

产品规格书

SPECIFICATION FOR APPROVAL

CUSTOMER 客户名称		MODEL NO. 产品型号	GT-P04B3410115
SAMPLE DATE 送样日期	2013-1-7	DESCRIPTION 产品描述	1W蓝光不带板

CUSTOMER AUTHORIZED SIGNATURE

客户承认签核

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Pleas retun to us oen copy of “SPECIFICATION FOR APPROVAL”With you approved Signature.客户签字确认、盖章后请回传一份承认书我司。**ENGINEERING DEPARTMENT**

工程部

APPROVED 核准	CHECKED 审核	PREPARED 制定



Description

产品描述

Features.特性:

- ◆ Super high Flux output and high Luminance 高亮度、高发光效率
- ◆ Designed for high current operation 专为高电流工作而设计
- ◆ Low thermal resistance: 12K/W 热阻低: 12K/W
- ◆ SMT solderability SMT焊接通透性
- ◆ RoHS compliant 通过RoHS认证

Applications.应用:

- ◆ General Illumination 普通照明
- ◆ Outdoor & Indoor architectural lighting 户外和室内照明
- ◆ Decorative lighting 装饰照明
- ◆ Portable lighting and Reading lighting 手提灯和台灯
- ◆ Traffic signaling 交通信号灯

Table of Contents

目 录

Product Nomenclature	3
产品命名规则	3
Outline Dimensions	
尺寸说明	4
Parameters	
参数	5
Typical Characteristic Curves (1)	
典型特性曲线 (1)	6
Typical Characteristic Curves (2)	
典型特性曲线 (2)	7
Reliability Test	
可靠性试验	8
Soldering Condition./Packing Dimension.	
焊接条件 / 包装尺寸	9



Full Code of GT-Power LED Series 格天大功率LED系列产品型号说明

Full code form 产品型号 :	GT	-	P	XX	XX	X	X	X	X	XX
	1	2	3	4	5	6	7	8	9	
	GT	P	04	B3	4	1	0	1	15	

