



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Light-to-Digital Device Family

www.ams.com/TSL2540



TSL2540 – Ambient Light Sensor Family

- Very high sensitivity behind spectrally distorting materials
- Provides near photopic responsiveness while allowing lux calculation regardless of glass type
- Wide dynamic range enables dark room to sunlight operation

**Sensing
is life.**

General Description

The TSL2540 is a very-high sensitivity light-to-digital converter that approximates the human eye response to light intensity under varying lighting conditions and transforms this light intensity to a digital signal output capable through a 1.8V I²C interface. The ALS sensor features two output channels, a visible channel and an IR channel. The visible channel has a photodiode with a photopic Interferometric UV and IR

blocking filter and the IR channel has a photodiode with an IR pass filter. Each channel has a dedicated integrating data converter which converts photodiode current into a 16-bit digital output. This digital output can be interfaced with a microprocessor where illuminance in lux is derived to accurately measure ambient light to control a displays backlight.

Applications

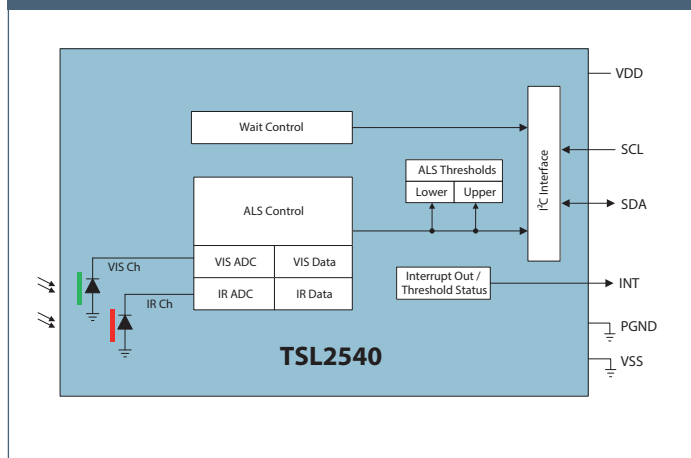
- Digital home assistants
- Smartwatch wearables
- Display backlight control
- Tablets
- Smartphones
- Medical diagnostics

Features

- Integrated on-chip photopic filter
- Programmable analog gain and integration time
- 0.18µm process technology with 1.8V I²C
- 1M:1 Dynamic Range
- Automatic AUTO Zero/Dark Count control
- 5.0 µA Sleep State
- I²C fast-mode compatible interface
 - Data Rates up to 400 kbit/s
- 2.0 mm x 2.0 mm x 0.5mm OQFN package

Device	Package	I ² C Interface		Ordering Number
		Address	Bus Voltage	
TSL2540	OQFN	0X39	1.8V	TSL25403

TSL2540 Block Diagram



TSL2540 Spectral Responsivity

