

External IC/ Built-in IC

RGBIC MAGIC SERIES

LED STRIPS





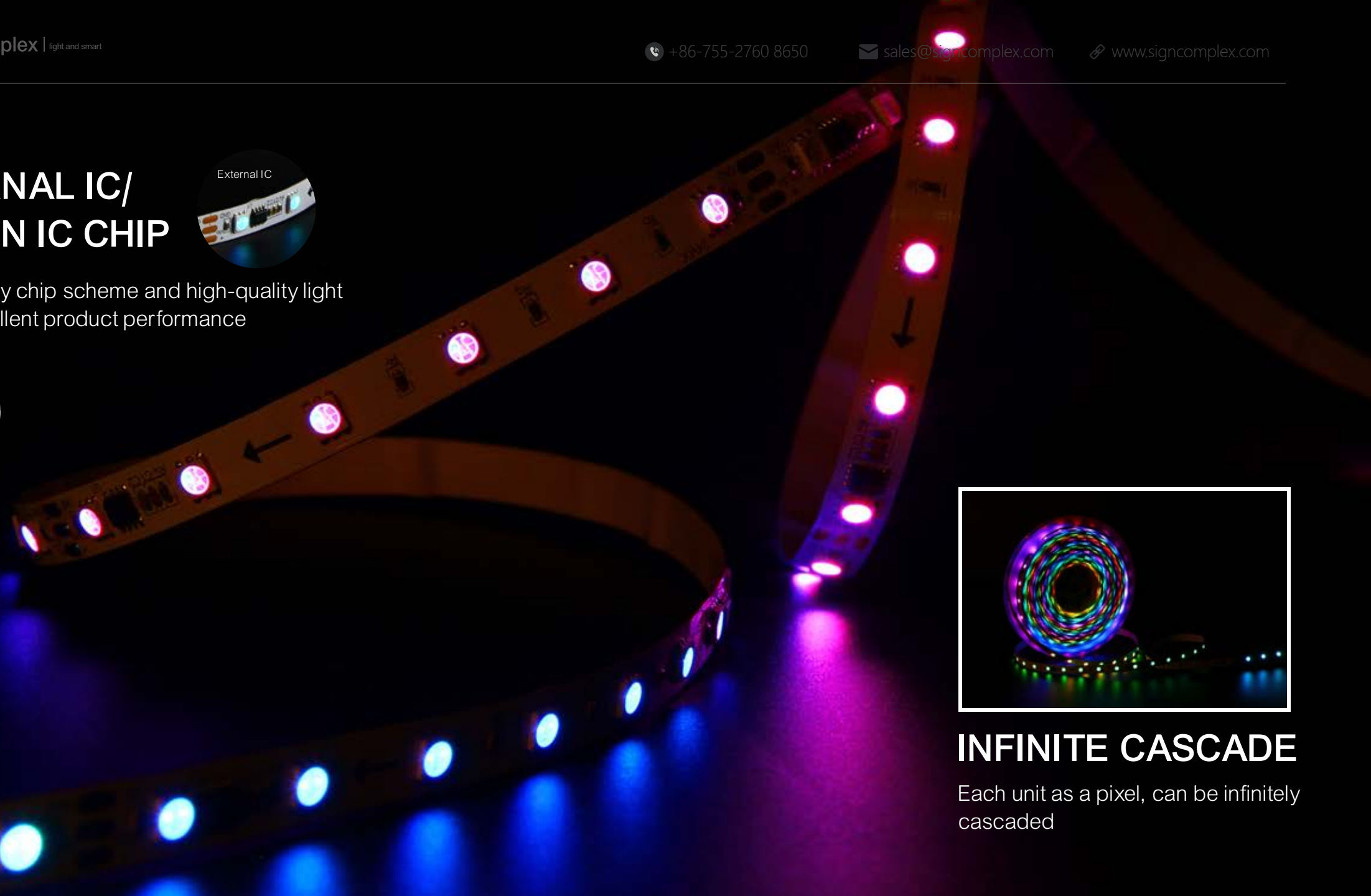
APPLICATIONS

Wide range of applications and strong scalability, suitable for all decorative lighting places.