Part Number 产品型号说明

1- GT: GeTian 格天光电

2- P : High Power LED 大功率LED

3- XX: Part sort 产品 (支架) 类型

01: Eight feet four unity holder 八脚四合一支架

02: High temperature PC lens 高温PC透镜

03: With baseplate 带铝基板

04: Without baseplate 不带铝基板

DT: Reflow soldering 回流焊

07: Bimodal lens vertical 花生米透镜垂直

C4: Four feet holder 4脚支架

C3: Four feet holder with baseplate 4脚支架带板

6P: Six feet holder 6脚支架

4- XX: Emitted Color 发光颜色

R1: Red 红色625nm

V1: Violet 紫色360–365nm

B3: Blue 蓝色465nm

R6: Red 红色650nm

V2: Violet 紫色380–385nm

G6: Green 绿色525nm

Y2: Yellow 黄色590nm

V3: Violet 紫色395–405nm

A1: Amber 琥珀色600–610nm

IR: Infrared 红外850nm

Va: violet 紫罗兰420–435nm

Ba: Lake Blue 湖蓝色

Aa: Amber 琥珀色595–605nm

W3: Warm White 暖白2900–3200K

W4: Neutral White 中性白4000–4500K

W6: White 正白6000–7000K

W7: Cool White 冷白7000–9000K

5- X : Wafer Size 晶片尺寸

2: 24mil 3: 30mil/35mil/36mil/38mil 4: 42mil/45mil 5: 54mil 6: 60mil

6- X : Wafer Quantity 晶片数量

1: 1EA 2: 2EA 3: 3EA 4: 4EA

7- X : Viewing Angle 发光角度

0: 120° /140° 6: 60° 9: 90° 8: 180°

8- X : Power 功率

0 : 0.5W 1: 1W 2: 2W 3: 3W 4: 4W 5: 5W

9- XX: Brightness Grade 亮度等级

10: 10–20lm 15: 15–25lm 40: 40–50lm 50: 50–60lm

60: 60–70lm 70: 70–80lm 80: 80–90lm 90: 90–100lm

100: 100–110lm 110: 110–120lm 120: 120–130lm 130: 130–140lm

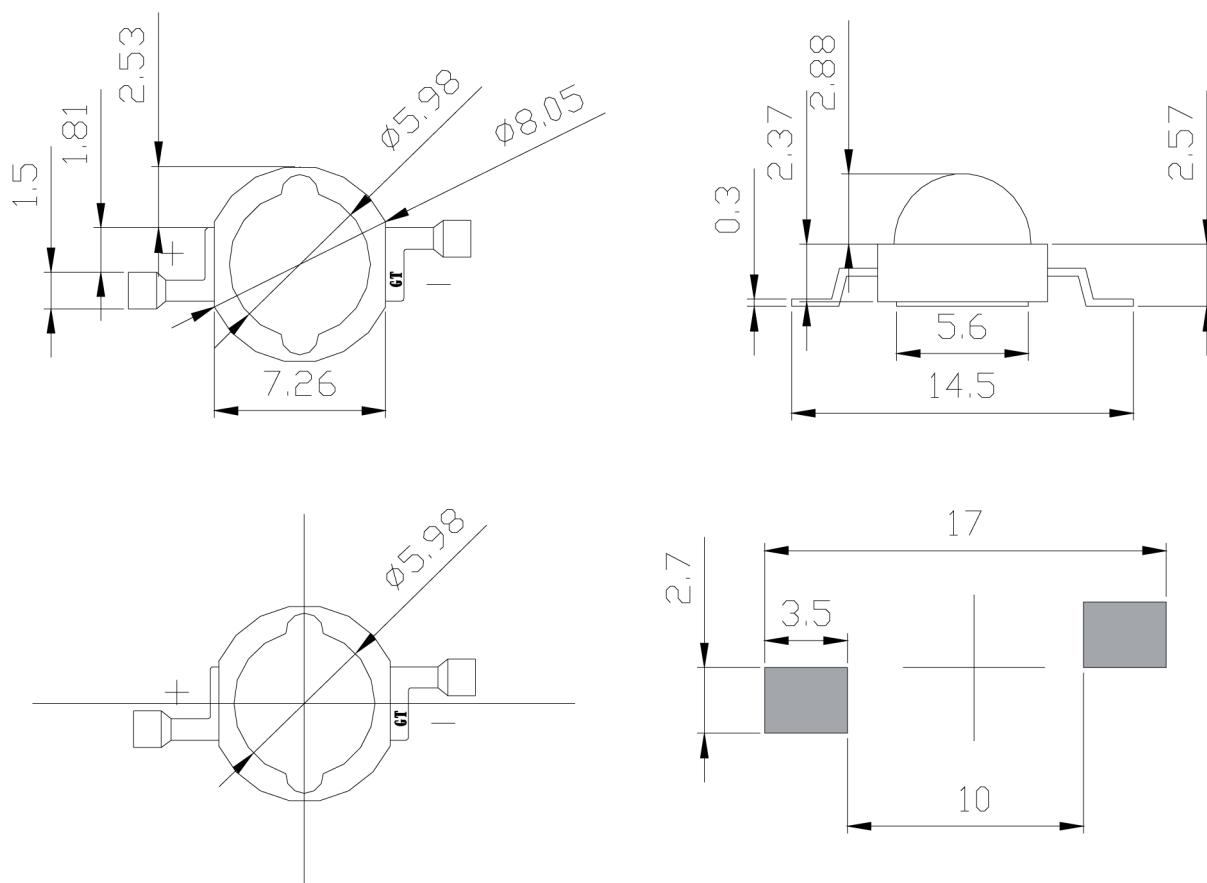
140: 140–150lm 150: 150–180lm 180: 180–200lm 200: 200–220lm

220: 220–240lm 230: 230–250lm 240: 240–280lm



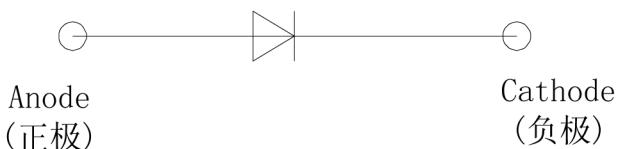
Outline Dimensions 尺寸说明

1、Dome Type 支架尺寸规格



2、Circuit diag ram 内部电路芯片排列方式

INTERNAL CIRCUIT DIAGRAM
 (内部电路图)



Notes 注释:

1. All dimensions are in millimeters.(tolerance: ± 0.2) 所有的尺寸都以毫米为单位(公差: ± 0.2);
 2. Dimension Scale:1:1 尺寸比例为: 1: 1。
- *The appearance and specifications of the product may be changed for improvement without notice.
 产品外形和说明书如有更新, 恕不另行通知!



