

## BMA255



# BMA255 - 3-Axis Digital Accelerometer Module

*Professional electronic component*

v1.0

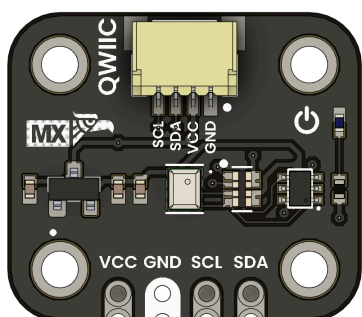
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Rev. A

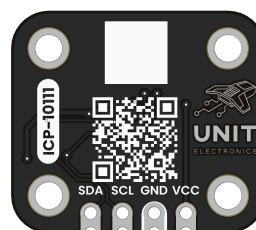
## PRODUCT OVERVIEW

This module features the BMA255, a 3-axis digital accelerometer designed for motion sensing applications. It offers a standard I2C interface, making it easy to integrate into various applications requiring precise acceleration data .

## PRODUCT VIEWS

**TOP VIEW**

*Component placement and connectors*

**BOTTOM VIEW**

*Underside components and connections*

# KEY TECHNICAL SPECIFICATIONS



## CONNECTIVITY

Primary Interface: **GPIO (Interrupt)**  
Connector Type: **JST 4-pin 1.0mm**  
Logic Levels: **VCC-referenced (2V – 5.5V tolerant)**

## PIN CONFIGURATION

FUNCTION	NOTES
Power Supply	3.3V or 5V
Ground	Common ground for all components

## KEY FEATURES



### Digital Communication

I<sup>2</sup>C and SPI interfaces for easy integration

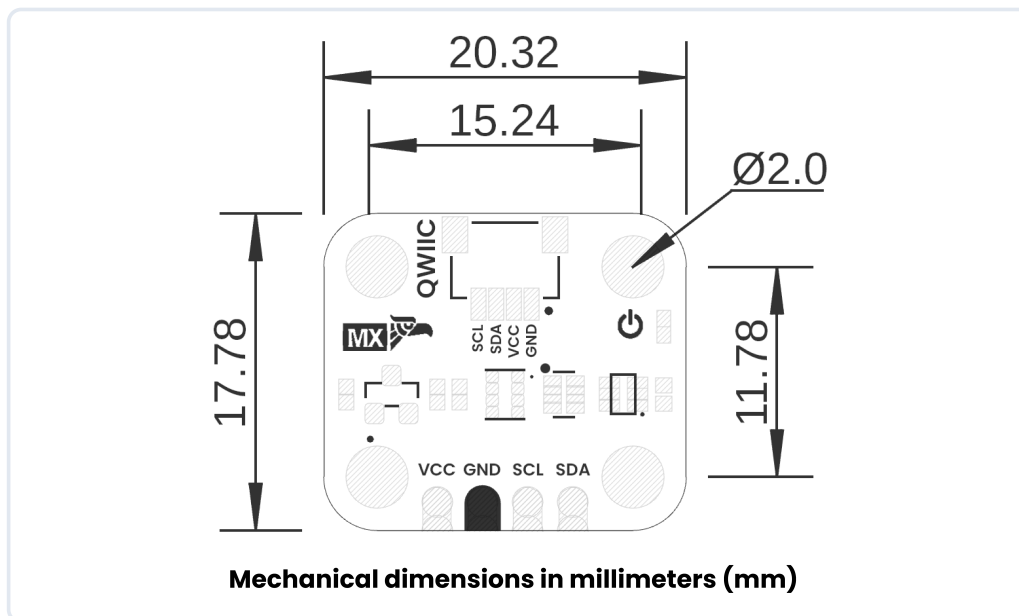
## ADDITIONAL TECHNICAL INFORMATION

## TYPICAL APPLICATIONS

APPLICATION	DESCRIPTION
Motion Detection	Detects movement and orientation changes
Vibration Monitoring	Monitors vibrations in machinery and equipment
Gesture Recognition	Recognizes user gestures for interactive applications
Device Orientation	Determines the orientation of devices

