Product Overview

RDM 1X16 SIPM ARRAY: NIR-enhanced for LiDAR Applications, Automotive Qualified

For complete documentation, see the data sheet.

The Silicon Photomultiplier (SiPM) is a high gain, single photon-sensitive sensor used for detection of visible to NIR wavelengths. The ArrayRDM-0116A10-DFN is a monolithic 1 × 16 array of SiPM pixels based on our market-leading RDM SiPM CMOS process. The RDM process has been specifically developed to create products that achieve high PDE (photon detection efficiency) at the NIR wavelengths of 905/940nm which are typically used for LiDAR and 3D dToF ranging applications.

The array is packaged in a robust DFN package that gives access to the 16 individual pixels via either the standard (cathode) or fast outputs. In order to meet the requirements for automotive LiDAR applications, this product will be qualified to the AEC-Q102 standard and has been developed in accordance with IATF 16949. An evaluation board (ArrayRDM-0116A10-GEVB) is also available for this product.

It is recommended that those new to SiPM sensors consult the Introduction to Silicon Photomultipliers application note.

Note: Automotive qualification and PPAP in process. Contact sales for additional information.

Features

- High gain and detection efficiency
- Automotive qualified
- 1 x 16 pixel array format
- PDE of 16% at 905 nm
- Unique fast output
- <50 V bias supply
- 0.17 mm × 0.49 mm pixel size
- DFN package (12 mm x 3 mm)

Benefits

- Responsivity >100 kA/W @ 905 nm
- AEC-Q102 and developed in accordance with IATF 16949
- Ideal for LiDAR applications using either mechanical or MEMs
- Market leading sensitivity to enable detection of LiDAR return signals from low reflectivity objects at long range
- Ultra-fast rise times and pulse widths
- Simplifies biasing circuitry

Applications

- 3D Ranging & Sensing
- Automotive LiDAR
- Industrial LiDAR
- Consumer 3D imaging
- Robotics

End Products

- Scanning LiDAR systems

For more information please contact your local sales support at www.onsemi.com.

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