

AS7341 – 11-Channel Spectral Color Sensor

11-channel spectrometer for spectral identification and color matching applications

Features

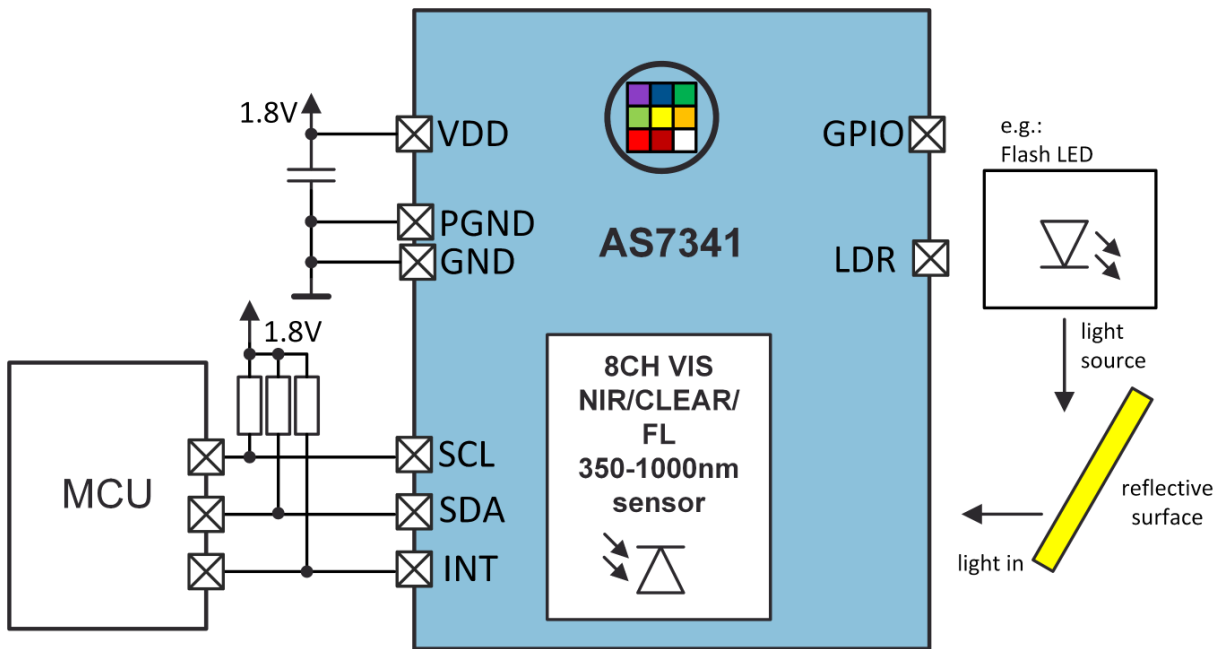
- 8 optical channels distributed over the visible range
- 3 extra channels: Clear, Flicker and NIR channel
- 6 parallel ADCs for signal processing
- Ultra-low-profile package 3.1mm x 2mm x 1mm

Benefits

- Spectral information enables highly accurate object color measurements
- Detection and rejection of environmental influences such as light sources
- Optimized channel count and signal processing for fast measurements
- Mobile phone compatible package

Product parameters

Sensor Type	Multi Spectral Sensor
Application(s)	Spectral measurement, ambient light measurement, color measurement, display management
I/O	I ² C
Package	OLGA-8
Size [mm]	3.1 x 2 x 1
Supply Voltage [V]	1.8
Temperature Range [°C]	-30 to 70



General Description

AS7341 is an 11-channel spectrometer for spectral identification and color matching applications used in mobile devices. The spectral response is defined in the wavelengths from approximately 350nm to 1000nm. 6 channels can be processed in parallel by independent ADCs while the other channels are accessible via a multiplexer. 8 optical channels cover the visible spectrum, one channel can be used to measure near infra-red light and one channel is a photo diode without filter ("clear"). The device also integrates a dedicated channel to detect 50Hz or 60Hz ambient light flicker. The flicker detection engine can also buffer data for calculating other flicker frequencies externally. The NIR channel in combination with the other VIS channel may provide information of surrounding ambient light conditions (light source detection). The device can also be synchronized to external signals via pin GPIO.

AS7341 integrates filters into standard CMOS silicon via Nano-optic deposited interference filter technology and its package provides a built in aperture to control the light entering the sensor array.

Control and Spectral data access is implemented through a serial I²C interface. The device is available in an ultra-low profile package with dimensions of 3.1 mm x 2mm x 1 mm.