Parameters

参数

Electrical-Optical Characteristics at IF=350mA, Ta=25°C

光电特性 IF=350mA Ta=25°C

Parameter 参数	Symbol 符号	Min 最小值	Typ 典型值	Max 最大值	Unit 单位
Luminous Flux 光通量	Φ v	15	~	25	lm
Wavelength 波长	λD	460	~	470	nm
Forward Voltage 正向电压	V _F	3.2	~	3.8	V
Power Dissipation 耗散功率	P _D	1.12	~	1.33	W
View Angle 发光角度	201/2	~	120	~	deg.
Thermal Resistance 热阻	R _{θ J-B}	~	12	~	°C/W

Absolute Maximum Ratings

极限参数

Parameter 参数	Symbol 符号	Value 数值	Unit 单位
Forward Current 正向电流	I _F	350	mA
Junction Temperature 结点温度	T _j	115	°C
Operating Temperature 工作温度	T _{opr}	-40~+60	°C
Storage Temperature 储存温度	T _{stg}	0~+60	°C
ESD Sensitivity 静电击穿电压	~	±2,000V HBM	~
Temperature Coefficient of voltage 电压温度系数	~	-5	mV/°C
DC Pulse Current(@ 1 KHz,10% duty cycle) 直流脉冲电流 (@ 1 KHz,10% 占空比)	I _{FP}	1000	mA
Reverse Voltage 反向电压	V _R	Not designed for reverse operation 禁止反向驱动	

*Notes 注释:

1. Tolerance of Luminous Flux is ±3%. 光通量的公差为±3%。
2. Tolerance of Forward Voltage is ±0.1V. 正向电压的公差为±0.1V。

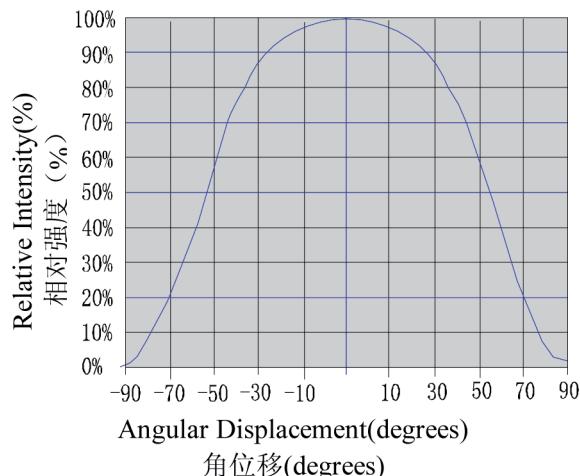


Typical Characteristic Curves(1)

典型特性曲线 (1)

