

Technical Data Sheet 技術資料表

TOP RGB LED (5050) TOP 發光二極體 (5050)

For: IF= 60mA 電流=60 毫安培

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Customer confirm 客戶確認 批准	Approved By 通過發行	Issued By 由

※ **Features:** 特點

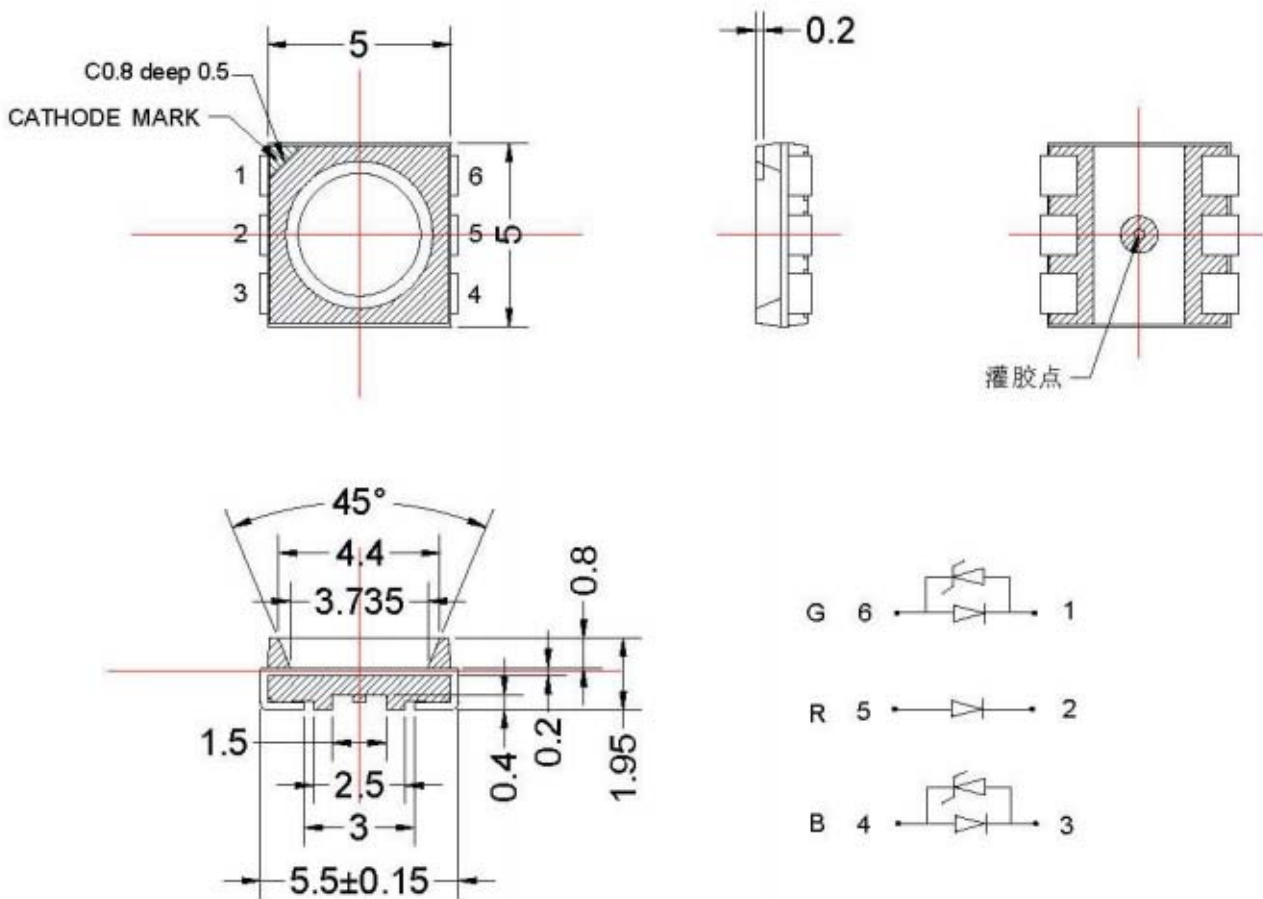
1. Package: 5.5*5.0*1.95mm (TOP 5050RGB LED) 包裝: 5.5 *5 *1.95mm