EXTERNAL IC/ BUILT-IN IC CHIP



High reliability chip scheme and high-quality light source, excellent product performance



INFINITE CASCADE

Each unit as a pixel, can be infinitely cascaded

5V

12V

24V

Low voltage DC 5V/ 12V/ 24V
power supply, safe and reliable

- Reverse connection protection is added for some models
- Breakpoint resume is added for some models

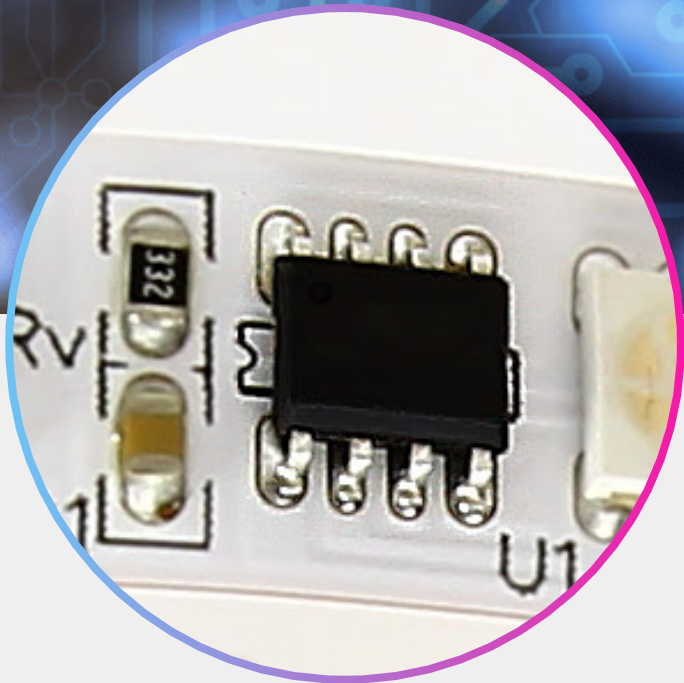
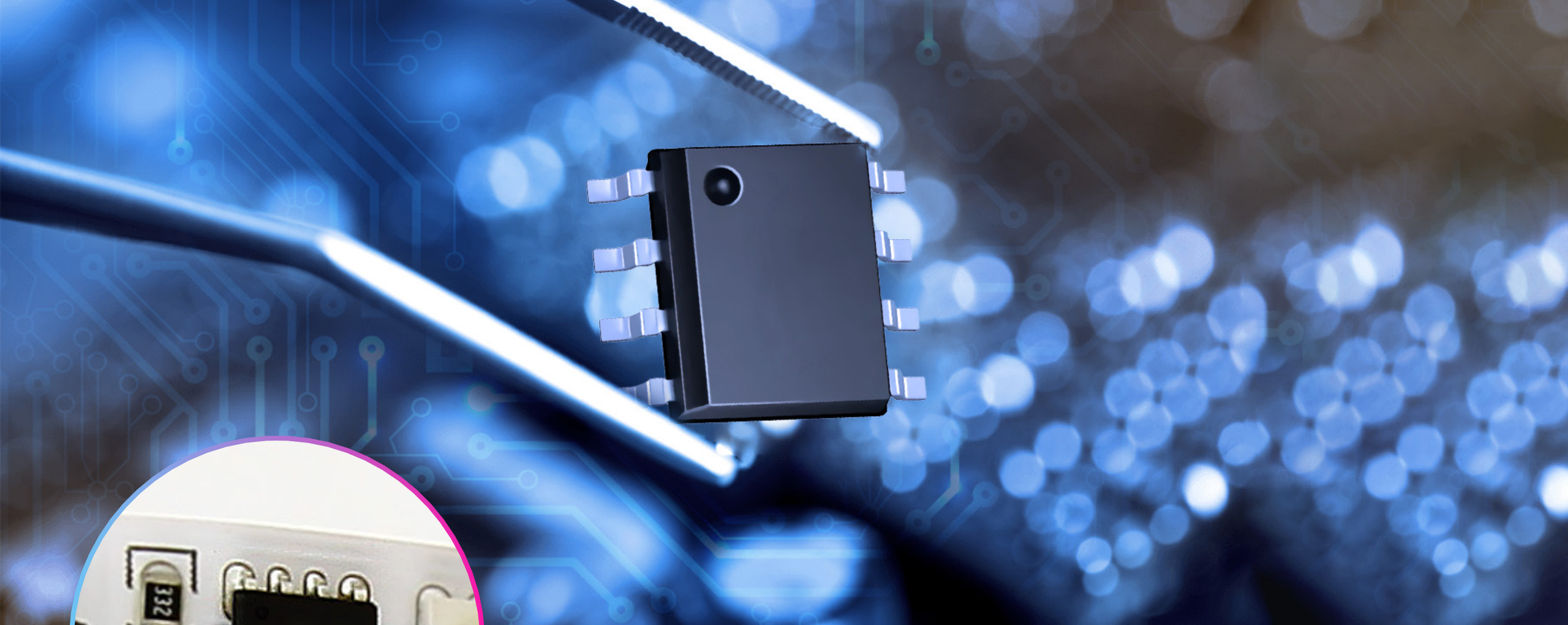


