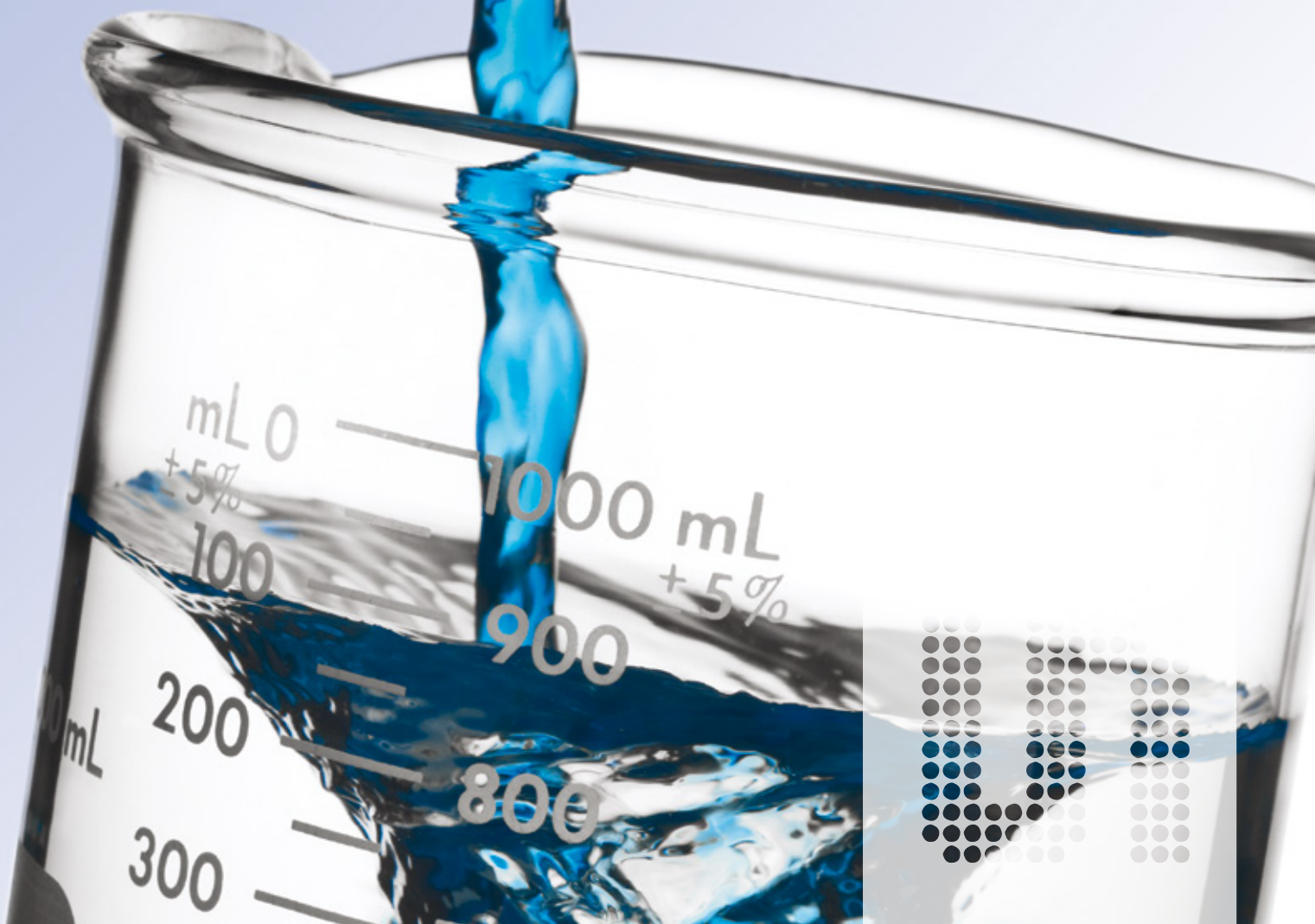


# Product Document

# Spectral\_ID a new class of Spectral Sensing Products

[www.ams.com](http://www.ams.com)



## **AS7261 – Integrated XYZ Color Sensor with IR detector**

- XYZ filters and an IR channel, plus clear and dark channels
- Selectable smart interface (UART) with AT commands or standard I<sup>2</sup>C interface for sensor buses
- Integrated LED drivers form an electronic shutter and directly control an LED based light source

We provide innovative analog solutions to the most challenging applications in sensor and sensor interfaces, power management, and wireless.

## General Description

AS7261 is a highly integrated, typically six channel color sensor with CIE standard XYZ Color filters which mimic the human eye response plus IR, clear and dark channels to allow determination of lighting type and environmental IR radiation. This allows designers to cost effectively sense spectral information in specific human eye type visible bands simultaneously along with overall radiation detection in the visible and IR bands thus reducing component count, physical space and BOM costs in color sensing applications. The additional channels outside the XYZ filters are typical filter examples and these filter characteristics can be adjusted to meet customer requirements.

This device is ideal for sensing at Calibrated Color Temperature, Ambient Light, CIE 1931 Color Coordinates. Applications in display management, consumer and commercial printing, and reflective color perception are all served by the AS7261.

The device comes with either a driverless smart interface (UART) for easy configuration with a wireless interface or standard I<sup>2</sup>C sensor interface. There are integrated PWM outputs to control external LED driver which can be synchronized to the system to form an electronic shutter.

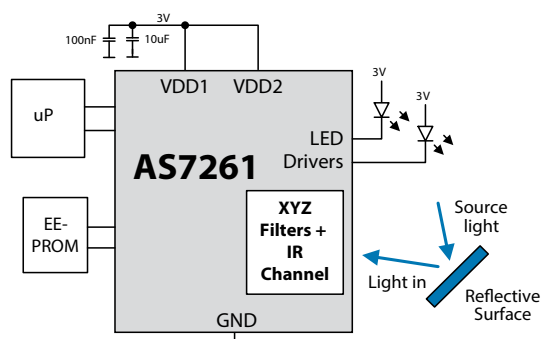
### Benefits

- Integrated nano-optic filters directly deposited on standard CMOS silicon
- UART version does not require a software driver, ease of programming or standard Sensor Interface
- Electronic shutter directly tied to the system clock reduce BOM costs for integrated light source control
- Commercial operating temp range

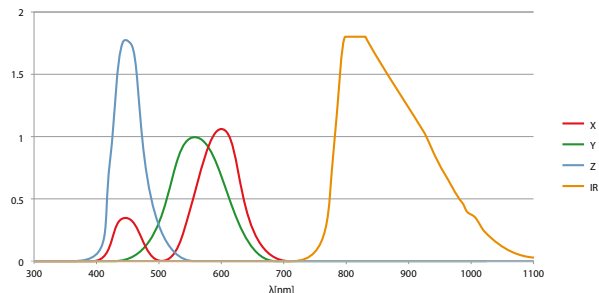
### Features

- XYZ filters and an IR channel, plus clear and dark channels
- Selectable smart interface (UART) with AT commands or standard I<sup>2</sup>C interface for sensor buses
- Integrated LED drivers form an electronic shutter and directly control an LED based light source
- 0°C to +85°C
- Packaging options
- 20 pin LGA package w/aperture

### Block Diagram



### Spectral Responsivity



### Applications

This device is optimized for detecting wavelengths in the visible wavelengths of the electromagnetic spectrum from 400-700nm + an IR Channels. White point or balance along with color measurement, absorbance, irradiance, reflectance, transmittance techniques are well suited to this device. Light source characterization is also possible.