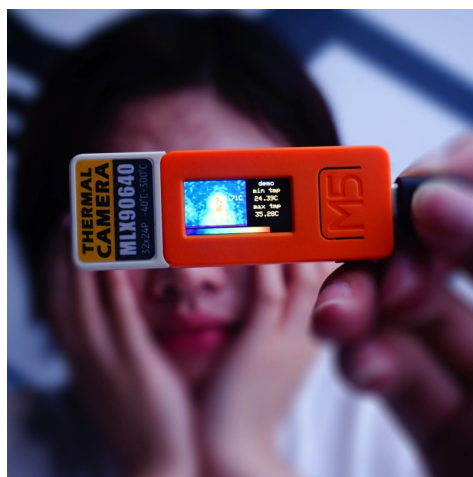


Hat Thermal

SKU:U062



Description

Hat Thermal is a human body infrared thermal imaging device compatible with M5StickC. It is equipped with a built-in **MLX90640** thermopile sensor, capable of measuring the surface temperature of objects and generating thermal images (image resolution **32 x 24**) based on the temperature gradients formed by the surface temperatures. The **MLX90640** infrared (IR) sensor array offers high resolution and the ability to operate reliably in harsh environments. Compared with expensive high-end thermal cameras, the **Hat Thermal** provides a cost-effective alternative. Relative to general microbolometers, the advantage of this sensor lies in its ability to operate without frequent recalibration, ensuring continuous detection and reducing system maintenance costs.

Features

- I2C Address: **0x33** (GPIO 0/26)
- Operating Current: 23mA
- Field of View: 110° x 75°
- Temperature Measurement Range: -40°C ~ 300°C
- Accuracy: ±1.5°C
- Refresh Rate: 0.5Hz-64Hz
- Operating Temperature: -40°C ~ 85°C

Includes

- 1 x Hat Thermal
- 1 x Double-Sided Tape

Applications

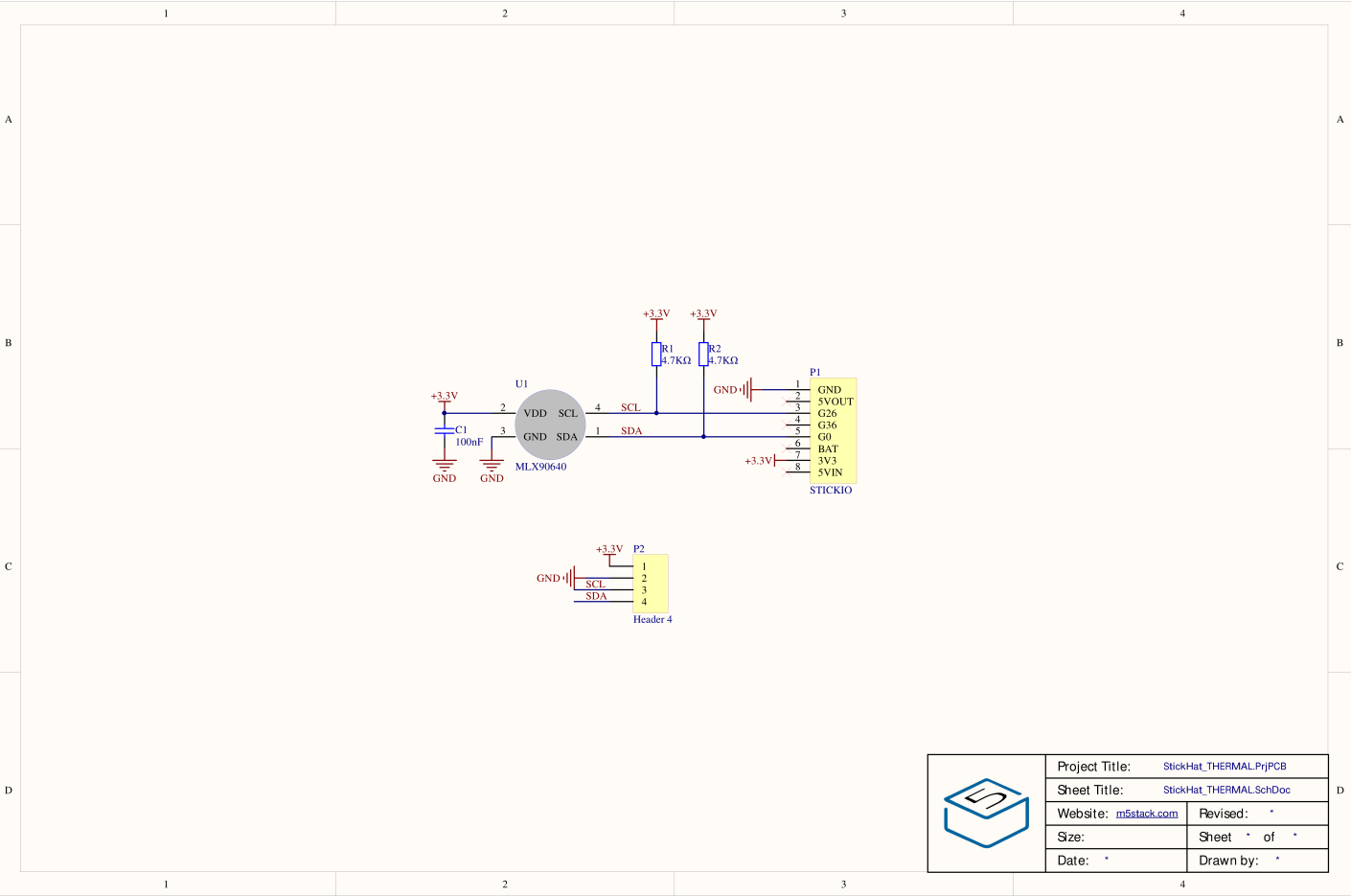
- High-precision non-contact thermometer
- Biological motion detection
- Visual infrared imaging

