Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

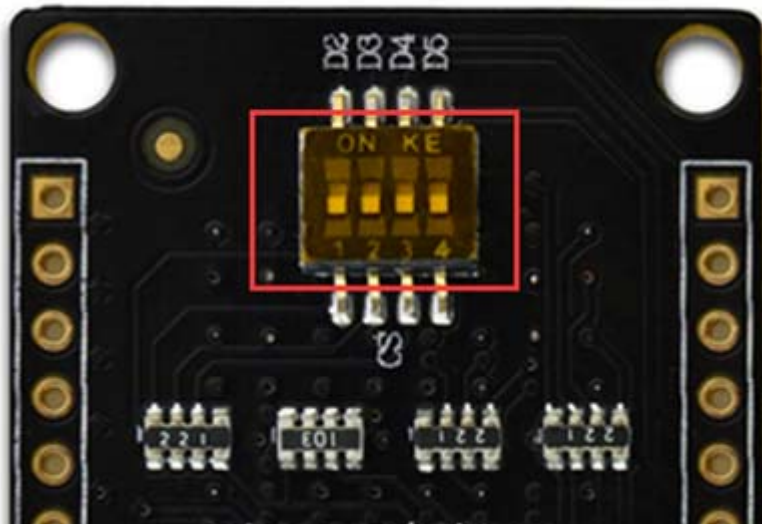# FireBeetle Covers-24×8 LED Matrix (Blue)
SKU: DFR0485
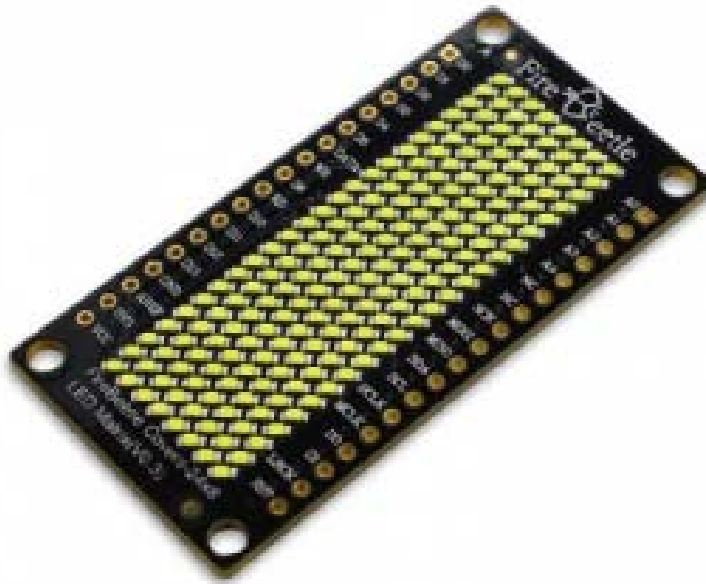
Introduction

FireBeetle Covers-24×8 LED Matrix

DFRobot FireBeetle is a low-power consumption micro-controller intentionally designed for Internet of Things (IoT). This series micro-controllers aims at IoT node of low-power consumption, attending to build the IoT hardware platform quickly and conveniently. There are three types of FireBeetle, containing Boards (main control), Covers (expansion boards) and related Accessories.
This 24×8 LED Matrix display is special designed for FireBeetle series. It supports low-power consumption mode and scrolling display. With HT1632C high performance LED driver chip, every led has independent register, which makes it easy to drive separately. It integrates a 256KHz RC clock, only 5uA under low-power mode, support 16 scale PWM brightness adjustment. This product also works with the other Arduino micrcontroller like Arduino UNO.

