WCN Opto Group Co., Limited

Company Name	
Date	2026-10-9
Part No.	WCN-FT5050RGB1-36BT-16703SP3-045W
Product Group Description	
Customer Part No.	
Approval Date	

Customer Confirmation	Approved by	Checked by	Prepared By
	William 2026-10-9	Wei 2026-10-9	Yu 2026-10-9

恒盛源光电科技(深圳)有限公司 开发部 WCN

Country of Origin: China

WCN Opto Group Co., Limited

Buildings 1 and 2, No. 13, Songnan Road,
Sanhe Village, Tonghu Town,
Zhongkai High Tech Zone, Huizhou, Guangdong
Tel : (86)755-29520866
Mail:williamzhang@wcnopto.net

www . wcnopto.net

RoHS

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REVISION RECORD

MARKER	Matter for revision / Reason for revision	SHEET	DTAE	MAKER	APPOVED SIGN	
A0	P#WCN-FT5050RGB1-36BT-16703SP3-045W / New Version issued	WHOLE SHEET	2026-4-22	Wei	YU	William
A1	P#WCN-FT5050RGB1-36BT-16703SP3-045W / The size is reduced by 1.5mm	WHOLE SHEET	2026-10-9	Wei	YU	William
A2	P#WCN-FT5050RGB1-36BT-16703SP3-045W / Optimize the packaging method	WHOLE SHEET	2026-10-17	Wei	YU	William

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Features :

- ◆Linear separable LED strip on flexible printed circuit board with self-adhesive back
- ◆Long life ,easy installation
- ◆Voltages available : 24VDC
- ◆LED: 36pcs 5050 RGB,
- ◆PCB material : FPCB
- ◆IC model：SM16703SP3
- ◆ Product type external article 5050 RGB magic lantern.
- ◆ Send data at speeds of 800Kbps.
- ◆ The color of the light were highly consistent, cost-effective.
- ◆ RoHS compliant lead-free soldering compatible

Product Picture：





Part No	Color	Surface Coating	Waterproof level	Q`ty of LEDs/M	Color Temp/Wavelength Typ(Kelvin/nm)	Luminous flux(LM/M)	Voltage (V DC)	Power (W/M)
WCN-FT5050RGB1-36BT-16703SP-045W	RGB	No Silicon	IP20	60	620-630nm/515-530nm;460-470nm	180/420/90	24	14.4

Absolute Maximum Ratings （Ta=25℃）

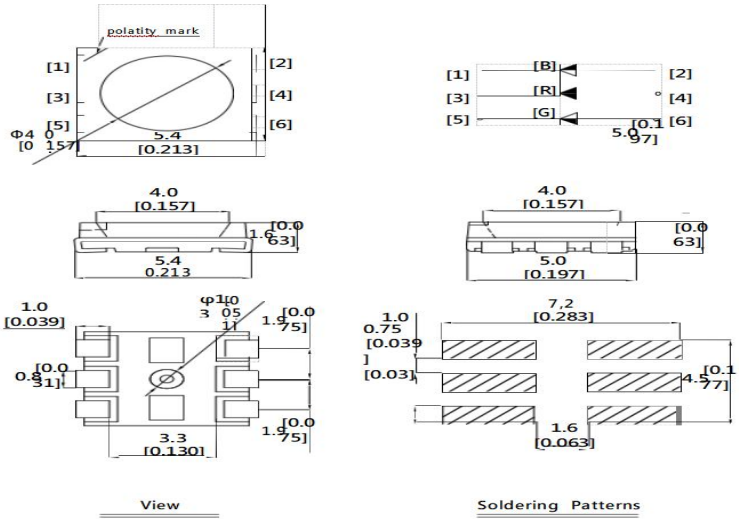
Parameter	Symbol	Rating	Units
Power supply voltage	VDD	24	V
Input voltage	Vi	-0.3~VDD+0.3	V
Operating temperature	Topr	-40~+115	℃
Storage temperature	Tstg	-40 ~+115	℃
ESD Voltage	V_{ESD}	±2000	V

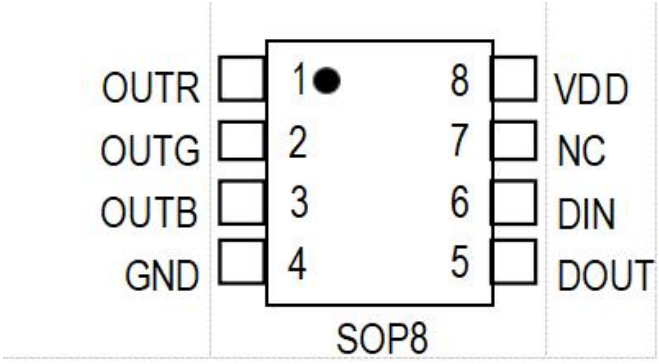
Electric parameter（TA=-25℃，VDD=4.5～5.5V,）

Item	test condition	Symbol	Value			Unit
			Min.	Typ.	Max.	
The biggest LED output current	ROUT	I_{OL}	--	12	--	mA
quiescent current	When VDD=5V, the OUT R/G/B **ports**	IDD	--	0.3	--	mA
Input signal threshold voltage	D_{IN}，SET	V_{IH}	3.2	--	--	V
	D_{IN}，SET	V_{IL}	--	--	1..5	V
DOUT output current	The DOUT output is high. Connect a	IOH_max	--	-28	--	mA
DOUT current injection	The DOUT output is low, and the power supply injects current into the DOUT	IOL_max	--	23	--	mA
Constant current inflection point of the OUT port	OUTR/B=12mA	VDS	--	0.7	--	V
	OUTG=12mA		--	0.9	--	
OUT R/G/B port withstand voltage	he OUT R/G/B ports are closed, and the leakage current is 1uA	BVOUT R/G/B	--	15	--	V