Single line data
transmission, easy
to use



- The low voltage difference performance is improved, and the color output consistency is still guaranteed when the working voltage is as low as 3.5V





- IC internal integrated filter capacitor
- Improve pin withstand voltage, instant suppression, and IC is not easy to be damaged

CONTROLLER OPTIONAL

- ◉ SPI signal data transmission, applicable to conventional magic color controller.
- ◉ Achieve smart control of products through Tuya Smart/Smart Life and other APPs

ENJOY A SMART LIFE



Brightness adjustable



Color adjustable



Musical rhythm



Voice control



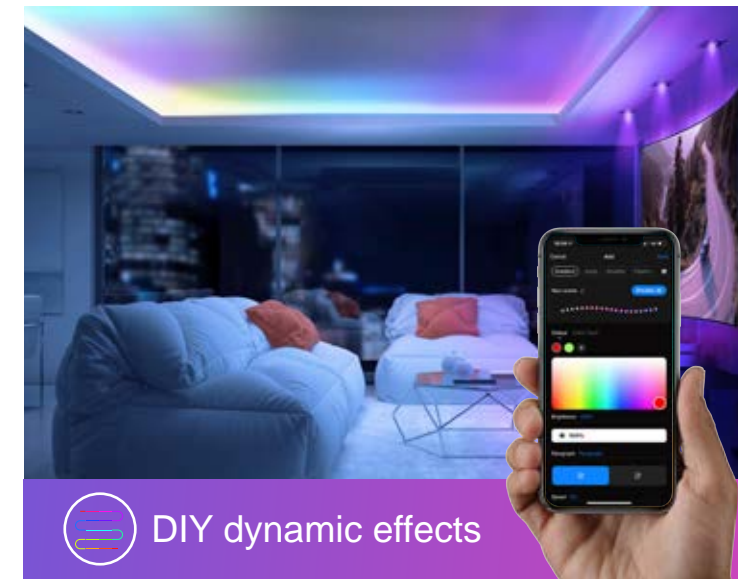
Scene mode



Set time



Smart control



DIY dynamic effects



- Type optional: Built-in IC, External IC
- Color optional: RGBW, RGB
- LED type optional: 5050SMD, 2835SMD

PARAMETER

RGBW Series (External IC)

Model	IC Location	IC Type	LED & Color	Electrical Characteristics									
				Input Voltage	LED Quantity Per Pixel	Lumens Per Pixel(±5%)	LED Quantity Per Meter	Rated Power Per Meter(±5%)	Lumens Per Meter(±5%)	IP20 Product Size (WxH)	Cutting Length Per Cixel	Maximum Connection	HBM ESD
SC-5050RGBWIC-60D-24V	External IC	WS2814 or equal	SMD5050, RGBW	21.5-26.5VDC	6PCS	50-70lm	60PCS	16W	600lm	10 x 2mm	100mm	8M	2KV

Model	IC Location	IC Type	LED & Color	Switching Characteristics										
				Channels Number	Drive Current Cer port(±5%)	Protocol Data Format	Output Gray Level	Signal Transmission Speed	PWM Refresh Rate	Data Refresh Rate	Signal Transmission Delay	DOUT Transfer Time	Breakpoint Resume Support	
SC-5050RGBWIC-60D-24V	External IC	WS2814 or equal	SMD5050, RGBW	4CH	17mA	32Bit	256Levels	800Kbps	2KHz Typ.	10K Max.	300ns Max.	5ns Typ.	No	

RGB Series (External IC)