1. Typical Light Distribution Curve

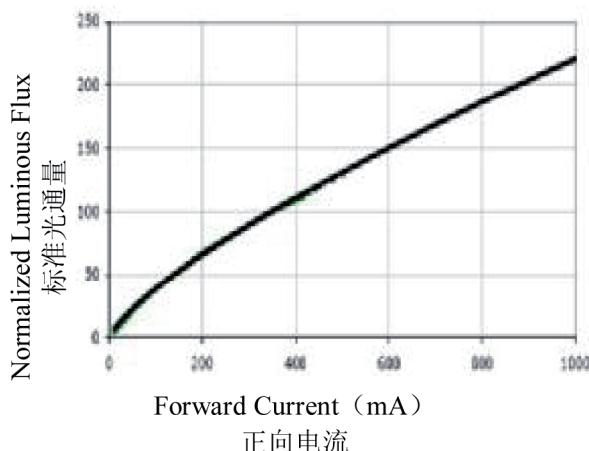
典型的光强分布曲线



3. Forward Current vs.Relative

Luminous Flux Curve

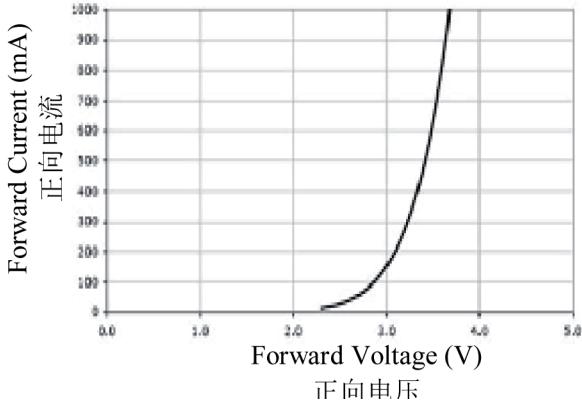
正向电流与相对光通量曲线图



5. Electrical Characteristics Curve 电性特征曲线图($T_j = 25^\circ\text{C}$)

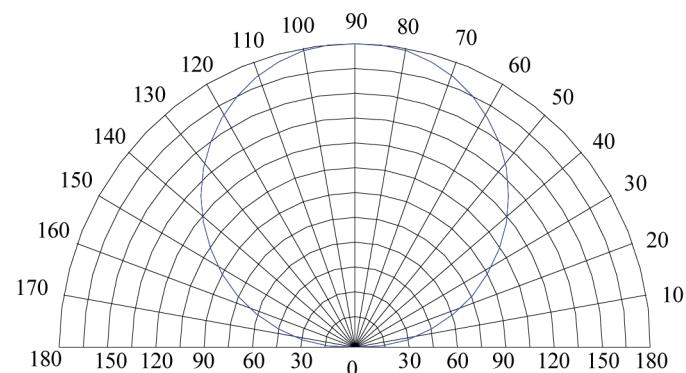
5-1. White, Royal Blue , Blue, Green

白光、深蓝光、蓝光、绿光



2. Typical Light-Emitting Angle Radiation Pattern

典型发光角度辐射图



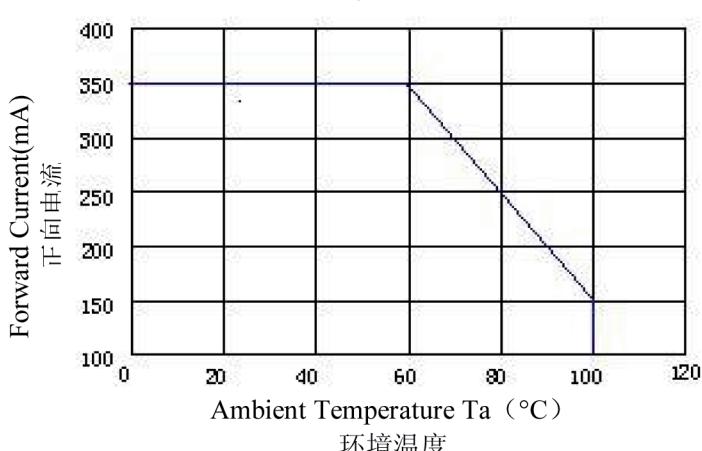
Typical Polar Radiation Pattern for Lambertian

朗伯型灯珠典型发光角度辐射图

4. Forward Current Derating Curve,Derating

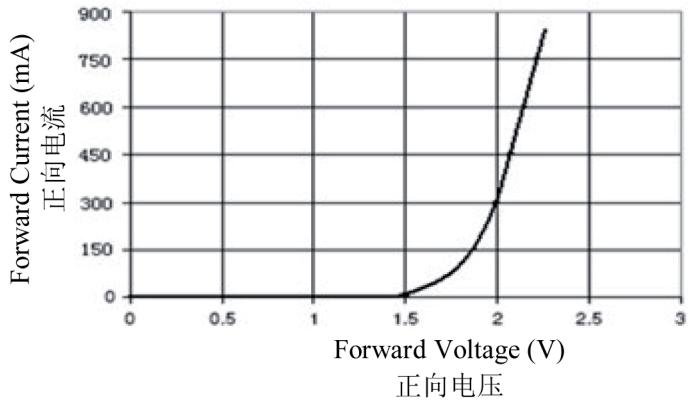
based on $\text{Timax}=125^\circ\text{C}$

