Intelligent light sensors high sensitivity, flexibility for display and non-display applications

ams AG introduced a digital light sensor family that offers low-light sensitivity down to 0.000377 lux. Offering a wide 600M:1 dynamic range up to 88,000 lux (bright sunlight), the company asserts the TSL2591 device family increases design flexibility and offers engineers new levels of performance in ambient light sensors for displays, as well as for a wide range of non-display applications. Its ultra-high sensitivity and wide dynamic range mean that it can deliver accurate and meaningful measurements even when exposed to extremely low light levels. This gives the designer the freedom to place the sensor away from the direct path of the light it is measuring and behind a wider variety of darkened glass or attenuating materials. For display applications, the light sensor TSL2591 device family uses a patented dual-photodiode architecture that provides extremely accurate ambient light measurements even when placed behind material attenuating as much as 99 percent of the visible light while automatically compensating for the increased IR component. This enables a photopic response to ambient light intensity that mimics the human eye. The device family also provides an interrupt feature that simplifies and improves system efficiency by eliminating the need to poll a sensor for a light intensity value. The primary purpose of the interrupt function is to detect a meaningful change in light intensity. Meaningful change can be defined by the user in terms of light intensity and time, or the persistence of a change in intensity.

ams, www.ams.com [1]

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