brightness; C = high contrast;  
S = Super high brightness.
- ⑥ Epoxy:  
W = colorless clear epoxy; C = white misty epoxy; B = black misty epoxy.

## Warning:

\* Please keep sealed package under the environment of temperature  $\leq 30^{\circ}\text{C}$  , humidity  $\leq 60\%\text{RH}$ . This product will be expired in 6 months. Please return it back to the original factory when it is expired. Our company confirms whether it can be used normally.

Unpacking:

\* Open vacuum packaging:

Check humidity indicator card as follows: light blue is normal; If it is ">30%RH" and shows light red, this bag of material will need to be re-baked. If it is "> 40%RH" and shows light red, this bag of material will need to be returned to us. Our company confirms whether it can be used normally.  
After opening the packaging, please indicate unpacking date and time information immediately. Meantime please finish using up within twenty four hours under the environment of temperature  $\leq 30^{\circ}\text{C}$  , humidity  $\leq 60\%\text{RH}$ .  
If the vacuum packaging has been opened and products are not able to be welded on line within twenty four hours , please store the products as follows:

\* If not, please use it after been baking, and refer to "baking" .

## Baking :

\* Baking steps as follows:

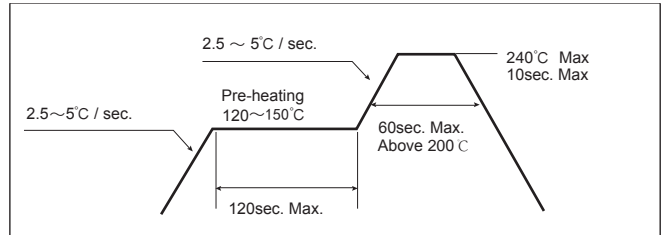
Take out LED or LED reel, LED can be baked on the original reel.  
Put LED or LED reel into oven, keep the temperature at  $60^{\circ}\text{C} \pm 5^{\circ}\text{C}$  for 24 hours, during baking period please do not open oven more than 3 times.  
Please use up LED (reflow soldering) within twenty four hours after finish baking. Do not heat up LED reel at the temperature more than  $70^{\circ}\text{C}$  .

## Soldering:

- \* Please prepare and clean comply with regulations before welding LED to PCB board
- \* Please procedure strictly complies with temperature curve for reflow soldering.
- \* Please keep LED cool down to room temperature if PCB needs to be cleaned after welding.
- \* No any mechanical pressure on the top of product at using.
- \* The maximum temperature of reflow soldering shall not exceed  $190^{\circ}\text{C} \pm 5^{\circ}\text{C}$ ; The duration shall not exceed 10s.
- \* The production process of reflow soldering patch shall be completed within 24 hours for the unpacked and baked materials; Workshop environmental conditions require temperature  $\leq 30^{\circ}\text{C}$  , humidity  $\leq 60\%\text{RH}$ .
- \* If the materials that have been unpacked and baked cannot be used up within 24 hours, they shall be baked by our "baking steps before starting the machine" and vacuum stored; For the next use, unpack and bake again according to our "baking steps before starting the machine" .

## Conditions of tin solder :

Reflow soldering	
Items	Parameters
Preheating temperature	120-150 $^{\circ}\text{C}$
Preheating time	120 seconds Max.
Temperature	240 $^{\circ}\text{C}$ Max.
Tin solder time	10 seconds Max.
Condition	Temperature curve



\* Before repairing, please ensure LED components work properly. Please strictly control time and temperature when welding, refer to "Welding manually".

\* Reflow-soldering no more than 1 time.

## Welding manually:

- \* Welding iron temperature must be below  $310^{\circ}\text{C}$  , keep welding time less than 3s.
- \* Do not touch the LED's epoxy and PPA by welding iron.
- \* Please pack up LED till it cools down to room temperature after welding.

## Electrostatic :

- \* Electrical components are sensitive to static electricity, any static electricity should be eliminated.
- \* Anti-static at work:  
Use the anti-static floor with grounding dissipative system, surface resistivity:  $10^6 - 10^9 \Omega/\text{cm}^2$ .  
Electrostatic sensitive components should be operated on anti-static worktable that lays anti-static tablecloth and with ground connection. Turn on straight-flow ion fan while using electrostatic sensitive components, and all operation shall be within the effective range of ion fan (generally the distance within 60cm).  
Relative humidity of electrostatic protection must be under the control of humidity 45-60%RH.  
Working area must have good anti-static grounding system, isolating human body, equipment and power. Electrostatic protection area should adopt anti-static instruments and implements.
- \* Soldering iron used for welding (Vertical temperature soldering iron is recommended) and test equipment must keep connecting with ground.

## Declaration

- \* Jointec Optoelectronics (Zhejiang) Co., Ltd. owns the copyright of modifying product specifications without further notice. Customers may get the latest version of documents before ordering, and ensure the information is correct and complete.
- \* Any LED packaging product has a certain possibility of failure under specific conditions, and the buyer is responsible for complying with the relevant safety standards when using the products of Jointec Optoelectronics (Zhejiang) Co., Ltd. for program design and product manufacturing, and taking appropriate safety measures to avoid the corresponding losses that may be caused by potential risks.
- \* In areas where hydrogen sulphide (a gas based on hydrogen sulphide) is present (such as hot springs and volcanic areas), the lifespan may be shortened in places where salt is abundant (such as coastal areas).
- \* Because the inside of the LED may be immersed in moisture, so after the display screen is set or not used for a long time, when driving for the first time , do not let the LED power reach 100%, first increase the power to 20% to light up for more than 2H, and then slowly increase the power to let the LED gradually adapt.
- \* Product improvement is endless, we will strive to provide customers with better LED packaging products!