
P9823-F8/F5 RGB LED

Product introduction

P9823-F8/F5 is a collection of control circuit and the luminous RGB chip integration in a LED packaging components, constitute a complete external control pixel, pixels inside contains intelligent digital interface data latch signal shaping amplifier drive circuit, also contains a high precision internal oscillator, effectively guarantee the highly consistent pixel light color

Data protocol adopts single size zero communication, pixels in electricity after reset, DIN client receive the data from the controller transfer to come over, first of all the 24 bit data is sent after the first pixel extraction, to the inside of the pixel data latch, and the rest of the data through the internal plastic processing circuit plastic enlarged through the DO output port began to forward to the next cascaded pixel, every pixel of transmission, signal reduce 24 bit. Forward pixels using automatic plastic technology, makes the number of cascaded pixel is not restricted by the signal, only limited signal transmission speed requirements

P9823-F8/F5 Provide three road and 256 grey level modulation output constant current driver. Using single transport (DATA), built in regeneration, the transmission distance. Used to drive the display light transformation, transformation, color cartoon character designs. According to different forms of different controllers and customer requirements, to run the offline or online.

This product has good performance, visual effect is clear, simple cascade mode; Data transmission stability, strong anti-interference ability, etc

- ◆LED 4.5V-6.5V LDO
- ◆ IC VDD
- ◆256
- ◆ RC
- ◆
- ◆PWM 256 400Hz/s
- ◆
- ◆DO / 512 1024
- ◆ 800Kbps

Product features

- ◆LED the input voltage of 4.5 V to 6.5 V, the built-in "

- ◆Chip built-in regulator tube, power supply side need to string of resistance to IC VDD feet, without additional regulator tube
- ◆Gray-scale adjusting circuit (luminance level 256 adjustable)
- ◆Built-in double RC oscillation, and according to the clock synchronization signal on the data line, after receive the data after completing this unit can automatically forwards the follow-up data for plastic
- ◆Built-in electric reset circuit
- ◆PWM control terminal can achieve a level 256 adjustment, not less than 400 hz/s scanning frequency
- ◆Grade serial interface connection, can complete the data through a signal receiving and decoding
- ◆When the refresh rate of 30 frames per second, low-speed mode cascade number not less than 512 points, high-speed mode is not less than 1024 points
- ◆Data sending rate of up to 800 KBPS

Light color □ Red □ Green □ Blue Color

Absolute maximum rating □ Ta □ 25°C □

Reverse current □ 100 μA

□ □ □ □

Peak current □ duty □ 0.1, 1KHz □ □ 100 mA

□ □ □ □

Operating/Storage temperature range □ -30°C ~ +85°C

□ □ □ □ □ □

Derating linear from 25°C □ 0.4 mA/°C

Lead soldering temperature range □ 260°C for 5 second

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Electro-optical characteristics □ TA □ 25°C □

□ □ □ □

RED COLOR □ □ □

Parameter □ □	Symbol □ □	Min □ □ □	Typ. □ □ □	Max □ □ □	Unit □ □	Test Condition □ □ □ □
Forward voltage □ □ □	V _F	4.5	5.5	6.5	V	I _F □ 20 mA
Luminous intensity □ □ □ □	I _V	600	700	800	mcd	I _F □ 20 mA
Peak emission wavelength □ □ □	λ _p	620	625	630	nm	—
Half intensity angle □ □ □ □	ΔΘ	—	30	—	deg	—