Model	IC Location	IC Type	LED & Color	Electrical Characteristics									
				Input Voltage	LED Quantity Per Pixel	Lumens Per Pixel(±5%)	LED Quantity Per meter	Rated Power Per Meter(±5%)	Lumens Per Meter(±5%)	IP20 Product Size (WxH)	Cutting Length Per Pixel	Maximum Connection	HBM ESD
SC-5050RGBIC-30D-12V	External IC	WS2811 or equal	SMD5050, RGB	10.5-13.5VDC	3PCS	12-15lm	30PCS	6W	140lm	10 x 2mm	100mm	10M	2KV
SC-5050RGBIC-60D-24V				21.5-26.5VDC	6PCS	24-30lm	60PCS	12W	260lm	10 x 2mm	100mm	10M	
SC-5050RGBIC-72D-24V				21.5-26.5VDC	6PCS	24-30lm	72PCS	15W	320lm	10 x 2mm	83mm	10M	
SC-5050RGBIC-84D-24V				21.5-26.5VDC	6PCS	24-30lm	84PCS	17W	380lm	10 x 2mm	71.5mm	10M	
SC-2835RGBIC-120D-24V			SMD2835 RGB	21.5-26.5VDC	6PCS	12-15lm	120PCS	17W	400lm	10 x 2mm	50mm	10M	

Model	IC Location	IC Type	LED & Color	Switching Characteristics									
				Channels Number	Drive Current Per Port(±5%)	Protocol Data Format	Output Gray Level	Signal Transmission Speed	PWM Refresh Rate	Data Refresh Rate	Signal Transmission Delay	DOUT Transfer Time	Breakpoint Resume Support
SC-5050RGBIC-30D-12V	External IC	WS2811 or equal	SMD5050, RGB	3CH	17mA	24Bit	256Levels	800Kbps	2KHz Typ.	10K Max.	500ns Max.	5ns Typ.	No
SC-5050RGBIC-60D-24V									2KHz Typ.				
SC-5050RGBIC-72D-24V									2KHz Typ.				
SC-5050RGBIC-84D-24V									2KHz Typ.				
SC-2835RGBIC-120D-24V			SMD2835 RGB						1KHz Typ.				

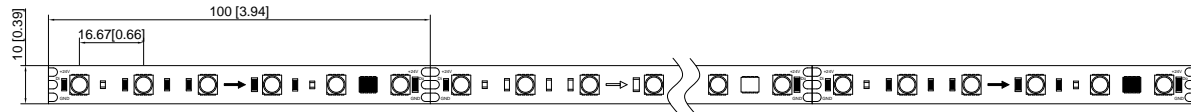
RGB Series (Built-in IC)

Model	IC Location	IC Type	LED & Color	Electrical Characteristics									
				Input Voltage	LED Quantity Per Pixel	Lumens Per Pixel(±5%)	LED Quantity Per Meter	Rated Power Per Meter(±5%)	Lumens Per Meter(±5%)	IP20 Product Size (WxH)	Cutting Length Per Pixel	Maximum Connection	HBM ESD
SC-5050RGBIC-30D-5V	Built-in IC	WS2812 or equal	SMD5050, RGB	4-5.5VDC	1PCS	2-3lm	30PCS	5.4W	80lm	10 x 2mm	33mm	3M	2KV
SC-5050RGBIC-60D-5V				4-5.5VDC	1PCS	2-3lm	60PCS	10.8W	160lm	10 x 2mm	16.7mm	3M	
SC-5050RGBIC-90D-5V				4-5.5VDC	1PCS	2-3lm	90PCS	16W	260lm	10 x 2mm	11mm	2M	
SC-5050RGBIC-30D-12V				10.5-13.5VDC	1PCS	2-3lm	30PCS	4.3W	80lm	10 x 2mm	33mm	10M	
SC-5050RGBIC-60D-12V				10.5-13.5VDC	1PCS	2-3lm	60PCS	8.6W	160lm	10 x 2mm	16.7mm	8M	
SC-5050RGBIC-90D-12V				10.5-13.5VDC	1PCS	2-3lm	90PCS	13W	260lm	10 x 2mm	11mm	5M	