正向电流降额曲线, 以 $\text{Timax}=125^\circ\text{C}$ 为基准



5-2. Amber, Red

黄光、红光

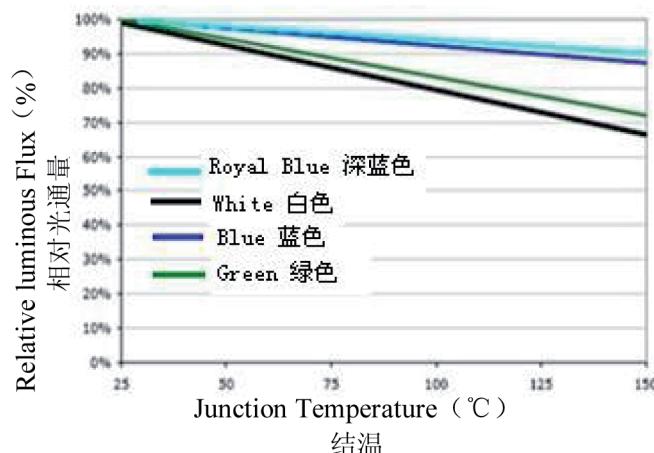


Typical Characteristic Curves(2)

典型特性曲线 (2)

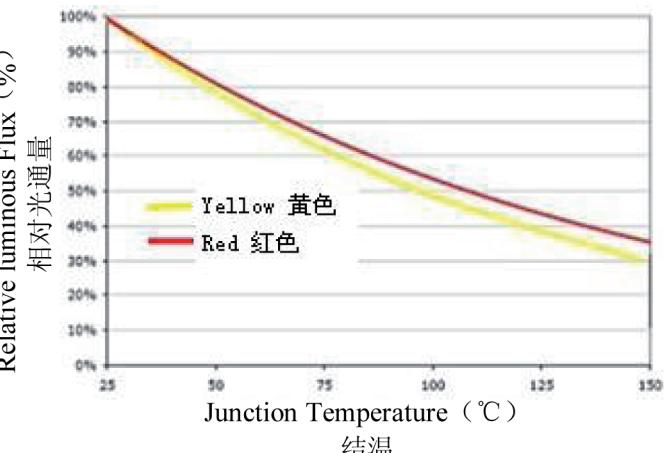
6-1. Relative Flux vs. Junction Temperature ($If = 350 \text{ mA}$)

White, Royal Blue, Blue, Green 相对光通量与结温曲线图 ($If = 350 \text{ mA}$) — 白光、深蓝光、蓝光、绿光



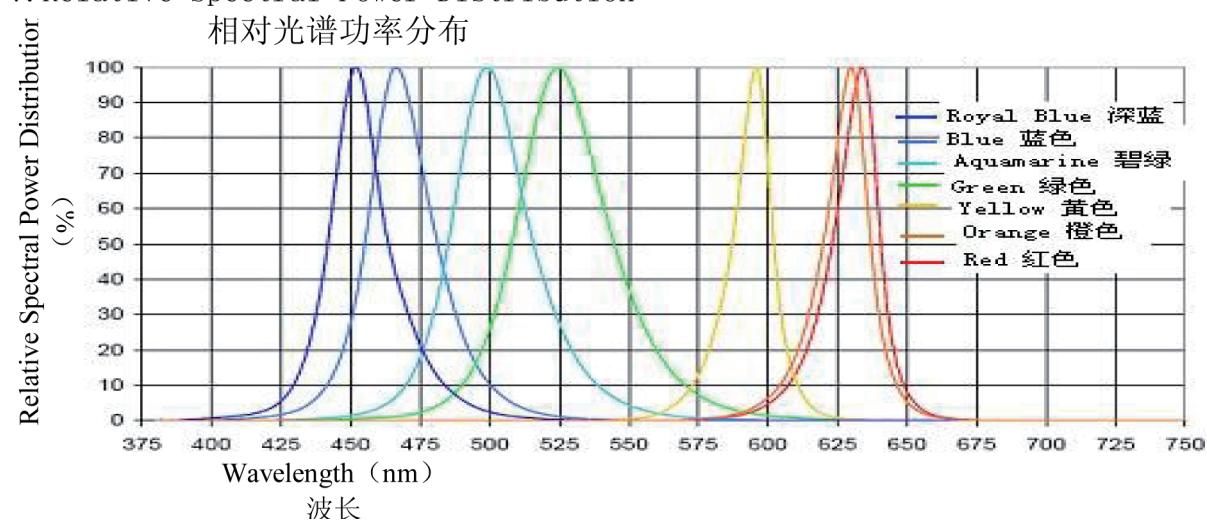
6-2. Relative Flux vs. Junction Temperature ($If = 400 \text{ mA}$)

