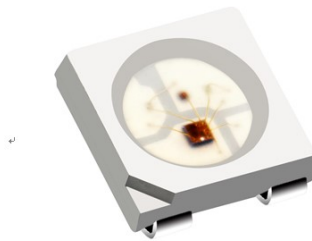


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5050 IC+ Colors LED



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■ Features

1. Package Size: 5.0(L) ×5.0(W) ×1.6(T) mm
2. Silicone Packed
3. Suitable for different working environment
4. Super long lifetime: 30000HRs
5. Anti UV
6. White colors are available in(2300K- 25000K)
7. Wide viewing angle ($2\theta_{1/2}=120^\circ$)

■ Application

1. Full color LED string light, LED full color module, LED super hard and soft lights, LED guardrail tube, LED appearance / scene lighting
2. LED point source, LED pixel screen, LED screen with a variety of electronic products, electrical equipment etc..

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■ Absolute maximum ratings

參數 Parameter	符號 Symbol	額定值 Rat	Unit (單位)
輸入範圍 Input range	VIN	3.0-7.5	V
邏輯輸入電壓 Logic input voltage	V _I	-0.5~5.5	V
工作溫度 Operating Temperature	Top	-40~+100	°C
儲存溫度 Storage Temperature	Tstg	-40~+100	°C
ESD 耐壓 ESD pressure	VESD	4K	V

■ LED characteristic parameter

Emitting color	Wavelength	Luminous intensity (mcd)	Voltage(V)
	If=15mA	If=15mA	If=15mA
Red	620~630	390~450	1.8~2.2
Green	515~525	700~1000	2.8~3.4
Blue	465~470	200~300	2.8~3.4

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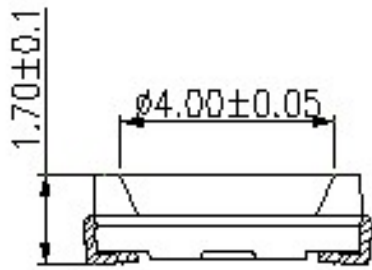
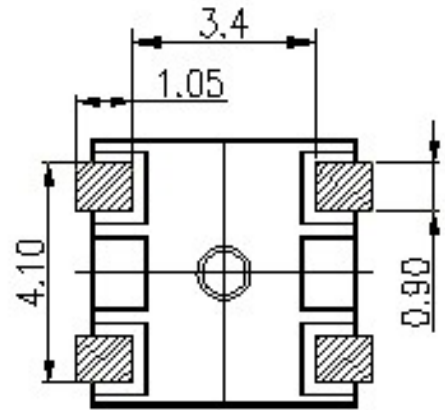
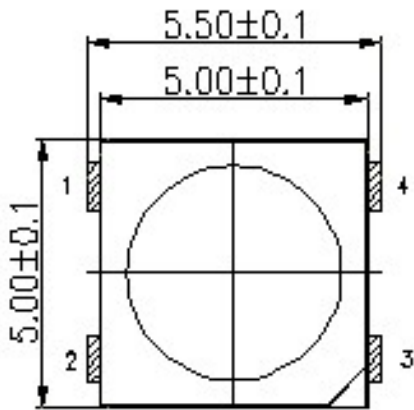
■ Electrical parameters

Electrical parameters		TA=-20°C~70°C VDD=4.5~5.5V VSS=0V				
參數 parameters	符號 Symbol	最小 Min	典型 Typical	最大 Max	單位 Unit	測試條件 Test condition
晶片輸入電壓	Vin	4.5	5.0	6.0	V	---
晶片內部電源電壓 Chip internal power supply voltage	VDD	---	5.2	---	V	---
R/G/B 輸出埠耐壓 Port pressure	Vds	---	---	9	V	---
R/G/B 輸出驅動電流	Io	---	12	---	ma	---
信號輸入翻轉閾值 The signal input flip threshold	VIH	0.7VDD	---	---	V	VDD=5.0V
	VIL	---	---	0.3VDD	V	VDD=5.0V
PWM 頻率 Frequency	FPWM	---	1.2	---	KHZ	---
靜態功耗 Static power consumption	I _{DD}	---	1.0	---	ma	---