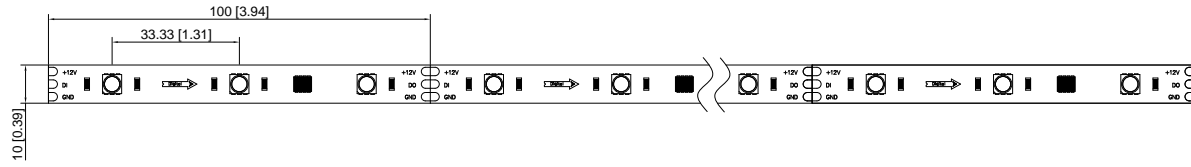
Model	IC Location	IC Type	LED & Color	Switching Characteristics									
				Channels Number	Drive Current Per Port(±5%)	Protocol Data Format	Output Gray Level	Signal Transmission Speed	PWM Refresh Rate	Data Refresh Rate	Signal Transmission Delay	DOUT Transfer Time	Breakpoint Resume Support
SC-5050RGBIC-30D-5V	Built-in IC	WS2812 or equal	SMD5050, RGB	3CH	12mA	24Bit	256Levels	800Kbps	2KHz Typ.	10K Max.	500ns Max.	5ns Typ.	No
SC-5050RGBIC-60D-5V													
SC-5050RGBIC-90D-5V													
SC-5050RGBIC-30D-12V													
SC-5050RGBIC-60D-12V													
SC-5050RGBIC-90D-12V													

DIMENSIONS (Unit: mm/inch)

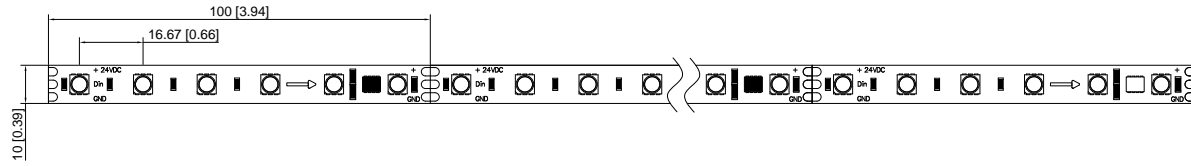
External IC Model : SC-5050RGBWIC-60D-24V



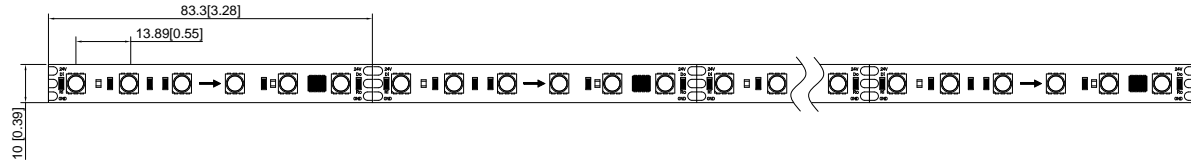
External IC Model : SC-5050RGBIC-30D-12V



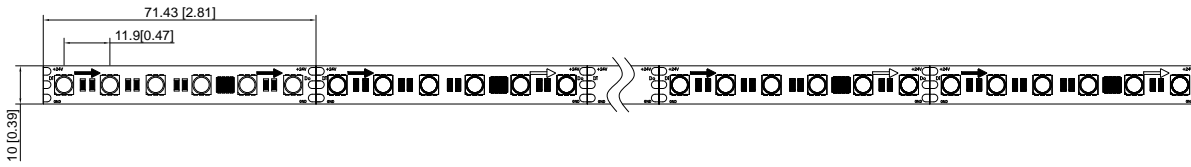
External IC Model : SC-5050RGBIC-60D-24V



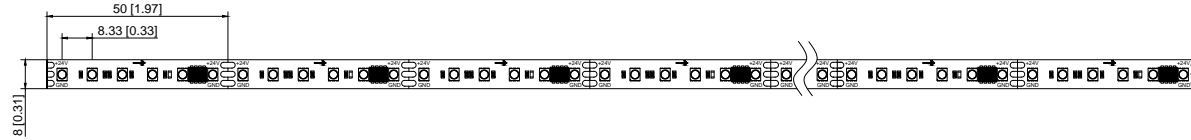
External IC Model : SC-5050RGBIC-72D-24V