2. Emitted Color: RGB 發光顏色 RGB
3. Mono-color type 單色類型
4. Soldering methods: All SMT assembly methods 焊接方法：所有的組裝方法
5. Comply ROHS standard. 遵守環保標準。

※ **Applications:** 應用程式

1. LCD back light. 液晶顯示器背光源。
2. Mobile phones: LCD, 手機液晶顯示幕。
3. Status indicators: Consumer & industrial electronics. 狀態指示：消費者和工業電子。
4. General use. 一般使用

※→**Package Outline Dimension:** 外形封裝尺寸



NOTES: 注釋

1. All dimensions are in millimeters (inches). 所有尺寸以毫米（英寸）。
2. Tolerance is ±0.10mm unless otherwise specified. 寬容是±0.1mm 除非另有說明。
3. Specifications are subject to change without notice. 規格如有變更恕不另行通知。

※ **Absolute Maximum Ratings (Ta=25°C)**

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	100	mW
Forward Current	I _F	20	mA
Peak Forward Current * 1	I _{FP}	100	mA
Reverse Voltage	V _R	5	V
Soldering Temperature	Tsol	260 (for 5 seconds)	°C
Operating Temperature	Topr	-30°C~85°C	-
Storage Temperature	Tstg	-40°C~85°C	-
Electrostatic discharge	ESD	2000	V

* 1 I_{FP} condition: pulse of 1/10 duty and 0.1ms width.

※ **Electrical-optical characteristics(Ta=25°C)**

Parameter 参数	Color 颜色	Symbol 符号	Test Condition 测试条件	Values 数值			Unit 单位
				Min	Typ	Max	
Forward Voltage 正向电压	Red	VF	IF = 20mA	---	2.2	2.6	V
	Green			---	3.2	3.6	
	Blue			---	3.2	3.6	
Reverse Current 反向电流	Red	IR	VR =5V	---	---	30	μ A
	Green			---	---	30	
	Blue			---	---	30	
Dominate Wavelength 主波长	Red	λ d	IF = 20mA	---	624	---	nm
	Green			---	525	---	
	Blue			---	470	---	
Peak Wavelength 峰值波长	Red	λ p	IF=20mA	---	---	---	nm
	Green			---	---	---	
	Blue			---	---	---	
Spectral Line half-width 半波长宽度	Red	Δ λ	IF = 20mA	---	20	---	nm
	Green			---	30	---	
	Blue			---	30	---	
Luminous Intensity 发光强度	Red	IV	IF = 20mA	145	300	---	mcd
	Green			550	780	---	
	Blue			145	220	---	

Note: 1. Tolerance of luminous intensity is ±10%

2. Tolerance of forward voltage is ±0.05V

※ **Judgment criteria of failure for the reliability**

- Iv: Below 50% of initial values
- Vf: Over 20% of upper limit value
- IR: Over 2 times of upper limit value

Note: Measurement shall be taken between 2 hours and after the test LED have been returned to normal ambient conditions after completion of each test.

※ **Precautions for use :**

1. Customer must apply the current limiting resistor in the circuit so as to drive the LEDs within the rated current. Otherwise slight voltage shift maybe will cause big current change and burn out will happen.
2. Also, caution should be taken not to overload the LEDs with instantaneous high voltage at the turning ON and OFF of the circuit.
3. Storage:
 - 3.1 Don't open the moisture proof bag before ready to use the LEDs.
 - 3.2 The LEDs should be kept at 30°C or less and 60%RH or less before opening the package.

The max. storage period before opening the package is 1 year.