Specifications

Specification	Parameter
Communication Interface	I2C Communication @0x33
Product Size	25.0 x 24.0 x 13.7mm
Product Weight	5.7g
Package Size	138.0 x 93.0 x 14.0mm
Gross Weight	8.0g

Schematics

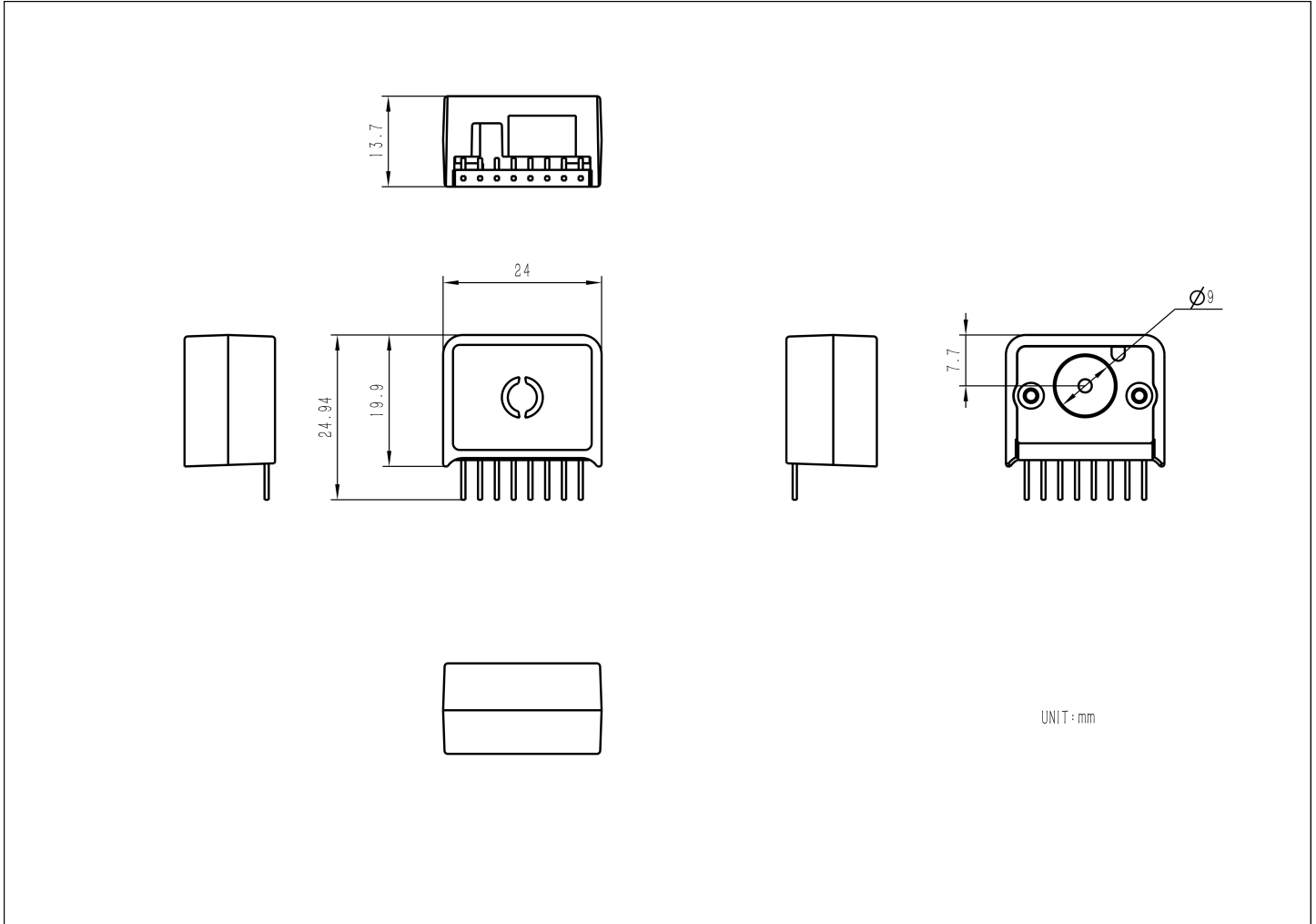
- [Hat Thermal Schematics PDF](#)



PinMap

StickC	G0	G26	3.3V	GND
HAT Thermal	SDA	SCL	3.3V	GND

Model Size



Structure

- [Hat Thermal Structure Files](#)

Datasheets

- [MLX90640 Datasheet](#)

Softwares

Arduino

- [Hat Thermal StickC Test Program](#)
- [Hat Thermal StickC-Plus Test Program](#)
- [Hat Thermal Arduino Tutorial](#)

- [Hat Thermal Driver Library](#)

UiFlow1

- [Hat Thermal UiFlow1 Docs](#)

UiFlow2

- [Hat Thermal UiFlow2 Docs](#)

Easyloader

Easyloader	Download	Note
Hat Thermal Easyloader	download	/

| Video

[THERMAL-HAT.mp4](#)