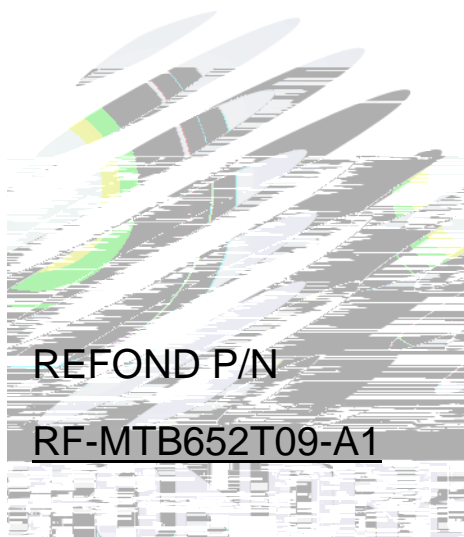


# SPECIFICATION



REFOND P/N

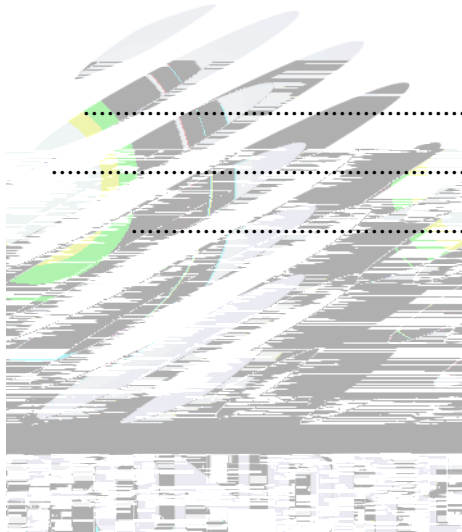
RF-MTB652T09-A1

R & D

Mass Product

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## 1. Product Description/

high reliability and high safety;

2835 LED Package, high lighting efficiency, low heat, without Mercury, belong to the environmental protection cold light source;

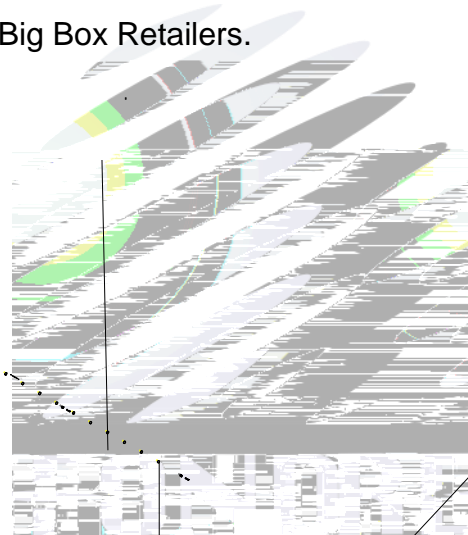
2835LED

The protection of the lamp is up to IP67, with beautiful appearance, no fouling situation.

IP67

Designed for normal and low temperature refrigeration walk-ins and display case applications;

Ideal for C-Stores, Grocery, and Big Box Retailers.



## 2.Product Specification /

### 2.1 Optical-electrical Characteristics(Absolute Maximum Ratings At Ts=25 )/

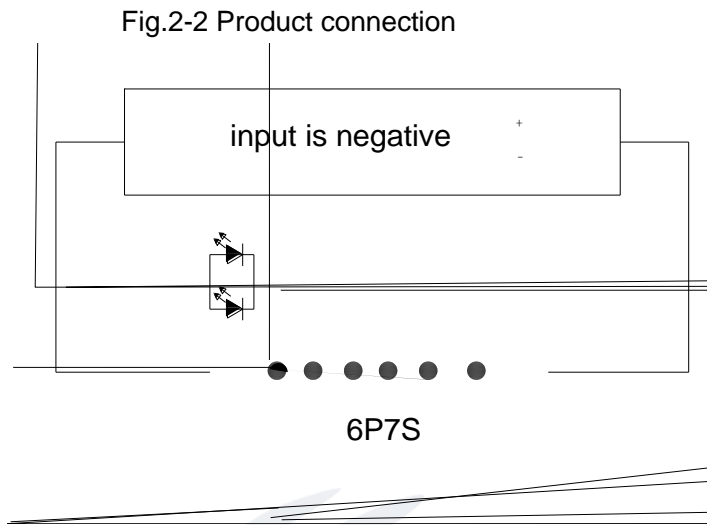
Tab.2-1Optical-electrical Characteristics

Refond PN	Customer PN	Module Characteristics				
		Current mA	Voltage(V)	Power(W)	Module LM	
		Typ	Typ	Typ	Min	Max
RF-MTB652T09-A1 6000-6500K	-	375	24	9± 8%	1125	1260
Color Rendering Index	80	(V)Test condition		Typ		
		24		24		
(MacAdamEllipsis)				≤5		

