

# Product Document



# XYZ True Color Sensor solution for high end display and lighting applications

[www.ams.com/Color-Sensors](http://www.ams.com/Color-Sensors)



## **AS73211 – JENCOLOR® XYZ True Color Sensor with 24 Bit ADC inside**

- Highest dynamic range on market
- High sensitiveness due to large detector area
- Smooth filter curves due to filter on glass technology
- High temperature stability up to 125°C

**Sensing  
is life.**

## General Description

The AS73211 is a True Color Sensor IC with I<sup>2</sup>C interface for relative and absolute color measurements and control. The combination of True Color XYZ sensitized photodiodes with a filter function based on the standard CIE 1931/DIN 5033 (human eye perception) and used interference filter technology as leading and most accurate technology of three-range sensors makes the AS73211 more accurate than RGB sensors guarantee this function without spectral changings over lifetime.

The AS73211 is designed with a high dynamic range to measure any light in the visible range (VIS) in environments from sunlight to dark rooms, dimmed LEDs, or dark colored monitors. The programmable gains with the option of synchronization allows the user

## Benefits

- No aging or drifts of the filter due to JENCOLOR® filter technology
- High dynamic range for high brightness and low lighting conditions
- -40°C up to 125°C temperature range
- Detector and converter on chip
- Temperature compensation on chip

## Features

- JENCOLOR® interference filter technology on glass
- based on CIE 1931/ DIN 5033
- Dynamic range 250M:1 (16...24 Bit ADC)
- Sensitivity up to 2.1m counts/( $\mu\text{W}/\text{cm}^2$ )
- Smallest LSB 0.5 pW/cm<sup>2</sup>
- Low power operation, Power on Reset, Power down and standby
- Synchronization via external devices possible
- Small package QFN 16
- 16 Bit  $^{\circ}\text{C}$  output

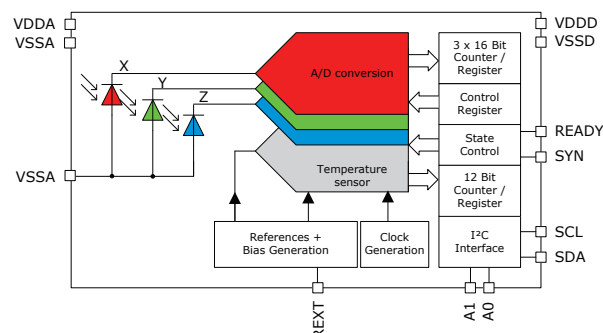
## Applications

- (O)LED display control, white balancing and dynamic display color balancing
- Aviation lighting: cabin & ambient lighting management
- Digital light projection (DLP)
- Fluid & water monitoring

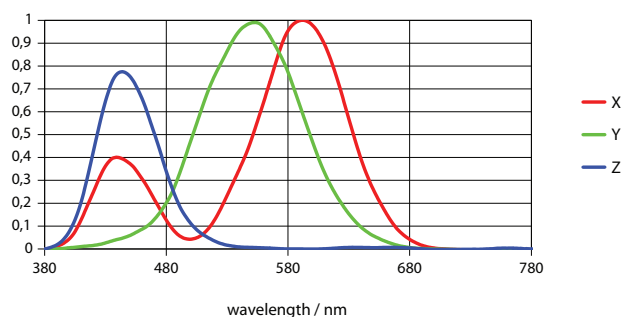
to optimize the sensitivity and match the requirements in a huge range of input light intensity for specific applications, timings and interrupts.

The integrated programmable Light-to-Digital converter with 10 - 24 bit ADC (output 16 bit via shifter) resolution provides an accurate XYZ (calculable e.g. to xyY) spectral response to measure and control colors, color temperatures, color brightness or color drifts. Based on the QFN16 package and the special JENCOLOR® interference filter technology, the AS73211 is long-term stable over the entire product lifetime and resistant to external influences such as temperature drifts and light energy.

## Block Diagram



## Spectral Responsibility



JENCOLOR® is a registered trademark

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