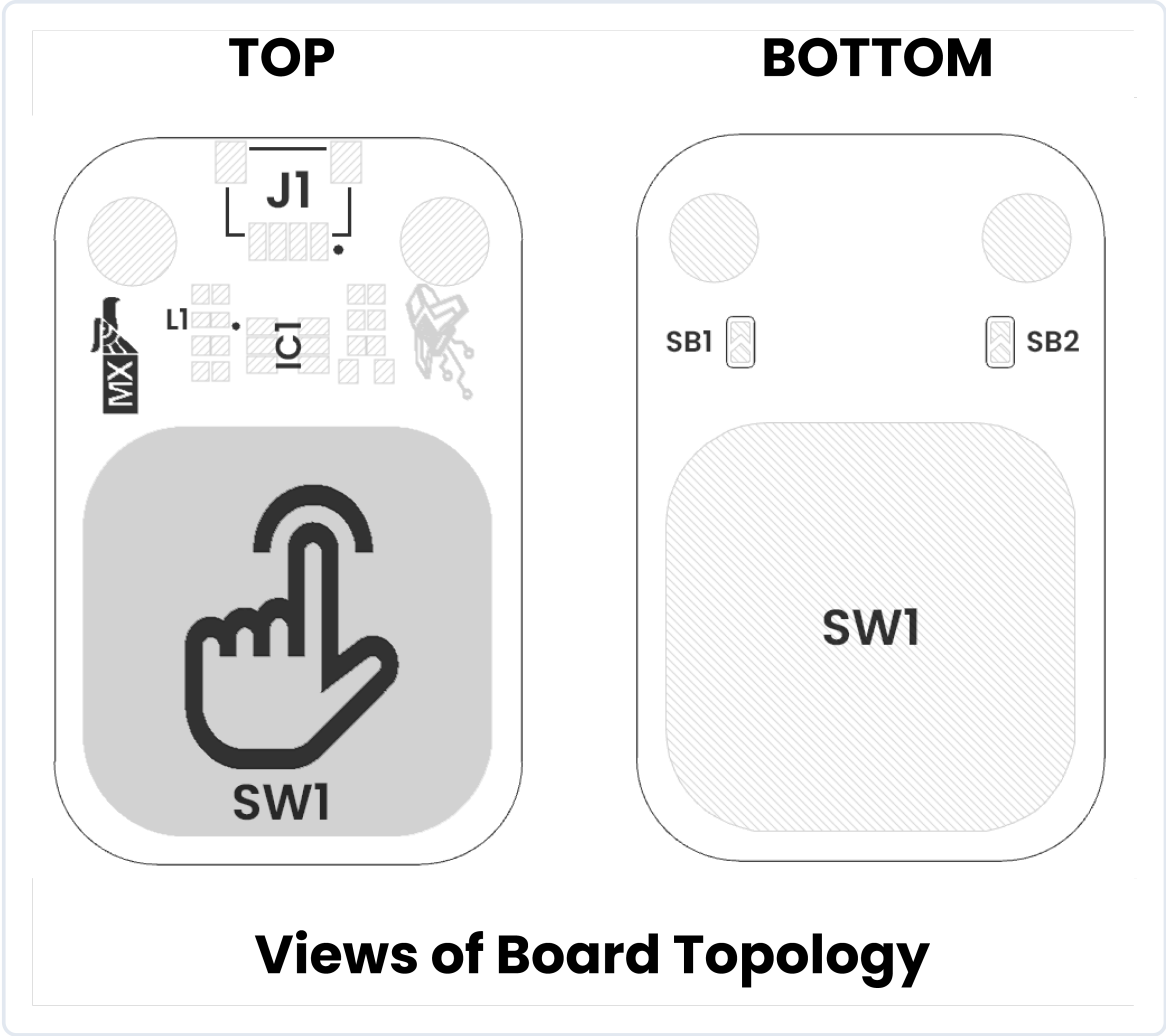
## HARDWARE DOCUMENTATION

## MECHANICAL DIMENSIONS



Physical dimensions and mounting specifications (measurements in millimeters)

SYSTEM TOPOLOGY



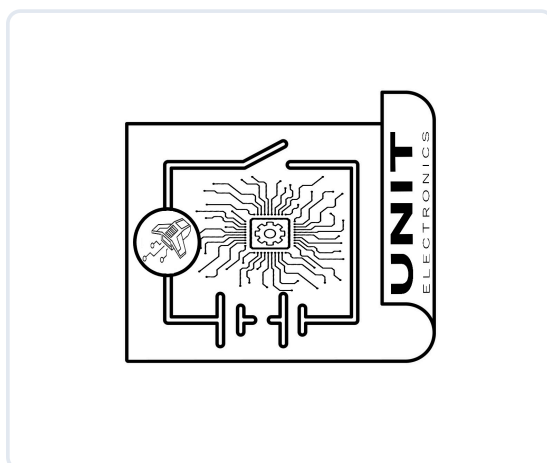
Connection topology and system integration diagram

