TEMT600

TEMT600 Ambient Light Sensor

v1.0

2025-09-24
Rev. A

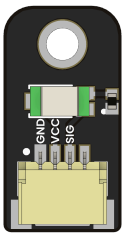
Professional electronic component

PRODUCT OVERVIEW

The TEMT600 Ambient Light Sensor Development Board is a compact module built around the Vishay TEMT600 phototransistor. It provides a linear analog voltage proportional to ambient light intensity, making it ideal for display back-light control, energy-saving systems, photographic exposure adjustment, and environmental monitoring.

PRODUCT VIEWS

TOP VIEW



Component placement and connectors

BOTTOM VIEW

Underside components and connections

KEY TECHNICAL SPECIFICATIONS

CONNECTIVITY

Interfaces:	**I²C, SPI**
Connector:	**Qwiic + Pin Headers**

KEY FEATURES

Compact Footprint:
20 × 12 mm PCB with 3 mm mounting hole

Standard JST-PH Connector:
3-pin plug-and-play

🎯 Key Applications
Automatic display brightness adjustment, Photographic light metering, Smart home & IoT light sensing and more

ADDITIONAL TECHNICAL INFORMATION

📦 OVERVIEW

FEATURE	DESCRIPTION
Sensor Type	Ambient Light Sensor (TEMT600)

⚙️ TECHNICAL SPECIFICATIONS

PIN	SYMBOL	TYPE	DESCRIPTION
1	GND	Power	Ground reference (connect to MCU GND)
2	VCC	Power	+3.3 V to +5 V supply voltage
3	D0	Analog	voltage ∝ ambient light; connect to an ADC input of your MCU

INTERFACE OVERVIEW

INTERFACE	SIGNALS / PINS	TYPICAL USE
UART		
I2C		
SPI		
USB		

SUPPORTS

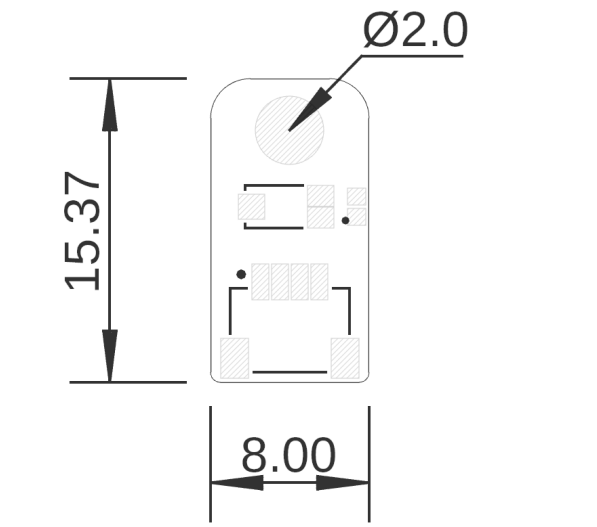
SYMBOL	I/O	DESCRIPTION
VCC	Input	
GND	GND	
IO	Bidirectional	

WIRING INSTRUCTIONS

SENSOR PIN	CONNECTS TO	DESCRIPTION
VCC	5 V	Match your board’s logic level
GND	GND	Common ground
SIG	GPIO12	Digital input on the microcontroller

