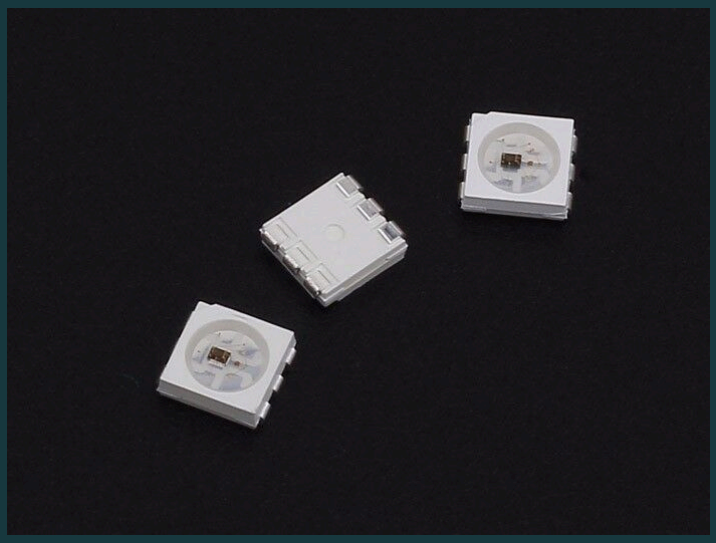
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INDUSTRIAL PRODUCT DATASHEET

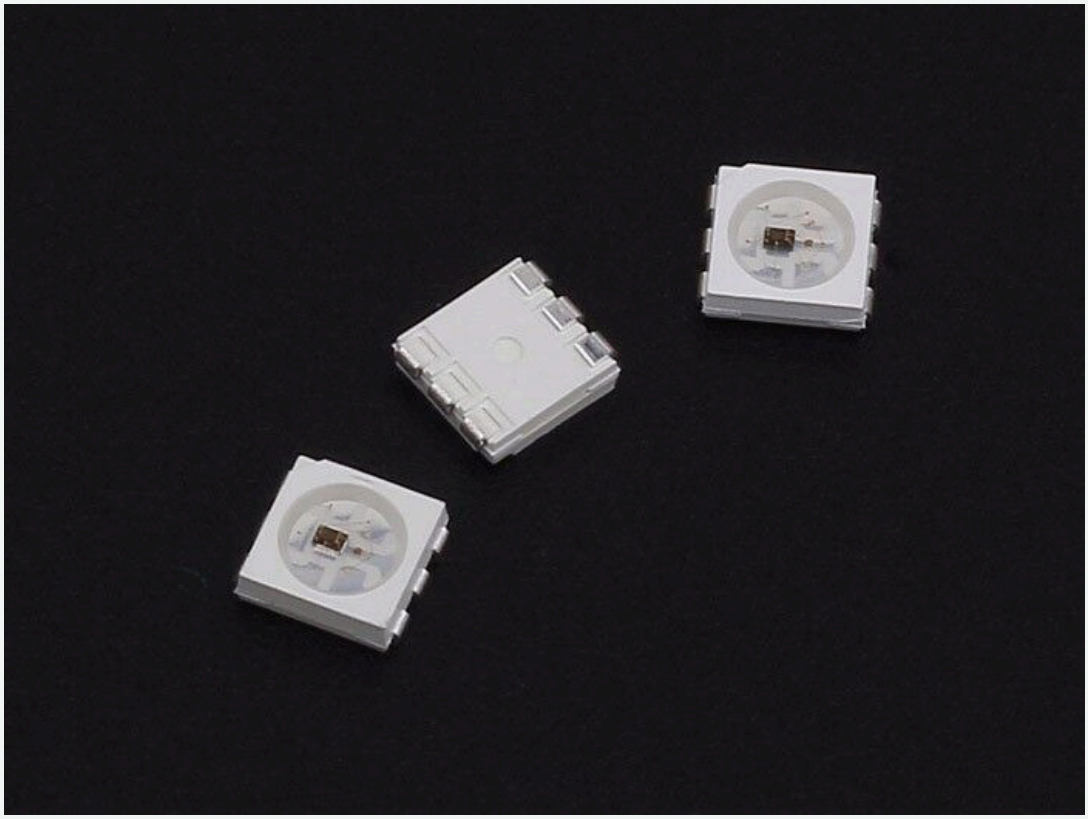
WS2813B RGB LED with Integrated Driver Chip (10 PCs pack)

WS2813B RGB LED with Integrated Driver Chip (10 PCs pack) – A dual-signal wire, break-point continuous transmission LED source with 2KHz refresh and 256-level gray scale per pixel.

SKU	UPDATED	PRICE
104990306	2024-08-09 01:52:05	$1.90(Excl. VAT)



Overview



The WS2813B is an intelligent control LED source integrating a control circuit and RGB chip in a 5050 package, featuring dual-signal wires for break-point continuous transmission and a 2KHz refresh rate. It supports up to 16777216 full-color display with 256 gray levels per pixel and a cascade of over 1024 points at 30fps via single-wire serial communication.

Key Features

WS2813 is an upgraded version of WS2812.

WS2813 is an intelligent control LED light source that the control circuit and RGB chip are integrated in a package of 5050 components. Its internal include intelligent digital port data latch and signal reshaping amplification drive circuit. Also include a precision internal oscillator and a 12V voltage programmable constant current control part,

which achieves highly consistent color effect.

The data transfer protocol use single NZR communication mode. After the pixel power-on reset, the DIN port receive data from controller, the first pixel collect initial 24bit data then sent to the internal data latch, the other data which reshaping by the internal signal reshaping amplification circuit sent to the next cascade pixel through the DO port. After transmission for each pixel, the signal to reduce 24bit. Every pixel adopts auto-reshaping transmit technology, making the pixel cascade numbers are not limited to the signal transmission, only relate to the speed of signal transmission.

The BIN receives the data signal, and then compare the data with the DIN side after phagocytosis of 24bit data, if DIN do NOT receive the signal, then switching to BIN for receiving the input signal, which ensure that any the IC's damage does not affect the signal cascade transmission and make the BIN in state of receiving signal until restart after power-off.

Refresh Frequency updates to 2KHz, Low Frame Frequency and no Flicker appear in HD Video Camera.

250us or more of reset time, it won't cause wrong reset while interruption, it supports the lower frequency and inexpensive MCU.

There're in a choice of 18mA or 5mA current version, and also in a choice of high brightness or cost-effective version. That is to say, WS2813 is provided with four versions.

Features and Benefits

- The control circuit and the LED share the only power source.
- The control circuit and RGB chip are integrated in a 5050 components, to form an external control pixel.
- Using the built-in signal reshaping circuit to achieve the signal waveform shaping, and no distortion of waveform of
- signal takes place.
- Built-in power-on reset and brown-out reset circuits.
- The gray levels of each pixel are of 256 levels, which achieves "256*256*256=16777216" full-color display, and
- the refresh frequency reaches to 2KHz/s.
- Serial cascade interface, data receiving and decoding depend on just one signal line.
- Dual-signal wires version, signal break-point continuous transmission.
- Any two point the distance more than 3m transmission signal without any increase circuit.
- When the refresh rate is 30fps, cascade numbers are far more than 1024 points.
- Data transmitting at speeds of up to 800Kbps.
- Good color consistency reliability, high cost-effective.

Part List

ws2813b RGB LED Chip	10

Compliance & Logistics

HSCODE	9405409000

Resource Links

- https://www.seeedstudio.com/WS2813B-RGB-LED-with-Integrated-Driver-Chip-10-PCs-pac-p-2876.html

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