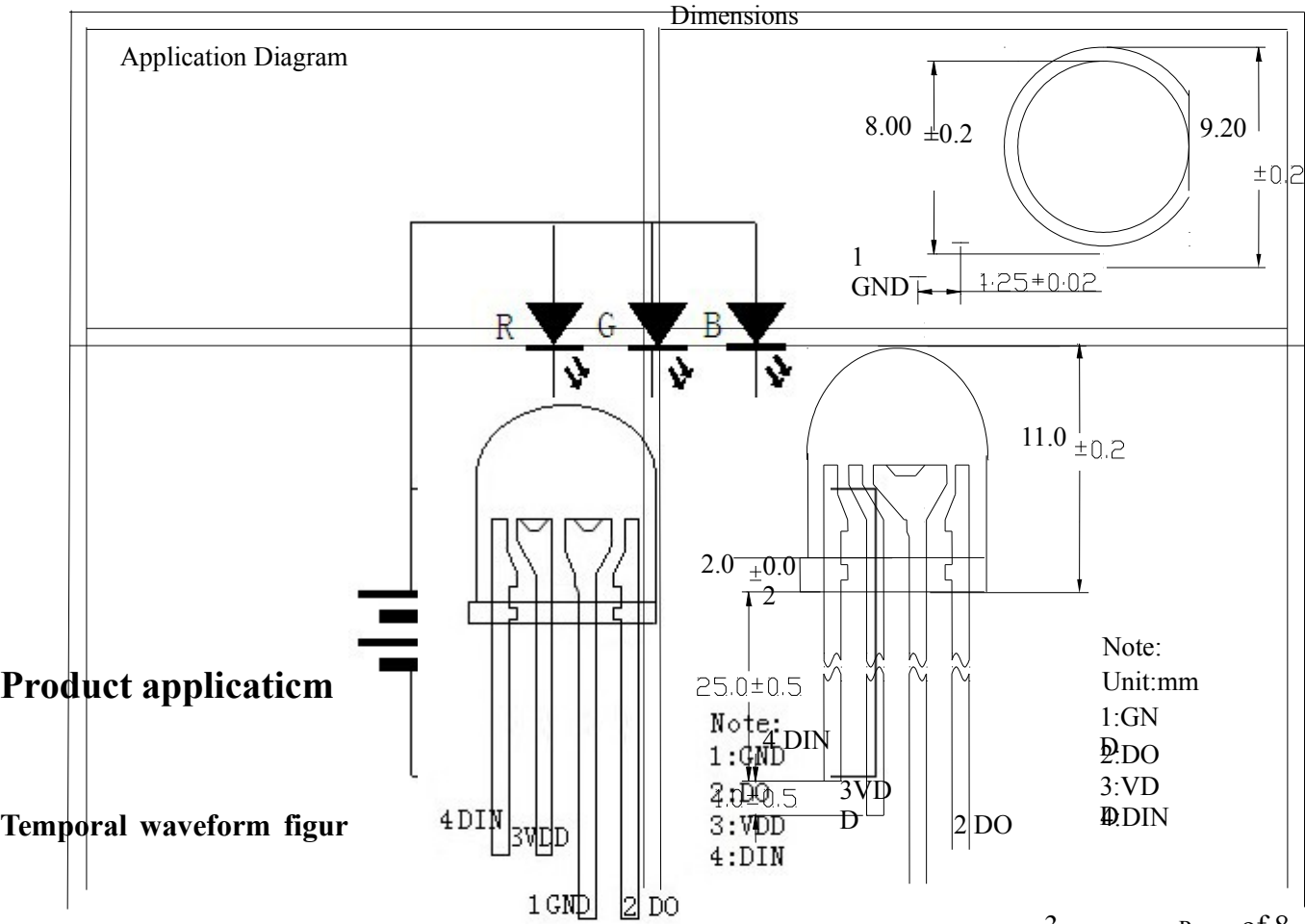
GREEN COLOR

Parameter	Symbol	Min	Typ.	Max	Unit	Test Condition
Forward voltage	VF	4.5	5.5	6.5	V	IF=20 mA
Luminous intensity	IV	1300	1700	2000	mcd	IF=20 mA
Peak emission wavelength	λp	515	520	525	nm	—
Half intensity angle	ΔΘ	—	30	—	deg	—

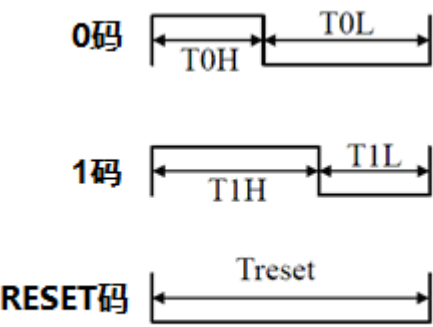
BLUE COLOR

Parameter	Symbol	Min	Typ.	Max	Unit	Test Condition
Forward voltage	VF	4.5	5.5	6.5	V	IF=20 mA
Luminous intensity	IV	400	450	500	mcd	IF=20 mA
Peak emission wavelength	λp	460	465	470	nm	—
Half intensity angle	ΔΘ	—	30	—	deg	—