3.3 After opening the package, the LEDs should be kept at 30°C/35%RH or less, and it should be used within 7 days.

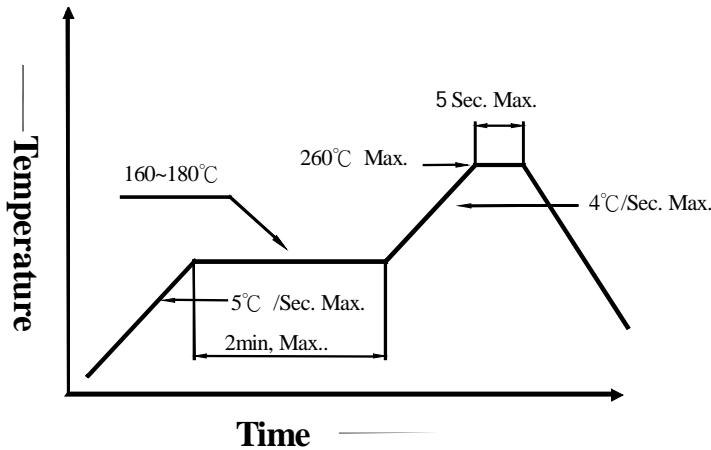
3.4 If the LEDs be kept over the conditions of 3.4, baking is required before mounting. Baking condition as below: 60±5°C for 12 hrs.

4. Soldering condition:

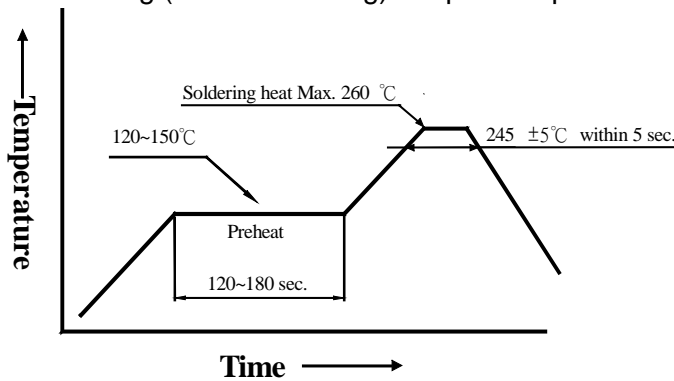
4.1 Manual of soldering :

The temp. of the iron should be lower than 280°C and soldering within 3sec per solder-pad is to be observed.

4.2 Pb-free solder temp. -time profile



4.3 DIP soldering (Wave Soldering) temp. -time profile:

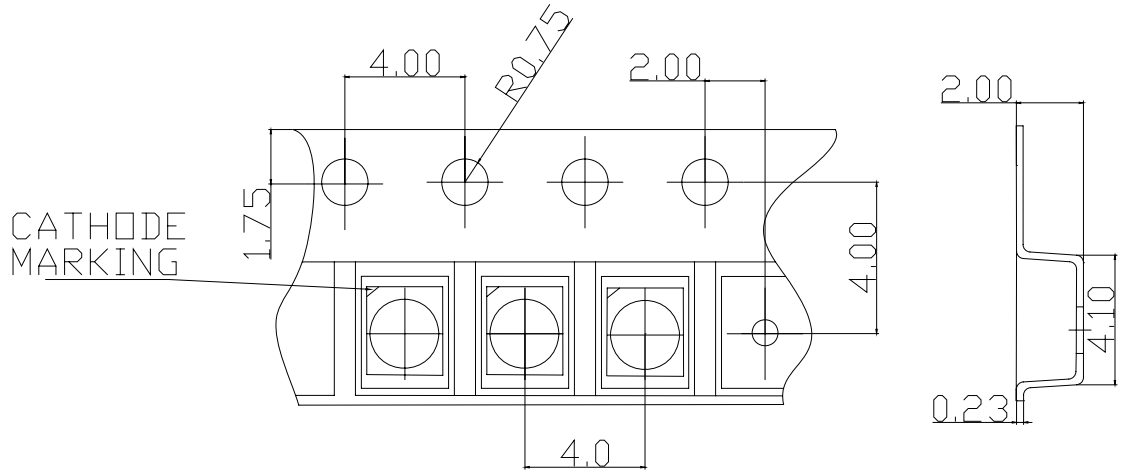


Note: a) Reflow soldering should not be done more than two times.

b) Don't put stress on the LEDs when soldering.

c) Don't warp the circuit board before it have been returned to normal ambient conditions after soldering.

Loaded quantity: 1000 pcs/reel



※ Package Method:(unit:mm)