HARDWARE DOCUMENTATION

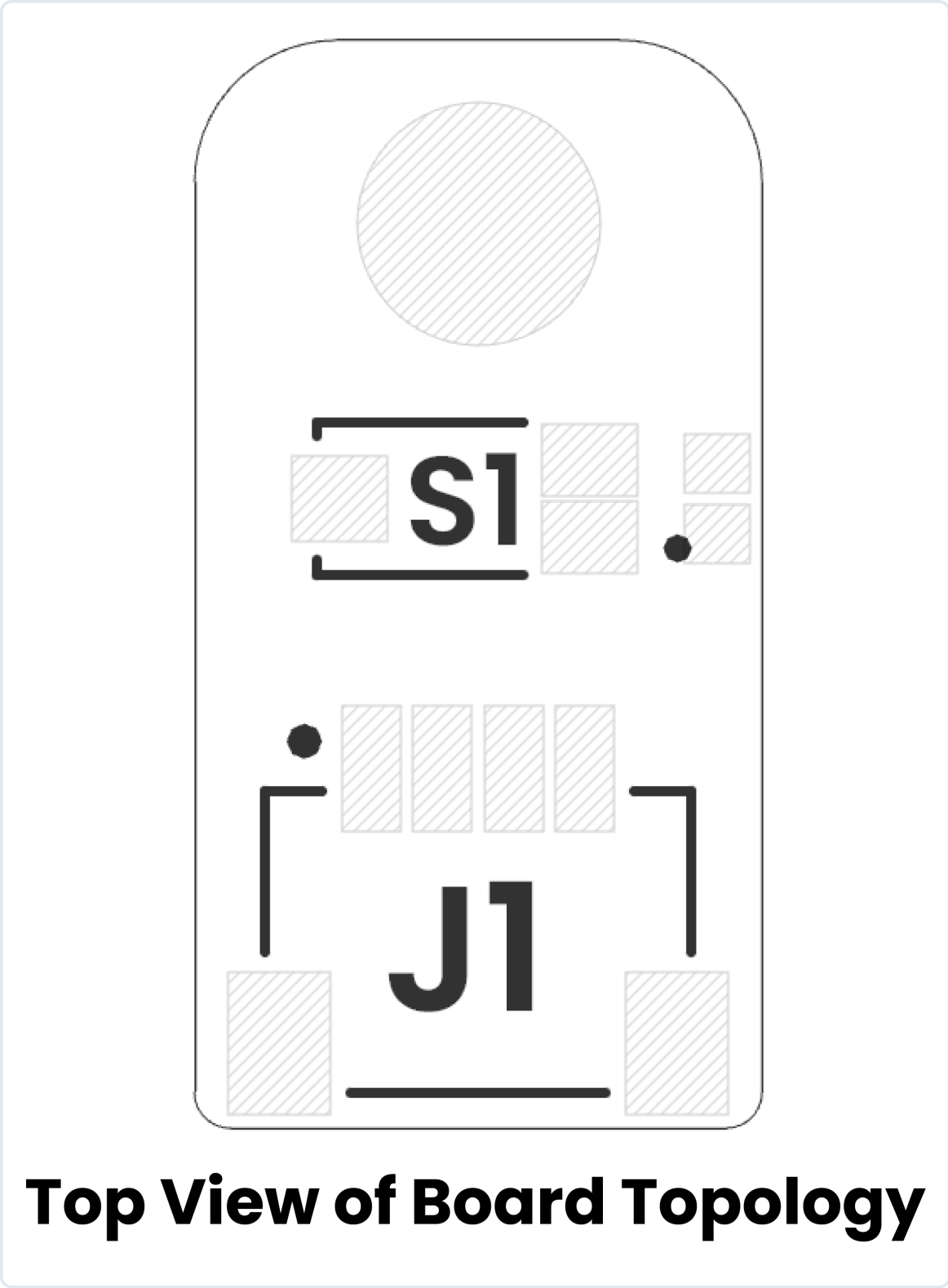
MECHANICAL DIMENSIONS



Mechanical dimensions in millimeters (mm)

Physical dimensions and mounting specifications (measurements in millimeters)

SYSTEM TOPOLOGY



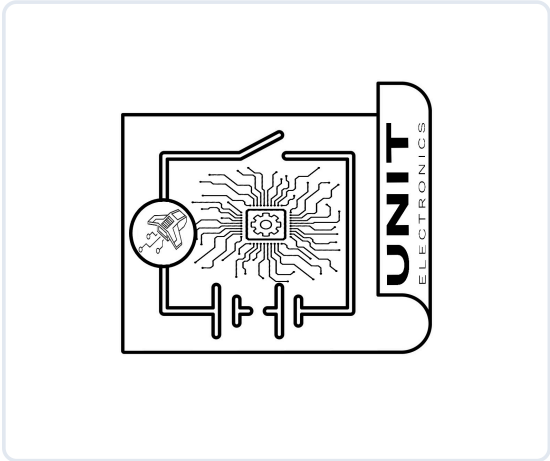
Connection topology and system integration diagram

Click image to open in full size

COMPONENT REFERENCE

REF.	DESCRIPTION
S1	TEMT6000 Ambient Light Sensor
J1	JST 1 mm pitch Connector for Power Supply and Signal