Application diagram or Dimensions



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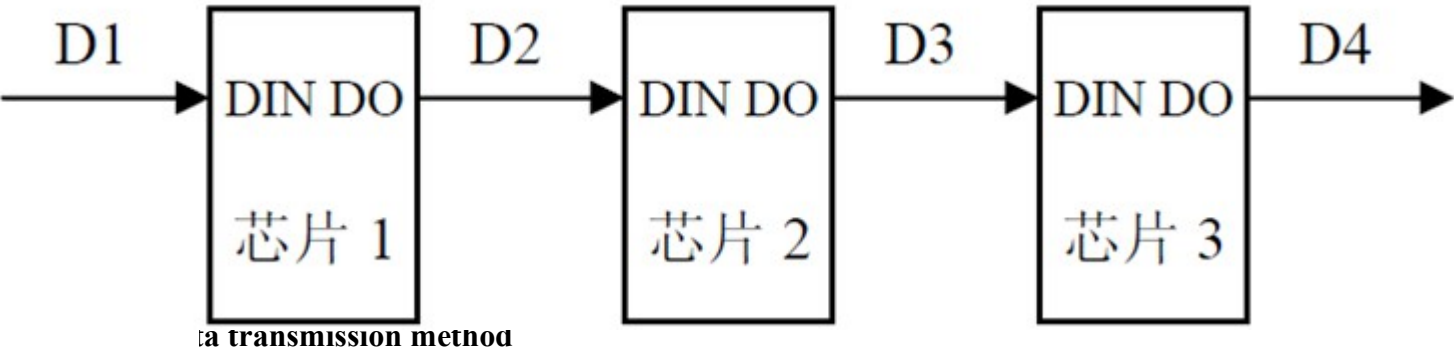


The input type
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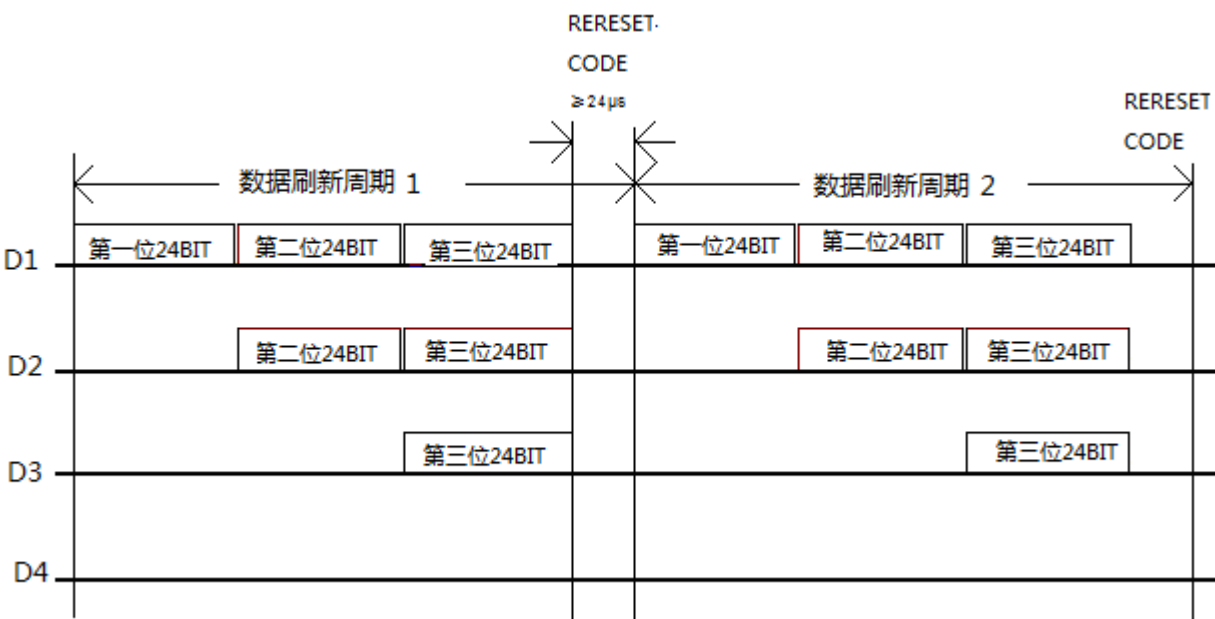
High speed mode time
□□□□□□

□□	□ □	□□□	□□□□
T0H	0 □□□□□□	0.3 5 μs	± 150ns
T1H	1 □□□□□□	1.3 6 μs	± 150ns
T0L	0 □□□□□□	1.36μs	± 150ns
T1L	1 □□□□□□	0.3 5 μs	± 150ns
RES	RESET □	50us	

Connection methods
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rding data.

D1 MCU D2 D3 D4

24 bit data structure

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
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Note: high, according to the order of the RGB sending data

RGB

P9823-F8/F5 application instructions

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