*Click image to open in full size*

COMPONENT REFERENCE

REF.	DESCRIPTION
IC1	{{sensor_description}}
L1	Power On LED
U1	{{regulator_description}}
JP1	2.54 mm Castellated Holes
J1	QWIIC Connector (JST 1 mm pitch) for I2C

## CIRCUIT SCHEMATIC



Complete circuit schematic showing all component connections

# PIN DESCRIPTION

*Detailed pin assignment and electrical specifications*

## SIGNAL DESCRIPTION

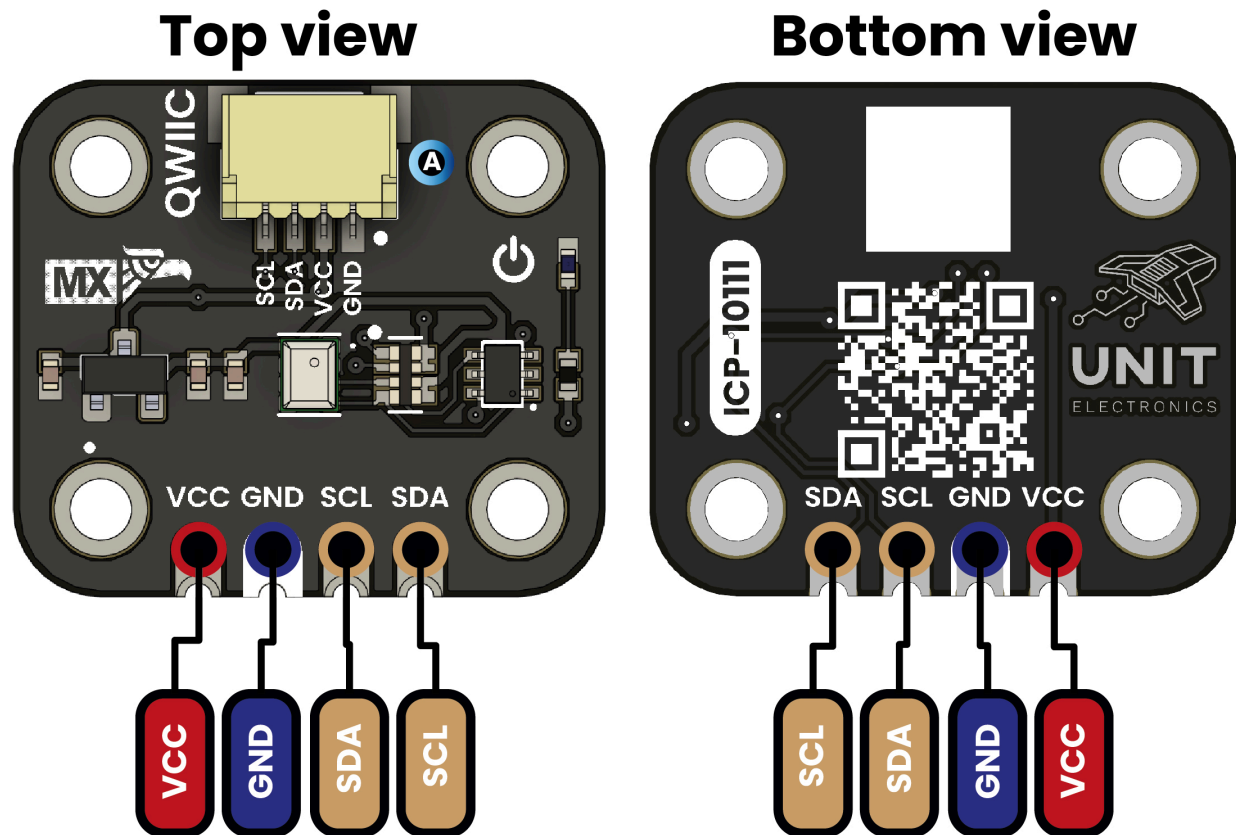
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VOLTAGE LEVEL	FUNCTION
3.3 V – 5.5 V	Provides power to the on-board regulator and sensor core.
0 V	Common reference for power and signals.
1.8 V to VCC	Serial data line for I <sup>2</sup> C communications.
1.8 V to VCC	Serial clock line for I <sup>2</sup> C communications.

# PIN CONFIGURATION LAYOUT

*Physical connector layout and pin positioning*

## PINOUT



## Description:

 Supply voltage

 GND

 I2C

 **QWIIC**<sup>®</sup>

Complete pin configuration diagram showing all connectors, pin assignments, and electrical connections for proper integration