Absolute Maximum Ratings at Ts=25°C

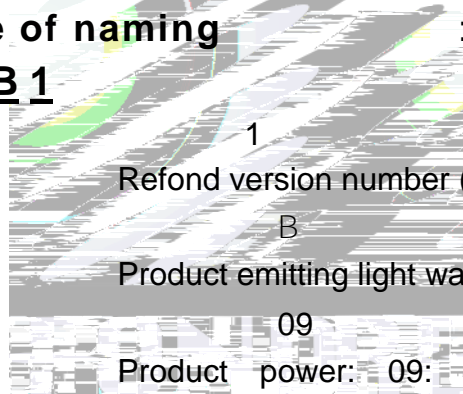
Parameter	Symbol	Rating	Units
Forward Current	$I_F$	375± 8%	mA
Peak Forward Current	$I_{FP}$	490	mA
Reverse Voltage	$V_R$	5	V
Electrostatic Discharge (HBM)	$E_{SD}$	2000	V

## 2.2 Product Schematic And Interface Definition/



## 2.3 Product Module rule of naming :

RF MT B 65 2 T 09 B 1



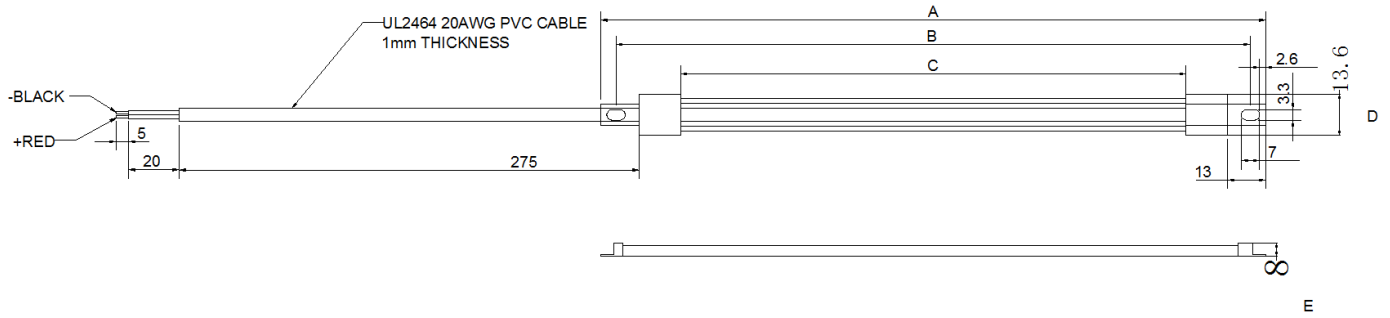
1 Refond version number (1: the first version)

B Product emitting light way B Top view

09 Product power: 09: 9W

### 3. Product Specification /

#### 3.1 Outline Dimension /



	Dimension
A	1829± 5mm
B	1816± 5mm
C	1780± 5mm
D	13.6± 1mm
E	8± 1mm

## 4. Product Reliability Test/

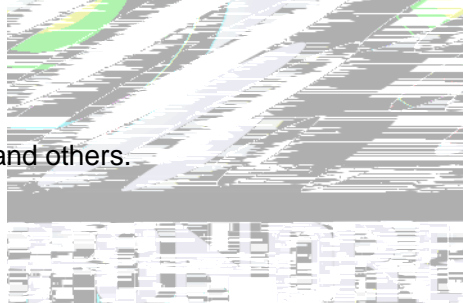
Tab 4-1 Light Bar Reliability Test

Test Item/	Test Conditions/	Test Time/	Number Of Test/	Judgement Criterions/
Operating Life At Room Temperature/	$T_A=25$ $I_F=300mA$ $T_j<115$	500Hrs	0/6	1. $\Phi<30\%$ , $V_f<110\%$ , $CIE\ x/\ y<0.015$ 2.No catastrophic failure
Operating Life At High Temperature/	$T_A=60$ $I_F=300mA$ $T_j<115$	500Hrs	0/6	
Operating Life At High Temperature And Humidity/	60 $R_H=90\%$ $I_F=300mA$ $T_j<115$	500Hrs	0/6	
Thermal Shock/	-40 15min $\uparrow\downarrow 10S$ 85 15min	100 cycle	0/6	No DeadLED

Notes

voltage distribution, heat dissipation and others.