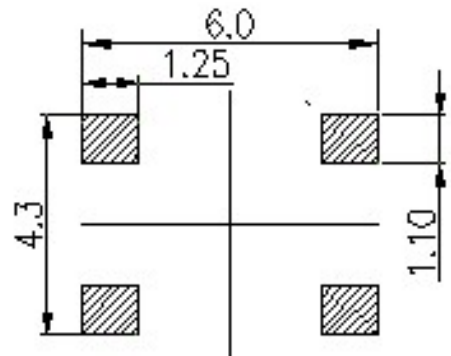
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■ Dimensions



- 1: VDD
- 2: DOUT
- 3: VSS
- 4: DIN



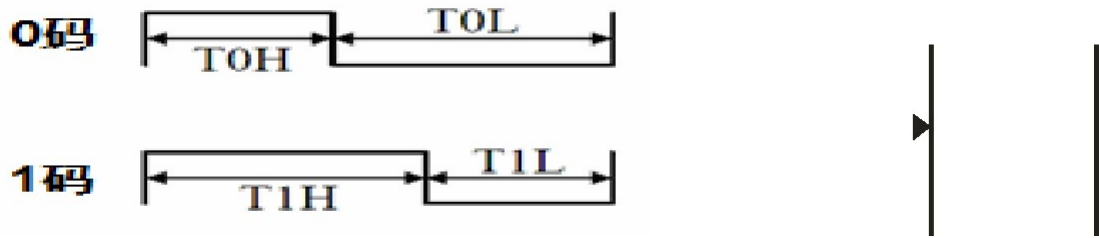
NOTES :

1. All dimensions are in millimeters (inches) ;
2. Tolerances are $\pm 0.2\text{mm}$ (0.008inch) unless otherwise noted .

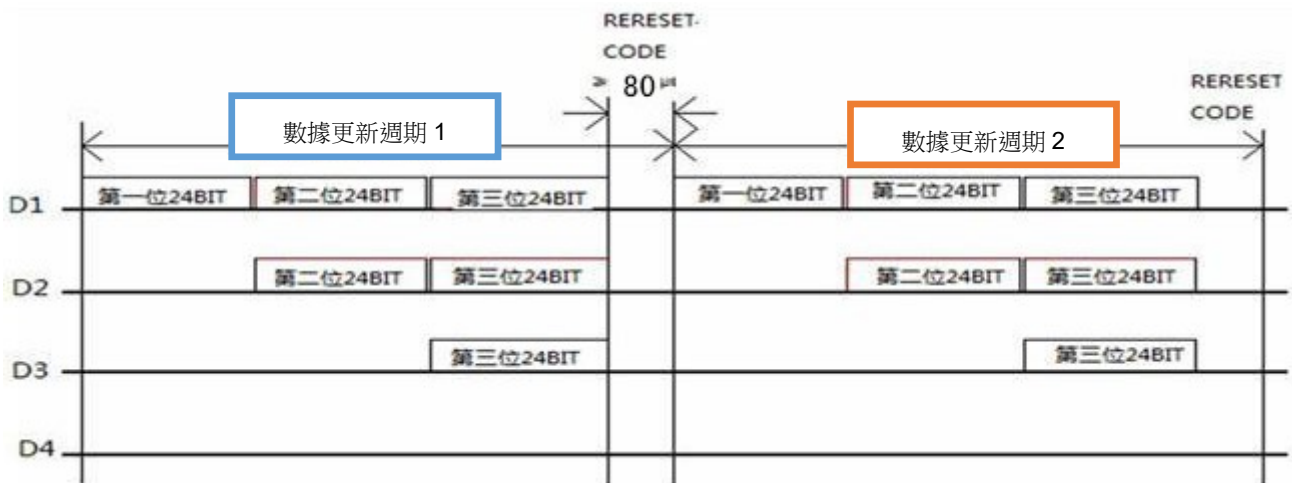
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■ Diming waveform (Ta=25°C) :



■ Data transmission mode (Ta=25°C) :



Note: D1 is the data sent by the MCU, and D2, D3, and D4 are the data that the cascade circuit automatically shapes and forwards.