CIRCUIT SCHEMATIC



Complete circuit schematic showing all component connections

View Complete Schematic PDF

PIN DESCRIPTION

Detailed pin assignment and electrical specifications

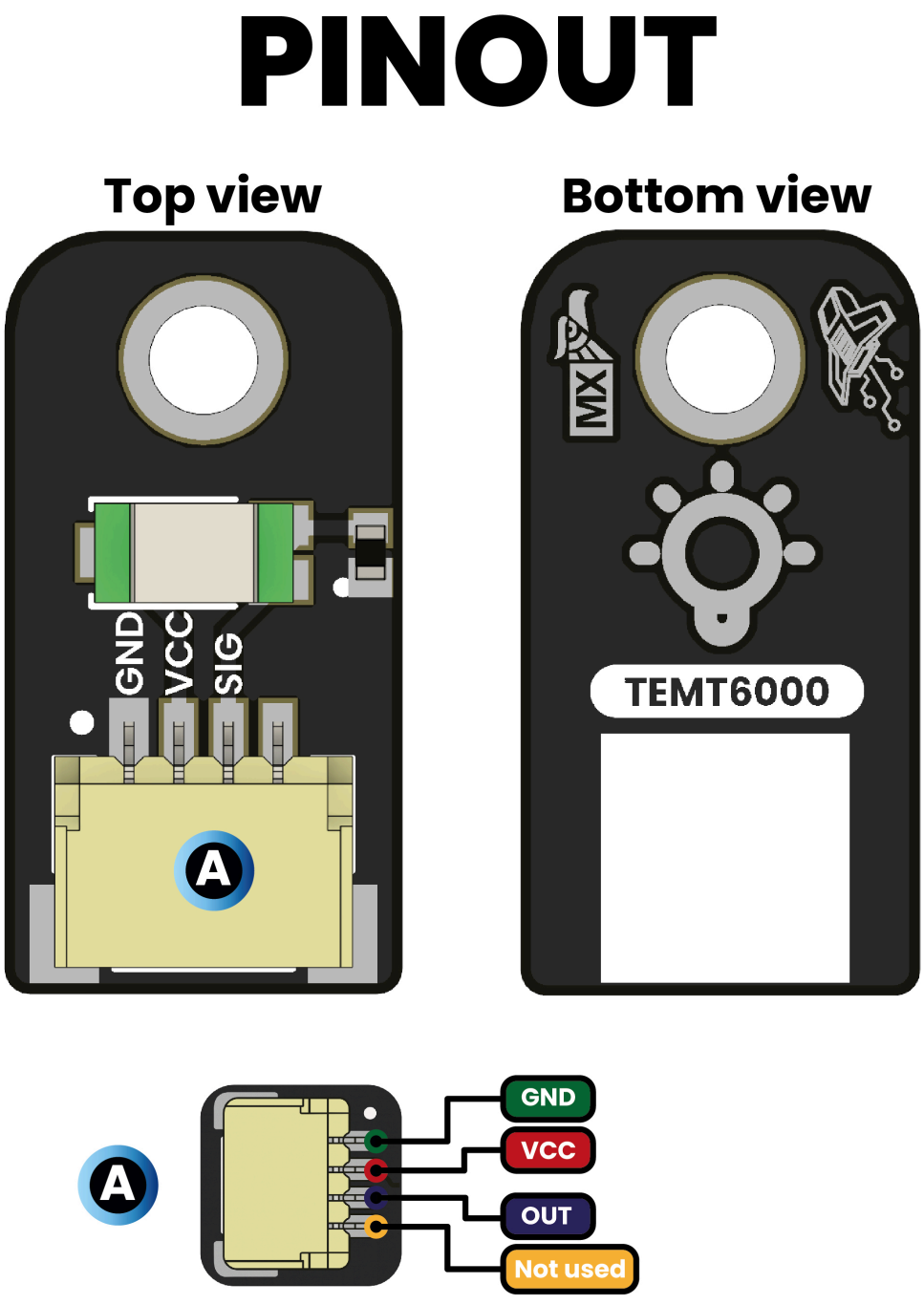
SIGNAL DESCRIPTION

FUNCTION	NOTES
Power Supply	3.3V or 5V, depending on design
Ground	Common ground reference
Data Signal	Digital input/output signal

GROUP	AVAILABLE PINS	SUGGESTED USE
GPIO		
UART		
TouchPad		
Analog		
SPI		

PIN CONFIGURATION LAYOUT

Physical connector layout and pin positioning



Description:

Supply voltage GND Output

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