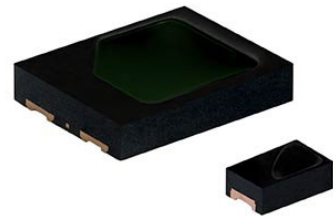


AEC-Q102 Qualified Ambient Light Sensors Deliver Accurate Visible Light Measurement with no IR Bump, Feature Spectral Sensitivity Matched to Human Eye and Improved Spectral Angular Performance in Compact 0805 and Top-View QFN Packages

Product Benefits:

- Spectral sensitivity closely matched to the human eye response
- Improved spectral angular performance
- No infrared (IR) bump
- Peak wavelength of 530 nm
- AEC-Q102 qualified
- Available in compact 0805 and top-view QFN packages, with radiant sensitive areas of 0.42 mm² and 7.5 mm², respectively
- Low typical reverse light current down to 0.014 μA
- Wettable flanks for optical solder joint inspection
- Moisture sensitivity level (MSL) of 4 in accordance with J-STD-020 for a floor life of 72 hours
- Support lead (Pb)-free reflow soldering
- Operate over an ambient temperature range of -40 °C to +110 °C
- RoHS-compliant, halogen-free, and Vishay Green



Market Applications:

- Automotive applications including automatic light control in center information displays (CID), head-up displays (HUD), and rain light tunnel (RLT) systems, as well as backlight dimming in industrial equipment

The News:

Vishay Intertechnology expands its optoelectronics portfolio with the introduction of two Automotive Grade PIN photodiode ambient light sensors that deliver enhanced optical accuracy and long term reliability in harsh environments. AEC-Q102 qualified, the Vishay Semiconductors VEMD4210FX02 and VEMD5525FX02 feature spectral sensitivity closely matched to the human eye response — with a peak wavelength of 530 nm — and no IR bump.

- By eliminating the IR bump in the spectral sensitivity curve, the sensors ensure precise visible light measurement without unwanted IR influence
- The devices' superior angular characteristics ensure stable spectral accuracy — regardless of the angle of incoming lighting — for consistent and reliable light measurement performance
- For space-constrained applications, the VEMD4210FX02 offers typical reverse light current of 0.014 μA and a sensitivity range from 470 nm to 610 nm in a compact 0805 package with a radiant sensitive area of just 0.42 mm²



- For applications requiring enhanced sensitivity — particularly in low light conditions — the VEMD5525FX02 offers a reverse light current of 0.11 μA and a sensitivity range from 480 nm to 590 nm in a top-view QFN package with a large 7.5 mm² radiant sensitive area

The Key Specifications:

Part number	VEMD4210FX02	VEMD5525FX02
Typical reverse light current at $E_v = 100 \text{ lx}$ (μA)	0.014	0.11
Angle of half sensitivity ($^\circ$)	± 52	± 58
Range of spectral bandwidth (nm)	470 to 610	480 to 590
Wavelength of peak sensitivity (nm)	530	530
Package	0805	Top-view QFN
Dimensions (mm)	2.0 x 1.25 x 0.7	5.0 x 4.0 x 0.9
Radiant sensitive area (mm ²)	0.42	7.5

Availability:

Samples and production quantities of the new ambient light sensors are available now, with lead times of eight weeks.

To access the product datasheets on the Vishay Website, go to

<http://www.vishay.com/ppg?80537> (VEMD4210FX02)

<http://www.vishay.com/ppg?80560> (VEMD5525FX02)

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