Specification

- Operating Voltage: 3.3~5V
- LED Color: Single color (White/Blue/Yellow/Red/Green)
- Drive Chip: HT1632C
- Working Current: 6~100mA
- Low-power Consumption: 5uA
- RC clock: 256KHz
- Chip Select (CS): D2, D3, D4, D5 selectable
- Serial Data Communication
- Support Arduino Library
- Support Scrolling display
- Interface mode: FireBeetle Series Compatible
- Operating Temperature: -10℃~+85℃
- Dimension: 24 × 58(mm)/0.94 x 2.28(inches)
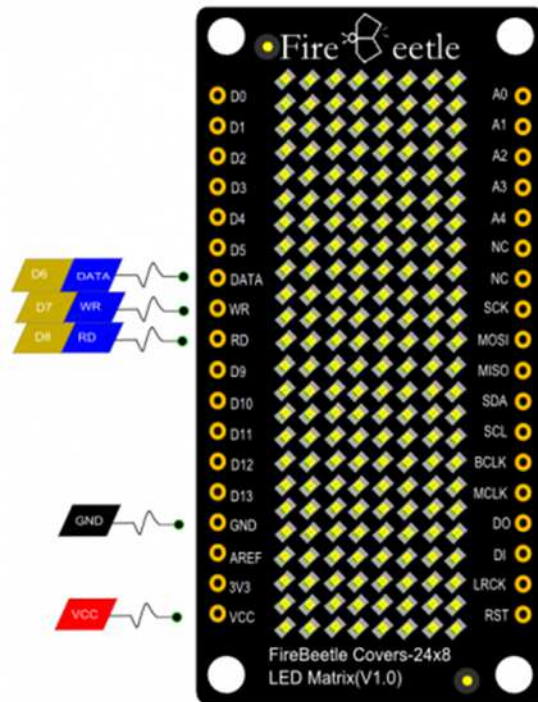- Weight: 26g

FireBeetle Covers-24×8 LED Matrix Chip Select

Note: FireBeetle Covers-24x8 LED Matrix has 4 CS pin, you can select the CS from the dialing switch, and one FireBeetle can control 4 LED matrix at the same time.

Board Overview

Num	Label	Description
1	DATA	DATA<——>D6
2	WR	WR<——>D7 (Generally Not Used)
3	CS	CS<——>D2, D3, D4, D5 selectable
4	RD	RD<——>D8
5	VCC	5V<——>USB; 3.7V<——>Lipo Battery

FireBeetle Covers-24×8 LED Matrix

Tutorial

In this section,we will demonstrate several example about how to use this LED matrix.

Requirements

- **Hardware**
  FireBeetle Board - ESP32 x 1
  FireBeetle Covers-24×8 LED Matrix x1

- **Software**
  Arduino IDE Click to Download Arduino IDE from Arduino®
  https://www.arduino.cc/en/Main/Software%7C
  Arduino Library (Github)
  https://github.com/Chocho2017/FireBeetleLEDMatrix.git

Sample Code: Hello

Note: You need use D(x) to call digital I/O pins under Arduino IDE. Or that will be IO(x).

CS = D2

```
#include "DFRobot_HT1632C.h"


#define DATA D6

#define CS D2

#define WR D7

//#define RD 7


DFRobot_HT1632C ht1632c = DFRobot_HT1632C(DATA, WR,CS);


char str[] = "Hello";


void setup() {
  // put your setup code here, to run once:
  ht1632c.begin();
  ht1632c.isLedOn(true);
  ht1632c.clearScreen();
```

```
        ht1632c.setCursor(0,0);

    ht1632c.print(str);

}


void loop() {

    // put your main code here, to run repeatedly:


}
```
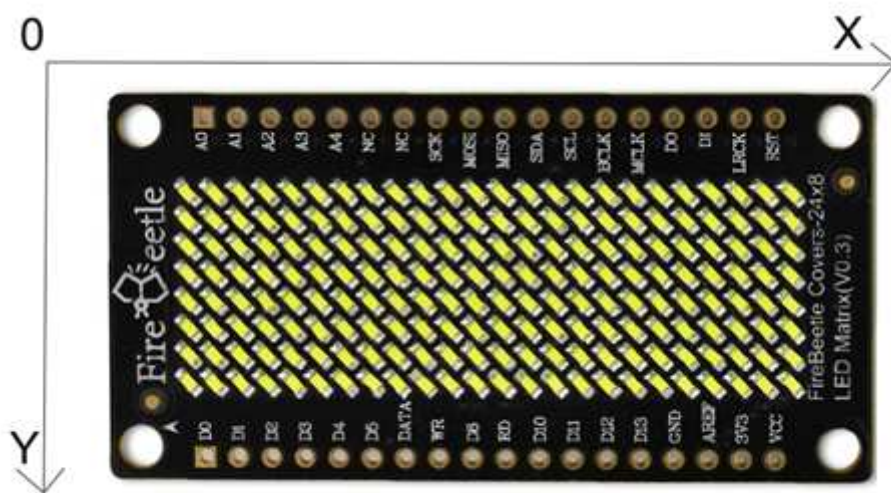
Sample Code: Draw Point