External IC Model : SC-5050RGBIC-84D-24V



External IC Model : SC-2835RGBIC-120D-24V

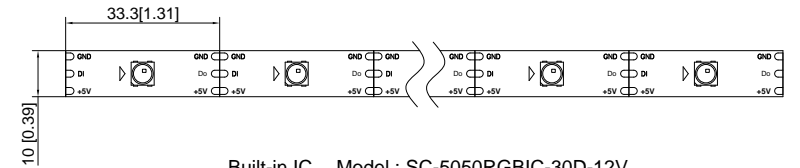


External IC

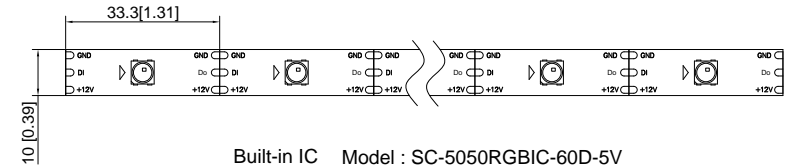
Built-in IC

DIMENSIONS (Unit: mm/inch)

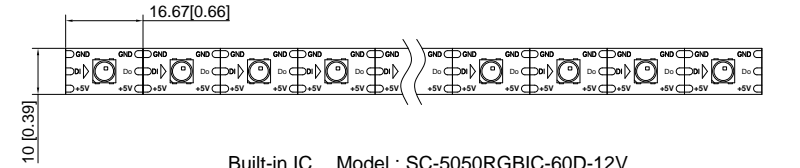
Built-in IC Model : SC-5050RGBIC-30D-5V



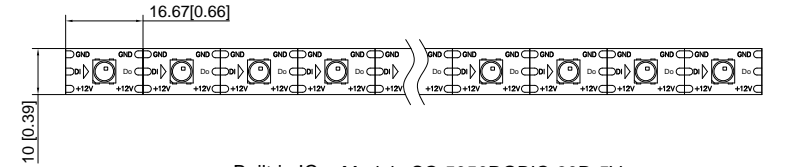
Built-in IC Model : SC-5050RGBIC-30D-12V



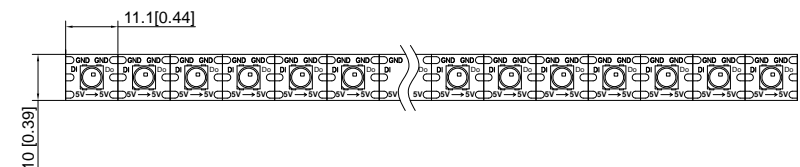
Built-in IC Model : SC-5050RGBIC-60D-5V



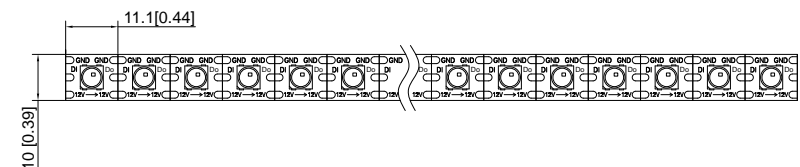
Built-in IC Model : SC-5050RGBIC-60D-12V



Built-in IC Model : SC-5050RGBIC-90D-5V



Built-in IC Model : SC-5050RGBIC-90D-12V



PRODUCT CONTROL DETAIL TIMELINE

The chip protocol uses a unipolar return to zero code, and each code must have a low level. Each code in this protocol starts with a high level, and the time width of the high level determines the "0" code or the "1" code.

Input code type:

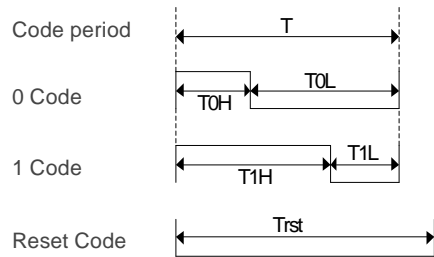


Fig. SM16703PB Return to Zero Code Data Communication Protocol Diagram

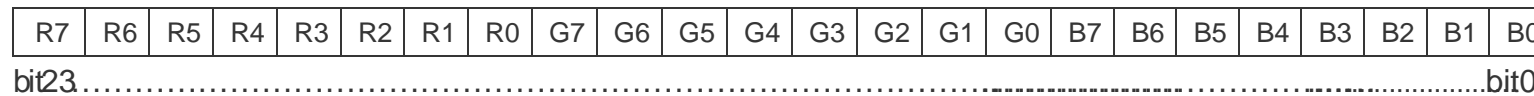
Symbol	Parameter	Minimum	Typical value	Maximum	Unit
T	Code period	1200	-	-	ns
T0H	0 code, high level time	200	300	400	ns
T0L	0 code, low level time	800	900	-	ns
T1H	1 code, high level time	800	900	1000	ns
T1L	1 code, low level time	200	300	-	ns
Trst	Reset code, low level time	200	-	-	us

