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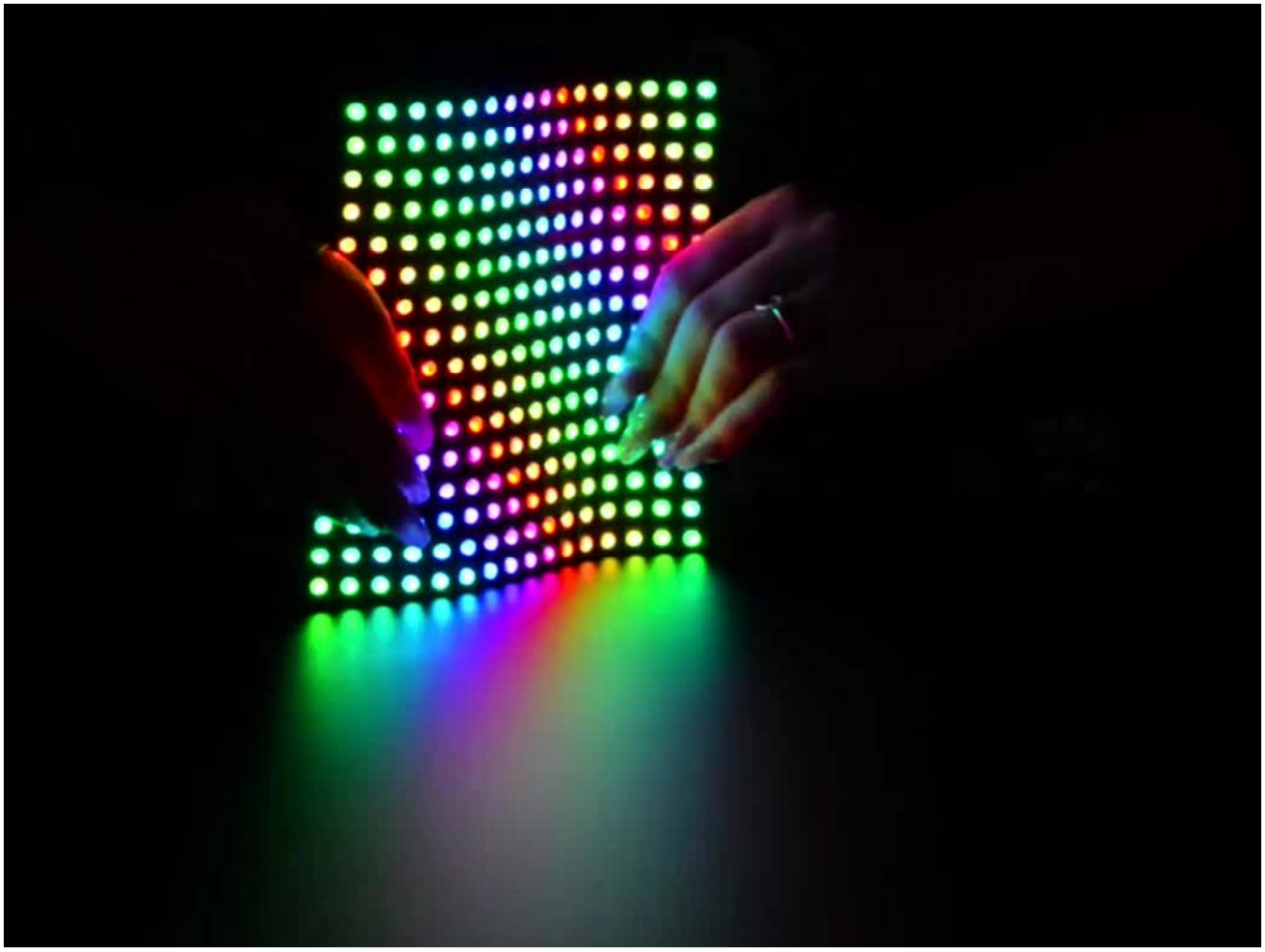
Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Flexible Adafruit DotStar Matrix 16x16 - 256 RGB LED Pixels

PRODUCT ID: 2735



DESCRIPTION

For advanced DotStar LED fans, we now have a bendable, Flexible 16x16 Dotstar LED Matrix! Control all 256 ultra-bright LEDs using only two microcontroller pins, set each LED as you wish to scroll messages or draw little images. This matrix has a thick flexible PCB backing that can be gently bent and curved around surfaces

These are the same integrated LEDs that are used in our new fancy DotStar strips. This tiny 5050 (5mm x 5mm) SMD LED is the most compact way possible to integrate multiple bright LEDs to a design. Rather than NeoPixels, this matrix uses DotStar LEDs, which use a 2-wire protocol that is less timing-specific and has high-frequency PWM for smoother color blending.

Don't forget, with 256 LEDs, you could use over 15A of current if you turn on all the LEDs on to white (which we really do not recommend because we don't think the flex PCB can handle that much current). Try to keep the current draw at under 5A, you can use our 5V 4A or 5V 10A power supply. For portable use, if you are drawing less than 3A, try out this 5V@3A UBEC.

Like NeoPixels, DotStar LEDs are 5050-sized LEDs with an embedded microcontroller inside the LED. You can set the color/brightness of each LED to 24-bit color (8 bits each red green and blue). Each LED acts like a shift register, reading incoming color data on the input pins, and then shifting the previous color data out on the output pin. By sending a long string of data, you can control an infinite number of LEDs. The PWM is built into each LED-chip so once you set the color you can stop talking to the disk and it will continue to PWM all the LEDs for you.

Check out our tutorial showing wiring, power usage calculations, example code for usage, etc!

Please note: Flexible PCBs are not designed for repeated flexing! While we think this product may work in wearables or other situations where the matrix is bent around, we do not offer any guarantees or refunds if you end up cracking the LEDs or traces! This is for advanced users only, who already know how to use DotStars and are comfortable with the high current requirements and protecting the matrix from damage. There are no returns, refunds or replacements for damaged product.

Technical Details

LED Datasheet
Weight: 65g
Matrix Dimensions: 162mm x 162mm x 2.5mm / 6.4" x 6.4" x .09"
Wire Length: 91.5mm / 3.5"