



Features and Benefits

- ⌘ The control circuit and RGB chip are integrated in a 5050 components, to form an external control pixel.
- ⌘ **12V DC** power supply, can effectively reduce the operating current of the pixel LED, and decrease the voltage-drop of the PCB, this is to advance the consistency of the mixed lights for long-distance transmission.
- ⌘ Using the built-in signal reshaping circuit to achieve the signal waveform shaping, and no distortion of waveform of signal takes place.
- ⌘ 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**.
- ⌘ 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 5M transmission signal without any increase circuit.
- ⌘ When the refresh rate is 30fps, cascade numbers is at least 1024 pixels.
- ⌘ Data transmitting at speeds of up to 800Kbps.
- ⌘ Good color consistency reliability, high cost-effective.

Applications

- ⌘ Guardrail tube series, point light display series, flexible/rigid strips series, module series applications.
- ⌘ Lighting stage costumes, innovative gadgets or any other electronic products.

General description

WS2815B-V3 is an intelligent control LED light source that the control circuit and RGB chip are integrated in a package of 5050 components. Its internal includes intelligent digital port data latch and signal reshaping amplification drive circuit.

Dual-signal wires version, signal break-point continuous transmission. Any pixel's failure won't affect signal transfer and total emitting 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.

RESET time > **280μs**, it won't cause wrong reset while interruption, it supports the lower frequency and inexpensive MCU.

Integrated circuit chips enable the circuit control simpler, neater and more reliable while NO extra components needed.