Note 9: When coding, the minimum code period is 1.2us;

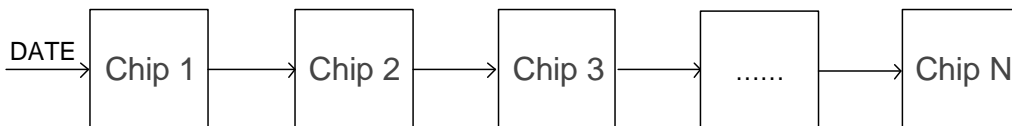
Note 10: The high level time of 0 code and 1 code shall comply with the specified range in the table above, and the low level time of 0 code and 1 code shall be less than 20us;

Protocol data format

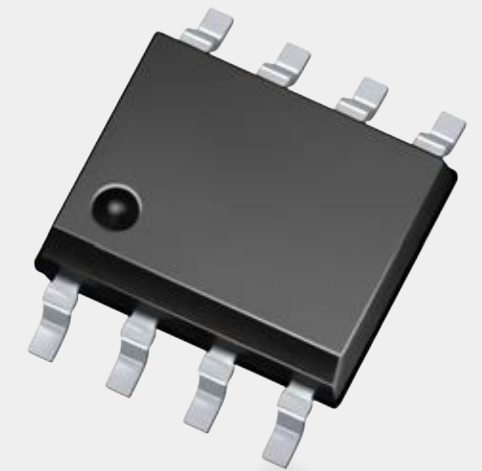
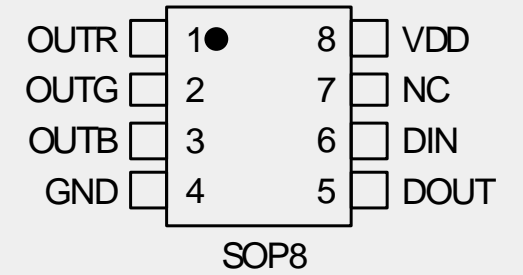
Trst+24bits data of the first chip+24bits data of the second chip+.....+24bits data of the Nth chip+Trst
 24bit gray level data structure: high bit first, sent in RGB order



System topology diagram:



* For more details, please contact our sales



OPTIONAL CONTROLS



WiFi/ BLE DUAL MODE

Connect to
WiFi first, then
add the device

1



BLE SINGLE MODE

Open Bluetooth,
connect to the
device

2



REMOTE CONTROL

This picture is a reference picture, subject to the actual remote control



44-key remote control



40-key remote control



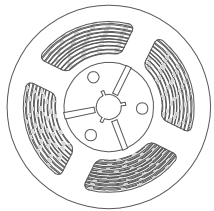
24-key remote control

REMOTE CONTROL

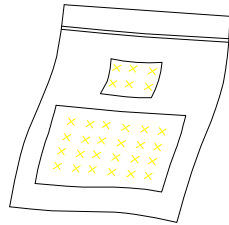


Remote control

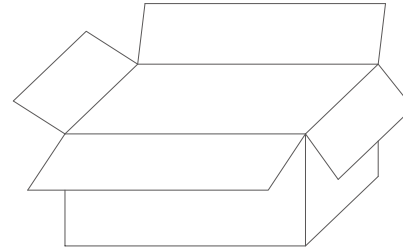
PACKAGING INFORMATION



LED strip



Anti-static bag



Packing box

INSTALLATION REQUIREMENT

- The light strip and other accessories can not be pressed;
- Do not damage the conducting wire of the circuit board during installation;
- The installation of the light strip should be in accordance with the electrical safety standards. Only professional personnel can install it;
- Ensure that the power supply is loaded by transformer conversion;
- When installed in contact with metal or conductor, insulation protection should be made at the contact place;
- Observe the polarity before installing, connect properly to prevent damage to the light strip;
- Please prevent static discharges when installing;
- Provide anti-corrosion environment for products, avoiding adverse factors such as wet water drops;
- Working temperature is $-20^{\circ}\text{C}\sim 40^{\circ}\text{C}$.

APPLICATIONS



Interior LED Decorative Lighting



Architectural Exterior Lighting



Scene Lighting



Digital Entertainment Lighting