Amber, Red 输出光通量与结温曲线图 ($If = 400 \text{ mA}$) 黄光、红光



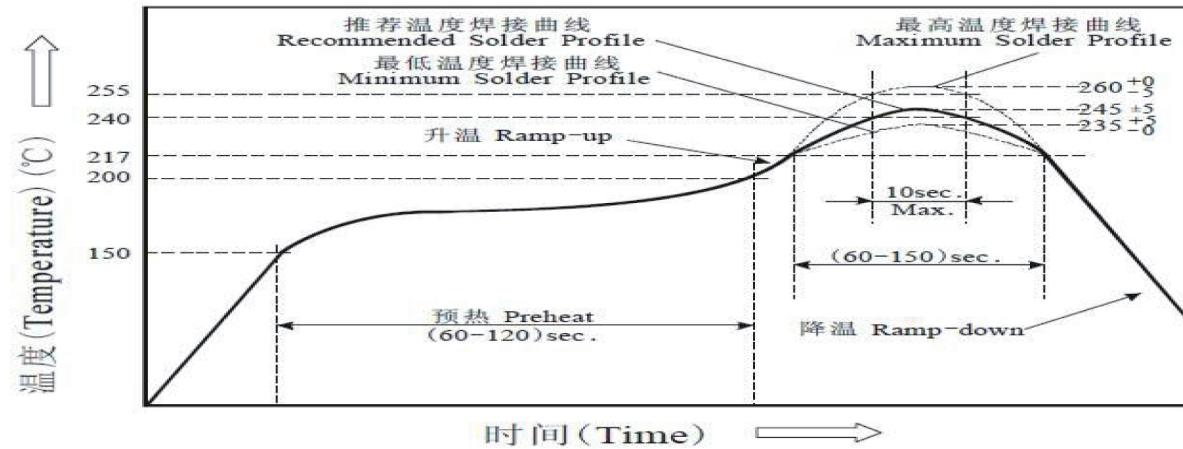
7. Relative Spectral Power Distribution

相对光谱功率分布



8. Reflow temperature time curve 回流焊温度时间曲线图

Reflow Soldering Profile — Lead Free Solder 无铅回流焊曲线图



Reliability Test Items And Conditions

可靠性试验

Test Items 测试项目	Test Condition 测试条件	Test Hours Cycles 测试时间与周期	Sample Size 样品数	Ac/Re
DC Aging 直流老化	Ta=25°C IF=350mA	1000H	22	0/1
Hot and cold shock 冷热冲击	-40°C/30min +100°C/30min	100Cycles 100次循环	22	0/1
High Temperature Storage 高温储存	Ta=100°C	1000H	22	0/1
High Temperature High Humidity 高温高湿	85°C/85%RH	1000H	22	0/1
Low Temperature Storage 低温储存	Ta=-40°C	1000H	22	0/1
ESD(HBM) 抗静电	2000V HBM	1Time 1次	10	0/1

Criteria For Judging the Damage

失效判断标准

Items 项目	Symbol 符号	Test Condition 测试条件	Criteria For Judging Damage 判定标准
Forward Voltage 正向电压	V _F	I _F =350mA	Initial Data±10% 初始值±10%
Reverse Current 反向电流	I _R	V _R =5V	I _R ≤10μA
Luminous Flux 光通量	Φ _V	I _F =350mA	Average Φ _V degradation≤20% Single LED Φ _V degradation≤30% 平均 Φ _V 衰减≤20%， 单个 Φ _V 衰减≤30%。

Soldering Condition 焊接条件

Reflow Soldering 回流焊			Manual Welding 人工焊接	
	High temperature PC lens 高温PC透镜产品	Molding products 封模产品	Temperature 温度	Soldering time 焊接时间
Preheat 预热	100-140°C	180-200°C	Highest 350°C 最高350°C	3ses once 3秒一次
Heatup time 加热时间	120sec Max	120sec Max		
Peak temperature 最高温度	180°C Max	260°C Max		
Condition of Soldering time 焊接时间	50sec Max	10sec Max		

*Notes 注释:

Conventional PC lens products don't use reflow soldering.

普通PC透镜产品请勿使用回流焊接。

Packing Dimention 包装尺寸

