AMI Semiconductor

AMIS-74980x Ambient Light Sensor

Key Features

- Small, integrated solution
- Approximates human eye response
- Reports multi-level ambient light intensity
- Flexible design
 - Large dynamic range
 - User programmable integration time
 - Analog output options
 - Digital output options (16-bits): SMBus, I²C
- Programmable based on application
- Low power design
- Flicker filtering (fluorescent 50Hz 60Hz)
- Standard CMOS process technology
- Single, two or tri-color (second generation) diode sensors for different accuracies

Product Description

The AMIS-74980x is a wide dynamic range light sensor with an analog or digital output. There are several versions of the analog output; one with 1uA current output at 1000lux all the way to 1mA at 1000lux. The digital output version has a built-in 16-bit ADC with a 2wire SMBus or I²C digital interface. The sensor employs AMI Semiconductor's proprietary CMOS image sensing technology which provides low noise and high dynamic range output signals and a light response similar to the response of the human eye.

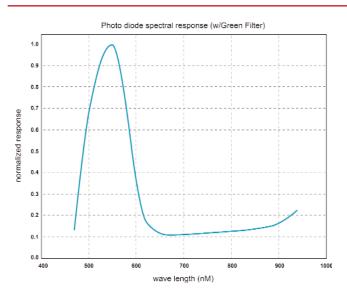
Pbient LIGHT

Application Information

The AMIS-74980x is primarily used in ambient light detection applications, such as a displays back control, where adjustments are made to display brightness or contrast based on the brightness of the ambient light, as perceived by the human eye. Conventional SI detectors

respond too strongly to infrared light - a large component of incandescent lighting - preventing natural human eye response. The AMIS-74980x effectively filters infrared light through proprietary techniques providing human eye response.

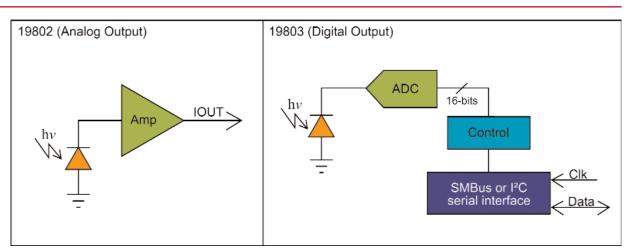
Spectral Responses





Sheet4U.com

www.DataSheet4U.com



Typical Applications

- PDA and handheld displays
- Cellular phone displays
- LCD monitors
- TV screens
- Large format LED displays

Terminal Functions

Analog output:

Name	Pin #	Туре	Description
GND	1		Power supply ground. All voltages are referenced to GND.
Data	3	0	Current output
Vdd	2		Supply voltage

www.DataSheet4U.com

Operating Characteristics

Analog output:

	Typical	Units
Supply voltage	3.3V ± 10%	V
Operating temperature	0 - 70°	С
Output current at: Ev = 1000lux, $\lambda p = 550$ nm	10, 100, 250, 500, or 1000	uA
Dark current at: Ev = Olux, Temp = 25°C	0.12	nA

• Automotive

- In-car entertainment systems (video)
- GPS displays
- Headlamps
- Rearview mirrors
- Dashboards

Digital (SMBus or I²C) output:

Name	Pin #	Туре	Description	
GND	4		Power supply ground. All voltages are referenced to GND.	
CLK	5	I	Serial clock input terminal - clock signal for I ² C or SMBus serial data	
Data	8	Ю	Serial data IO terminal - serial IO I ² C or SMBus serial data	
Vdd	1		Supply voltage	

Digital (SMBus or I²C) output:

	Typical	Units			
Supply voltage	3.3V ± 10%	V			
Operating temperature	0 - 70°	С			
Operating frequency	10 - 100 or up to 400kHz (I ² C)	kHz			
Active current	0.35	mA			
Output counts at: Ev = 1000lux, $\lambda p = 550nm$	65536	counts			
Output counts at: Ev = 0lux, Temp = 25°C	1	counts			

Contact your local sales office at www.amis.com/sales for more information.

AMI Semiconductor

www.amis.com

Devices sold by AMIS are covered by the warranty and patent indemnification provisions appearing in its Terms of Sale only. AMIS makes no warranty, express, statutory, implied or by description, regarding the information set forth herein or regarding the freedom of the described devices from patent infringement. AMIS makes no warranty of merchantability or fitness for any purposes. AMIS reserves the right to discontinue production and change specifications and prices at any time and without notice. AMI Semiconductor's products are intended for use in commercial applications. Applications requiring extended temperature range, unusual environmental requirements, or high reliability applications. Such as military, medical life-support or life-sustaining equipment, are specifically not recommended without additional processing by AMIS for such applications. Copyright @2006 AMI Semiconductor, Inc. M-20558-001, FO



S-74980X Ambient Light Sensor Feature She