- Product type external article 5050 RGB magic lantern.
- IC mode: SM16703SP3
- Send data at speeds of 800Kbps.
- The color of the light were highly consistent, cost-effective.
- Size:5.0mm×5.0mm×1.56mm
- RoHS compliant lead-free soldering compatible

Package Outline





NOTES:

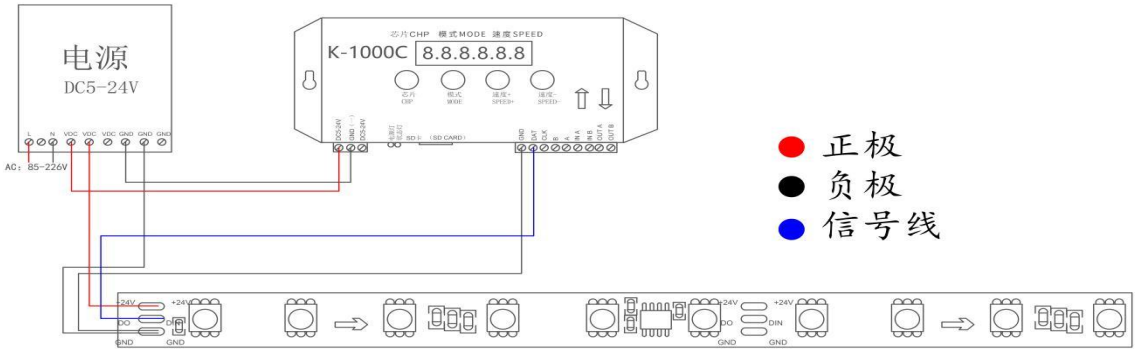
1. All dimensions units are millimeters ;
2. All dimensions tolerances are ±0.2mm unless otherwise noted.

LED characteristic parameter（Ta=25℃）

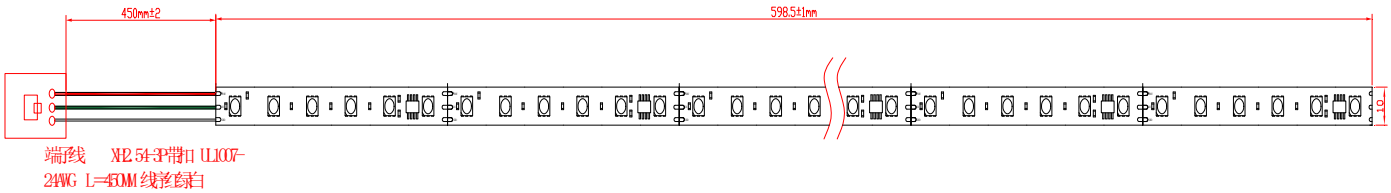
Item	test condition	Symbol		Value			Unit
				Min.	Typ.	Max.	
Forward voltage	If=12mA	Vf	R	2.0	--	2.4	V
			G	2.8	--	3.4	V
			B	2.8	--	3.4	V
Luminous intensity	If=12mA	Iv	R	400	--	800	mcd
			G	1100	--	2400	mcd
			B	300	--	600	mcd
Dominant wavelength	If=12mA	λd	R	620	--	630	nm
			G	515	--	525	nm
			B	460	--	470	nm
Viewing angle at 50% Iv	If=12mA	2 θ1/2		--	120	--	Deg

APPEARANCE			PCB Material	FPCB
Description	Lens Color	Waterproof level	Led Emitted Color	RGB
RGB	No Water	IP 20	Driver Mode	24V DC
			Lamp length	598.5±1mm
/	IC	SM16703SP3	Wire length	450mm±2mm

■ **Circuit Diagram:**



■ **Outer Dimension:**



Notes: 1.UNLESS OTHERWISE STATED, THE TOLERANCE IS ±3MM.

■ ABSOLUTE MAXIMUM RATINGS AT TA=25℃

Parameter	Symbol	Rating	Units
Input Voltage	V	24V DC	V
Forward Current	I_F	20	mA/smd
Input Frequency	F	---	Hz
Power Dissipation	P	14.4	W
Operating Temperature	Te	-40～+115	℃
Storage Temperature	Ts	-400～+115	℃
Operating Humidity	/	10 - 65% RH NON-CONDENSING	/

■Typical Performance (Ta=25℃)

Item	Symbol	Rating			Units
		Min.	Typ.	Max.	
Input Voltage	V	---	24	---	V
Beam Patterm	BP	—	120	---	Deg
Total Length	L	---	5	---	M/roll
Estimated Life [1]	Life	---	50000	---	hour
Optimized Thermal Management(Body Temperature)	/	-20	---	80	℃

Moisture Resistant Packing Process:





bubble wrap



bubble wrap (1pack/10pcs)



1 Outside Carton (420PCS)

WCN Opto Group Co., Limited

Label1:

WCN Opto Group Co., Ltd	
P/N:	
Color:	
LED QTY:	
VOLTAGE:	
IP RATE:	
Package:	
LOT No.:	

Label2:

WCN Opto Group Co., Ltd	
P/N:	
Color:	
LED QTY:	
VOLTAGE:	
IP RATE:	
Package:	
LOT No.:	

Label3:

WCN Opto Group Co., Ltd			
PART NO:			QTY:
Datecode:			
NW:		GW:	
C/NO:	of:		

MADE IN CHINA