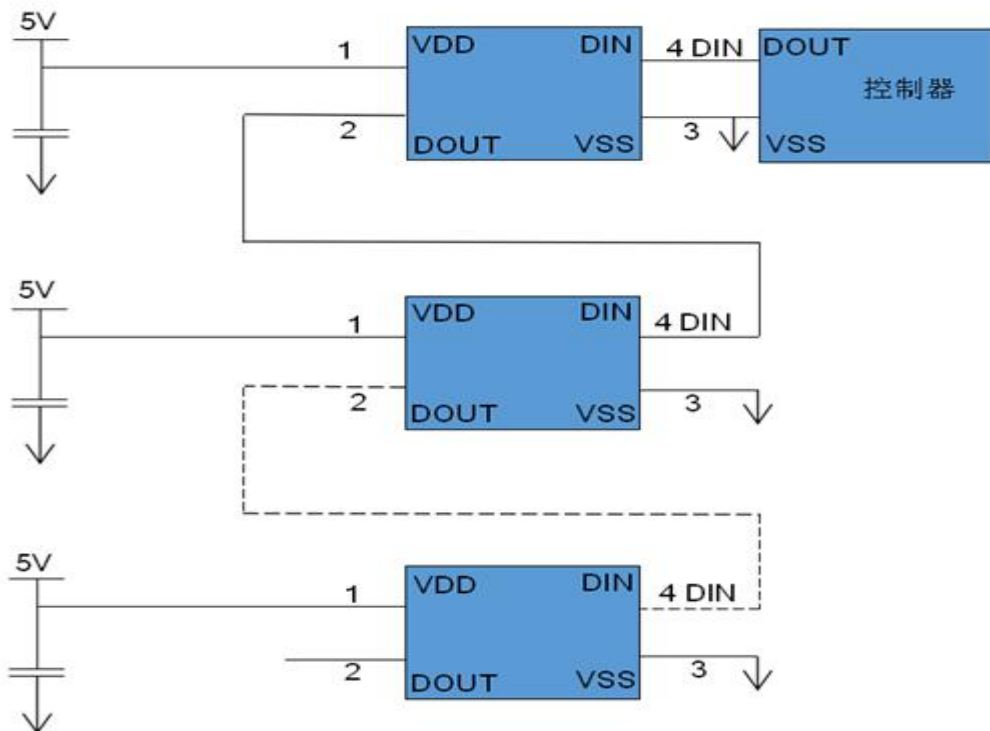
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■ 24bit

R7	R6	R5	R4	R3	R2	R1	R0	G7	G6	G5	G4
G3	G2	G1	G0	B7	B6	B5	B4	B3	B2	B1	B0

Note: The high bit is sent first, and the data is sent in the order of RGB (R7-R6-...B0), and the light is not lit by default