You can draw points at any place of the Matrix. X-Y axis coordinate diagram:

FireBeetle Covers-24×8 LED Matrix X-Y Axis Coordinate Diagram

```
 setPixel(x,y) : Set coordinates

 writeScreen() : Draw points
```

Sample Code:

```
 ht1632c.setPixel(0,0);

 writeScreen();
```

Sample Code: Srolling Display

You can use '"setPixel"' to set the start point, and print **str** with **ms** srolling display.

```
 print(str,ms):  // str = string; ms = delay time
```

Smaple code:

```cpp
#include "DFRobot_HT1632C.h"


#define DATA D6
#define CS D2
#define WR D7


DFRobot_HT1632C ht1632c = DFRobot_HT1632C(DATA, WR,CS);


char str[] = " DFROBOT 2017";


void setup() {
  Serial.begin(115200);
  // put your setup code here, to run once:
  ht1632c.begin();
  ht1632c.isLedOn(true);
  ht1632c.clearScreen();
  delay(500);
}


void loop() {
  // put your main code here, to run repeatedly:
  ht1632c.print(str,50);
  //delay(100);
}
```
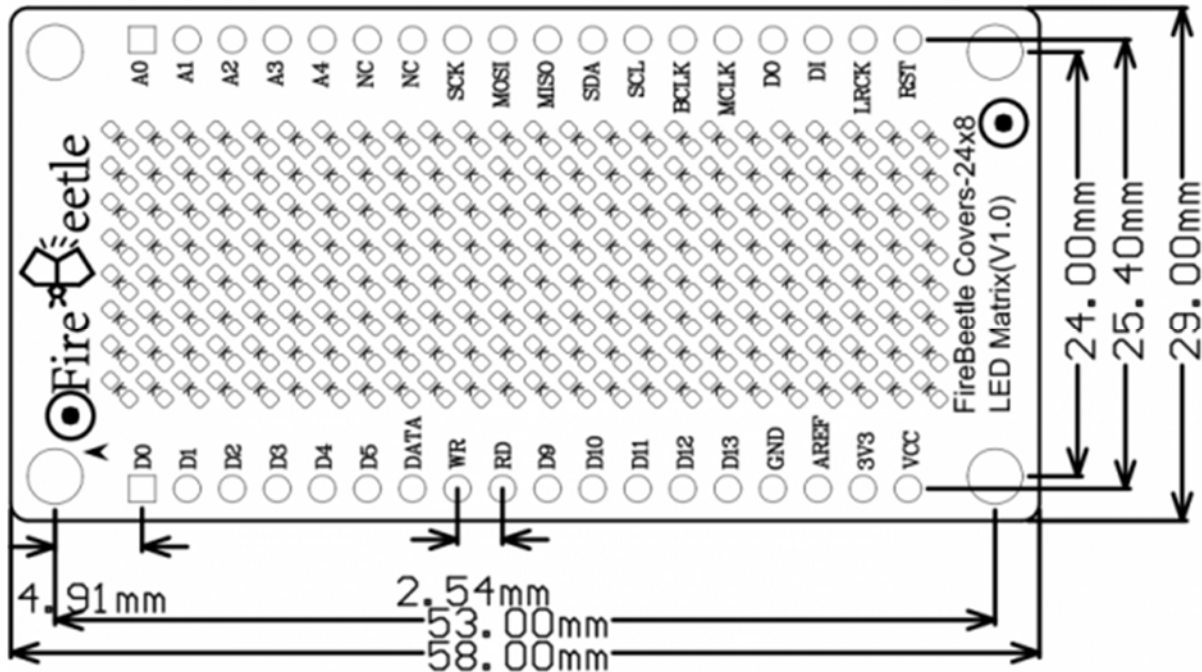
Additional Instruction

FireBeetle Covers-24×8 LED Matrix support Low-power consumption mode, you can use **inLowpower** function to enter Low-power consumption mode. When it is in Low-power consumption mode, it will close RC clock automatically.

Dimension

FireBeetle Covers-24×8 LED Matrix Dimension