LED



/ LED

## 5. Product Materials Performance Test And Method At Ta=25 /

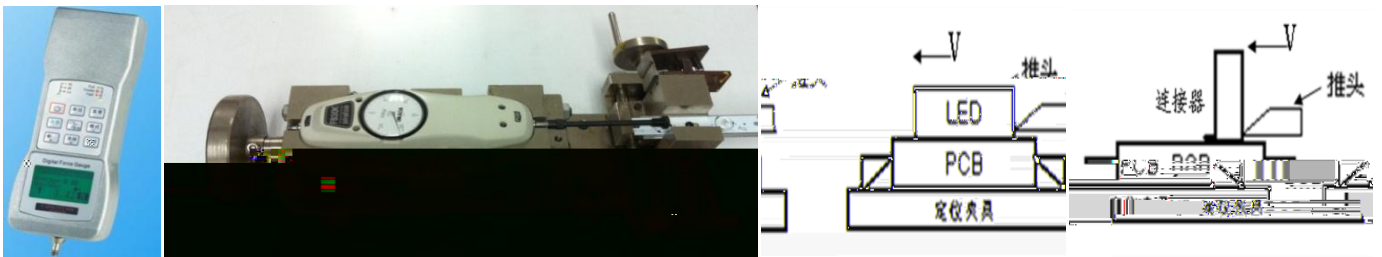
Tab 5-1 Light Bar Materials Performance Test And Method Ta=25

Test Item/	Test Conditions/	Test Methods/
LED Optical-electrical Characteristics/LED	Compliance With Specifications/	Integrating Sphere/
Connector Pull Force/	≥7kgf	Notes/
LED Push & Pull Force/ LED	≥3kgf	
LED Welding Standards/ LED	Offset Specifications/ X Shift /X ≤ ±0.15mm; Y Shift/ Y ≤ ±0.15mm; Angle/ ≤ ±3°;	

Notes

Fig 5-1 Push & Pull Test Equipment

Fig 7-2 Push & Pull Test Method

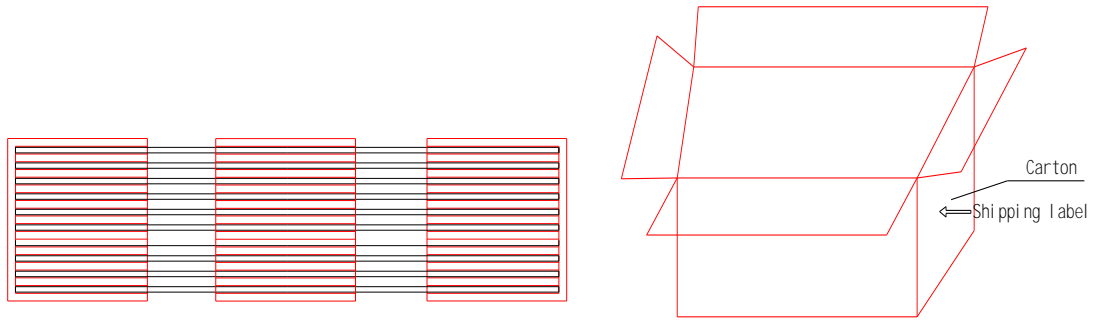




## 6.Packing Criterion/

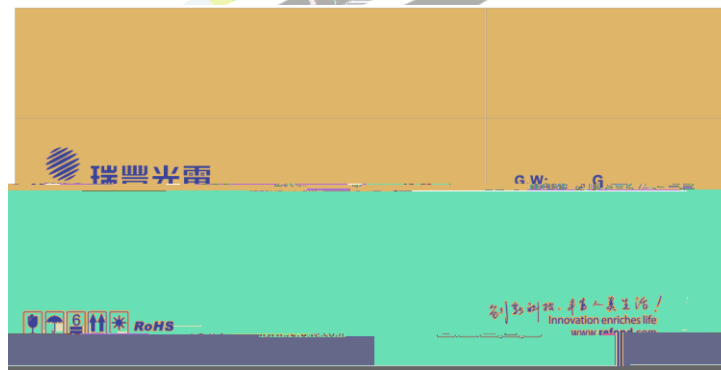
### 6.1 Package Diagram /

Fig 8-1Package Diagram /



### 6.2 Carton silk printing/

REFOND LOGOPay attention to identify



### 6.3Label Form Specification/

 深圳市瑞豐光電子股份有限公司  
REFOND SHENZHEN REFOND OPTOELECTRONICS CO.,LTD.

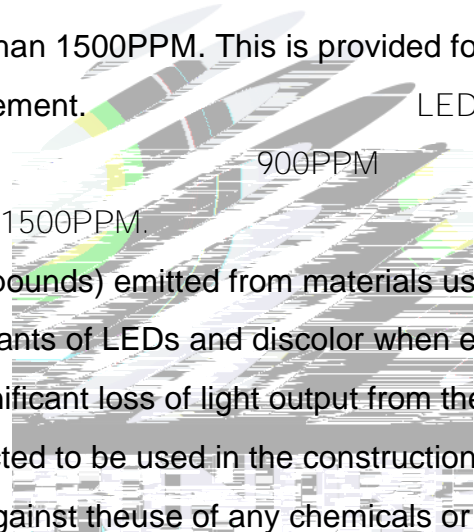
customer PN			
/P.N			
/BIN CODE		/LM	
/VF		/CCT	
/CRI		/QTY	
/N.W		/DATE	

## 7. Handling Precautions

(1) LED operating environment and sulfur element composition cannot be over 100PPM in the LED mating usage material. This is provided for informational purposes only and is not a warranty or endorsement.

