

VEML7700 ambient light sensor breakout

Adafruit · MPN 4162 · category: light-sensor

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ELECTRICAL

Shutdown current (typ): **0.5 μ A** · datasheet p.1

Operating current, 100 ms refresh, typ (μ A): **45** · datasheet p.2

Current in PSM mode 4, typ (μ A): **2** · datasheet p.2

Power saving modes (PSM): **Yes** · datasheet p.9

3.3V regulator + level shifter on board: **Yes** · vendor page

Logic compatibility (breakout): **3.3V or 5V power/logic** · vendor page

PERFORMANCE

Detection range: **0 lx to about 140 klx** · datasheet p.1

Resolution: **0.0042 lx/ct** · datasheet p.1

Dynamic range: **16-bit** · datasheet p.1

Flicker noise rejection: **100 Hz and 120 Hz** · datasheet p.1

Max ALS integration time: **800 ms** · datasheet p.2

Min ALS integration time: **25 ms** · datasheet p.2

White channel output: **Yes** · datasheet p.8

INTERFACE

I2C slave address: **0x10** · datasheet p.6

I2C H-level range: **1.3–3.6 V** · datasheet p.6

I2C clock range: **10–400 kHz** · datasheet p.6

Device ID code: **0x81** · datasheet p.9

Interrupt pin: **No** · datasheet p.7

STEMMA QT / Qwiic connectors: **Yes** · vendor page

I2C pull-up resistors (board): **4.7K** · vendor page

MECHANICAL

Package dimensions, L x W x H (mm): **6.8 x 2.35 x 3.0** · datasheet p.1

ENVIRONMENT

Floor life: **72 h** · datasheet p.1

Moisture sensitivity level: **MSL 4** · datasheet p.1

GENERAL

Supply (bare IC): **2.5–3.6 V** · datasheet p.1

Interface: **I2C** · datasheet p.1

INDICATIVE PRICES

Adafruit: \$4.95 USD · as of 2026-08-22 · <https://www.adafruit.com/product/4162>

Prices are indicative and dated, captured only from vendors' machine-stated markup. Availability is never claimed.

SOURCES — THE AUTHORITATIVE DOCUMENTS

Vishay VEML7700 datasheet: <https://www.vishay.com/docs/84286/veml7700.pdf>

sha-256 f338cf7d5911828a2f2ac8ae8324049380c852e34aa5afa43ac92c98ffe827d1

Adafruit product page: <https://www.adafruit.com/product/4162>

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