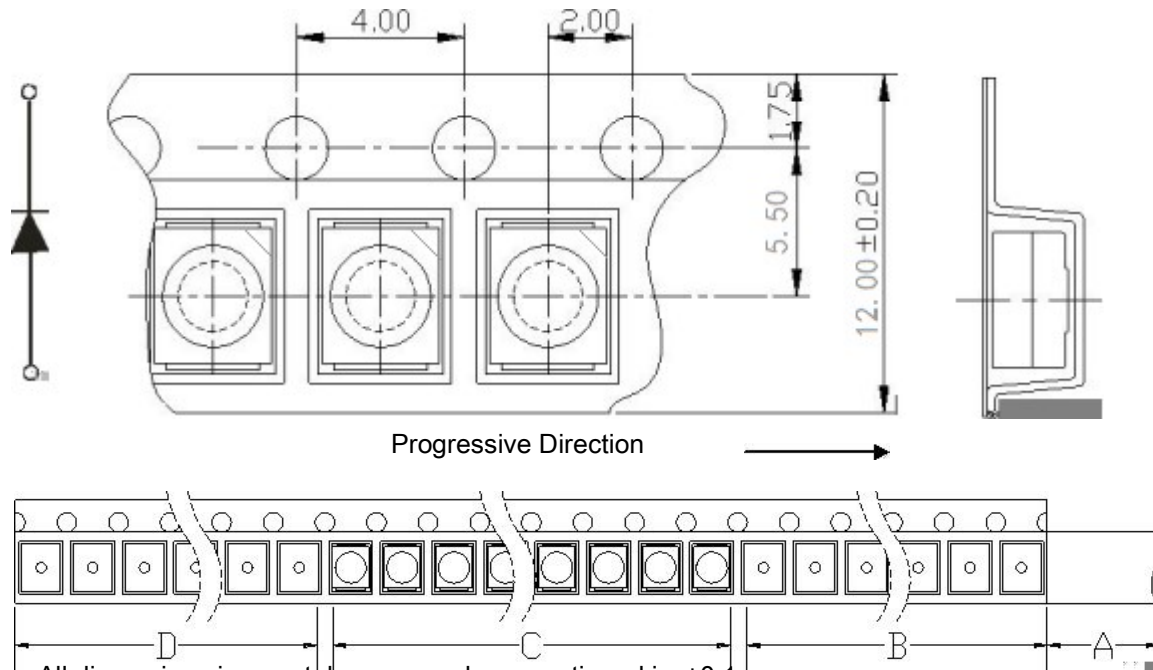


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■ Packing

Dimension of Carrier Tape



All dimensions in mm, tolerances unless mentioned is ± 0.1 mm.

A: Top Cover Tape, 300mm; B: Leader, Empty, 200mm; C: 1000 Lamps Loaded; D: Trailer, Empty, 200mm.

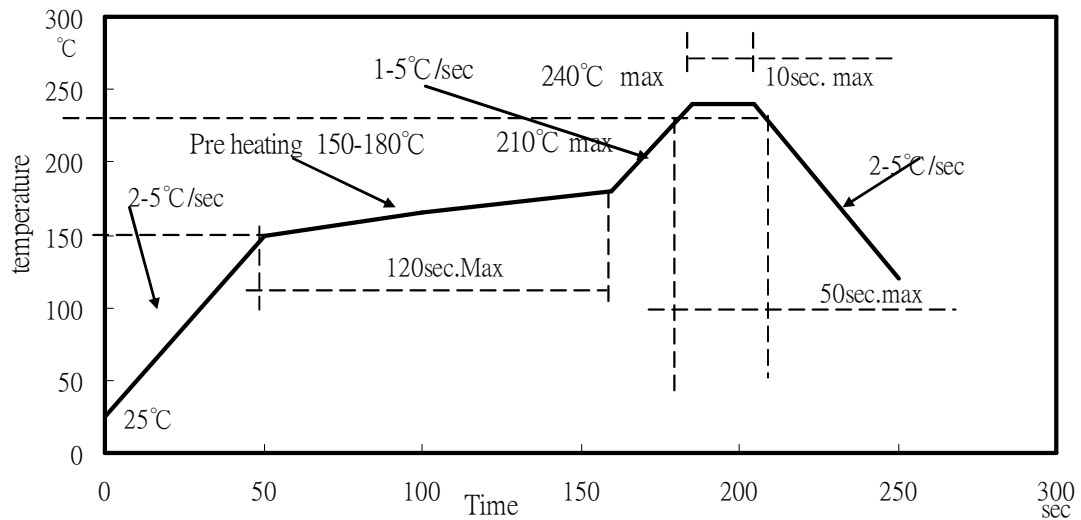
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■ Reflow Profile

IR reflow soldering Profile

Lead Free solder



Notes:

1. The recommended reflow temperature is 240°C(±5°C). The maximum soldering temperature should be limited to 250°C.
2. Do not stress the silicone resin while it is exposed to high temperature.
3. The number of reflow process should not exceed 3 times.