(2) In order to prevent external material from getting into the inside of LED, which may cause the malfunction of LED, the single content of Bromine element is required to be less than 900PPM, the single content of Chlorine element is required to be less than 900PPM, the total content of Bromine element and Chlorine element in the external materials of the application products is required to be less than 1500PPM. This is provided for informational purposes only and is not a warranty or endorsement.

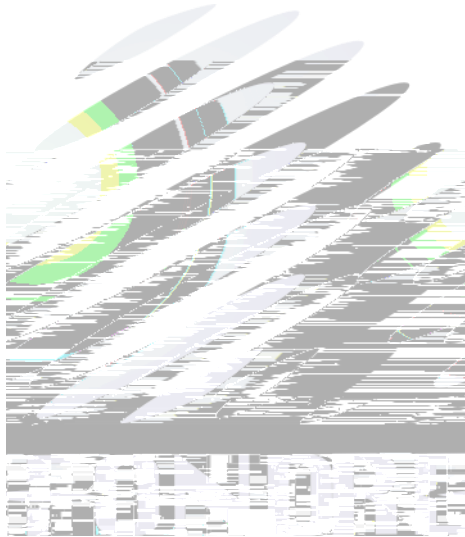
(3) VOCs (Volatile organic compounds) emitted from materials used in the construction of fixtures can penetrate silicone encapsulants of LEDs and discolor when exposed to heat and photonic energy. The result can be a significant loss of light output from the fixture. Knowledge of the properties of the materials selected to be used in the construction of fixtures can help prevent these issues. Refond advises against the use of any chemicals or materials that have been found or are suspected to have an adverse affect on device performance or reliability. To verify compatibility, Refond recommends that all chemicals and materials be tested in the specific application and environment for which they are intended to be used. Attaching LEDs, do not use adhesives that outgas organic vapor.



LED

LED

LED



damage to the LED.

LED

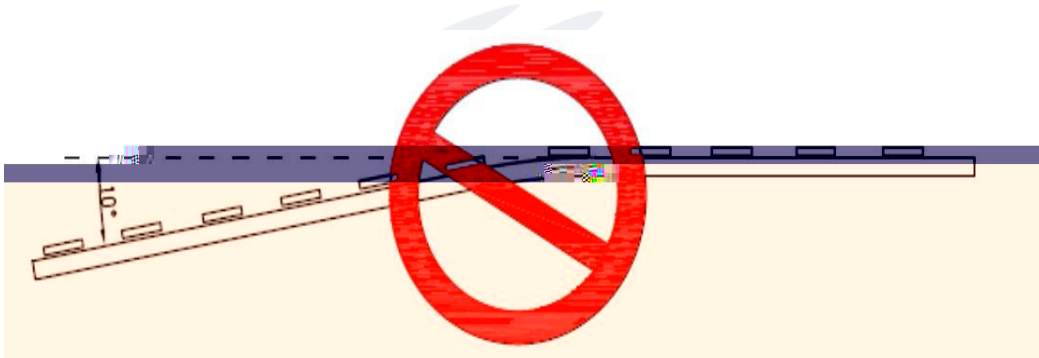
(8) Similar to most Solid state devices; LEDs are sensitive to Electro-Static Discharge (ESD) and Electrical Over Stress (EOS).

LED

9>.NO warping or twisting the Light Bar more than 10°. Forbidding holding the LED part or connector part when handling.

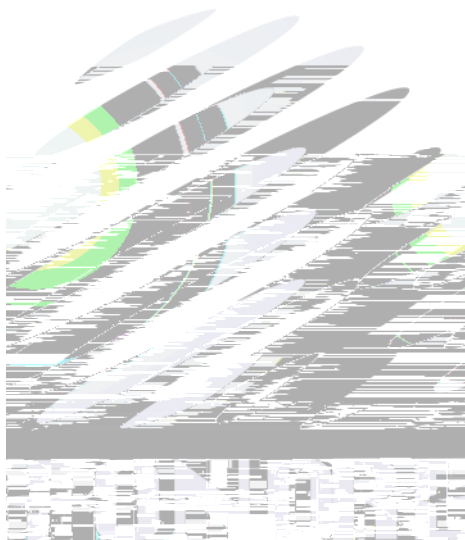
10°

LED



(10) Other points for attention, please refer to our relevant information.







Declare

This specification is written both in English and in Chinese and the latter is formal.