TEMT600



TEMT600 Ambient Light Sensor

v1.0 2025-09-29 Rev. A

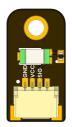
Professional electronic component

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 applications.

PRODUCT VIEWS

TOP VIEW



BOTTOM VIEW



Component placement and connectors

Underside components and connections

KEY TECHNICAL SPECIFICATIONS

CONNECTIVITY

Interfaces: I2C, SPI, UART, ADC

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



FEATURE	DESCRIPTION
Sensor Type	Ambient Light Sensor (TEMT600)
Supply Voltage	3.3V - 5V
Interface	Analog Output
Light Sensitivity	0.2 to 1000 lux (typical)
Response Time	~100 ms
Operating Temperature	-40°C to +85°C
Connector Type	JST 1.0mm 4-pin

* TECHNICAL SPECIFICATIONS

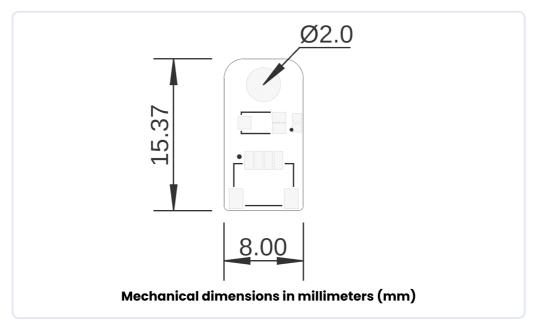
PIN	SYMBOL	TYPE	DESCRIPTION
1	GND	Power	Ground reference (connect to MCU GND)
2	VCC	Power	+3.3 V to +5 V supply voltage
3	D0	Analog	voltage ∝ ambient light; connect to an ADC input of your MCU

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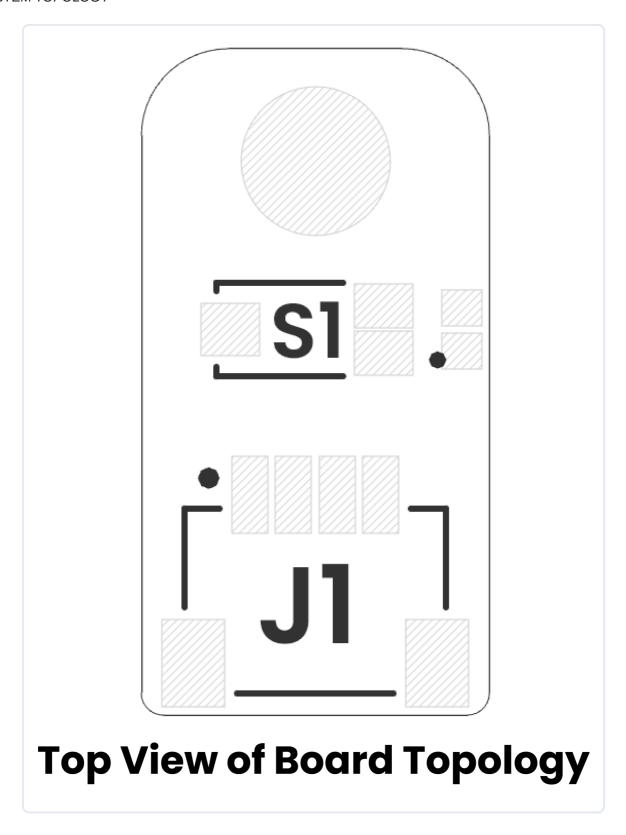
HARDWARE DOCUMENTATION

MECHANICAL DIMENSIONS



Physical dimensions and mounting specifications (measurements in millimeters)

SYSTEM TOPOLOGY

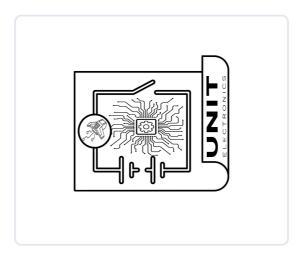


Connection topology and system integration diagram

Click image to open in full size

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

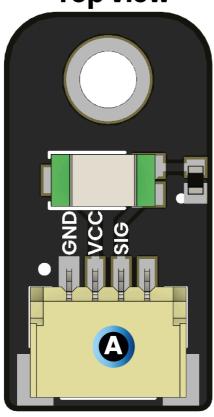
SIGNAL DESCRIPTION	
FUNCTION	NOTES
Power Supply	3.3V or 5V, depending on design
Ground	Common ground reference
Data Signal	Digital input/output signal
FUNCTION	NOTES
Power Supply	NOTES 3.3V or 5V, depending on design
Power Supply	3.3V or 5V, depending on design

PIN CONFIGURATION LAYOUT

Physical connector layout and pin positioning

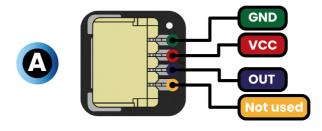
PINOUT

Top view



Bottom view





Description:







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

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