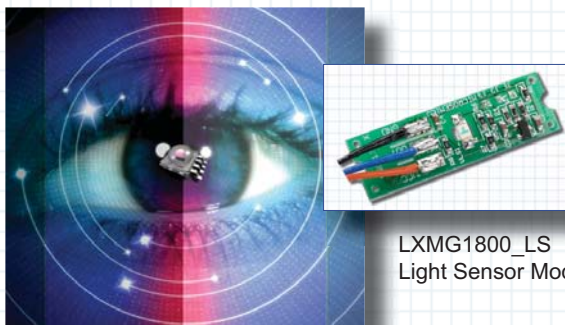


Visible Light Sensors • Visible Light Sensors

Visible Light Sensor Selection Guide

Part Number Package	Useful Light Range (Lux)	Light Output Function	Output Topology	Input Supply Range	Output Current @ 100 Lux	Properties / Applications
LX1980 MSOP-8 (Lens) NEW! <i>Contact Factory for Availability</i>	10 - 1000	RGB Linear	Output Voltage per Red, Green, Blue	3.0V - 3.6V	N/A	High Accuracy, Temperature compensated. RGB displays, Architectural Solid State Lighting.
LX1977 MSOP-8 (Lens) NEW!	0 - 500 0 - 1000 0 - 2500 0 - 5000	Linear	Serial data stream using I2C compatible SMBus interface. Programmable Interrupt pin support.	3.0V - 4.5V	N/A	Human eye spectral response, +/-5% accuracy, 12b ADC, 50/60Hz interference rejection, programmable integration time and gain.
LX1973B MSOP-8 (Lens)	.005 - 400	Quarter Root	Current Source vs. Light	4.5V - 5.5V	410µA	High precision in low lighting. Includes <i>Best Eye™</i> for superior IR and UV immunity. 60% dark current reduction over the LX1973A.
LX1973A MSOP-8	.01 - 500	Quarter Root	Current Source vs. Light	4.5V - 5.5V	360µA	High precision in low lighting. Includes <i>Best Eye™</i> for superior IR and UV immunity.
LX1973 MSOP-8	.01 - 500	Quarter Root	Current Source vs. Light	4.5V - 5.5V	380µA	High precision in ultra low lighting conditions. Internal dark current cancellation.
LX1972A 1206	< 1 - 5K	Linear	Two Terminal Current Source vs. Light	2V - 5.5V	~10µA	Patented <i>Best Eye™</i> technology provides near perfect immunity to non visible light spectra. Applications demanding superior IR and UV immunity.
LX1974 1206	< 1 - 5K	Linear	Two Terminal Current Source vs. Light	2V - 5.5V	~10µA	Same as LX1972, but with tape-and-reel orientation for bottom light applications.
LX1972 1206	< 1 - 5K	Linear	Two Terminal Current Source vs. Light	2V - 5.5V	~10µA	Low cost, small size, high performance general purpose "human eye" response sensor. Packaged for top light applications.
LX1971 MSOP-8	< 1 - 15K	Square Root	Current Sink and Current Source vs. Light	3V - 5.5V	~10µA	Wide dynamic range with extreme sensitivity at low ambient light conditions.
LX1970 MSOP-8	< 1 - 1.2K	Linear	Current Sink and Current Source vs. Light	2V - 5.5V	~38µA	General purpose sensor for illumination and display control applications.

LX1980™ RGB Light Sensor



LXMG1800_LS
Light Sensor Module

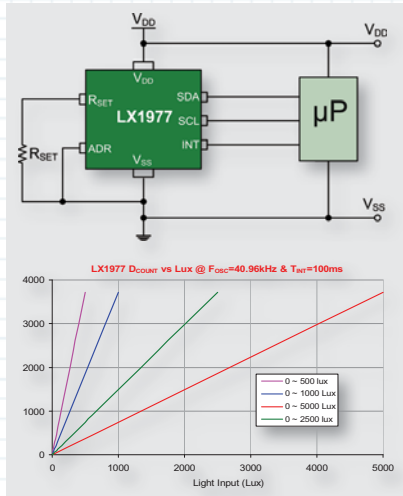
The LX1980 combines three sensors (red, green, blue) in a single IC and offers superior spectral response. It is optimized for RGB LCD backlighting and color sensing systems.

Key Features

- Well shaped spectral response
- Highly accurate & repeatable output voltage vs. input irradiance
- Temperature stable
- Integrated high gain amplifiers
- Adjustable output to input gain

Visible Light Sensors

LX1977™



- Ideal for TVs to improve efficiency and provide Energy Star compliance
- Ideal for notebooks to extend battery life
- Superior performance
- Flexible and easy to use
 - BiC accuracy improves manufacturability and reduces cost
 - Stability over wide temperature range and supply
 - Low IR sensitivity for consistent operation and reduced service costs
 - User settable Integration time for optimal performance/application
 - Wide supply and temp range support
 - Programmable integration time
 - Programmable Interrupt
 - SMBUS interfacing



LX1973™ / LX1973B™

The LX1973 and LX1973A are wide dynamic range light sensors with a very low dark current that are optimized for sensing low level light signals that typically occur under dark or darkening outdoor ambient lighting making them an ideal solution for automotive systems such as headlamp brightness control or rear view mirror contrast control.

The spectral response of the integrated light sensor closely emulates the human eye so it ignores light such as infrared which emits energy but doesn't aid vision. This eliminates the need for an Infrared filter required with competitor light sensors.

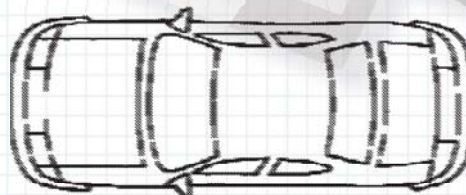
Key Features

- Ideal for TVs to improve efficiency and provide Energy Star compliance
- Ideal for notebooks to extend battery life
- 25C Dark Current < 0.005 lux
- 5 decades compressed output
- 10% accuracy over temperature
- Scalable output voltage
- No optical filters needed

Applications

- Outdoor lighting control
- Automotive lighting control -headlamp, mirrors, displays
- Indoor lighting control for architecture, lighting, appliances
- Consumer electronic displays
- LCD-TV
- Digital cameras

**Perfect for
Automotive
Applications**



Visible Light Sensors • Visible Light Sensors

The LX1972 and the LX1972A are low cost silicon light sensors with spectral response that closely emulates the human eye.

The LX1972A provides improved spectral response using Microsemi's BestEye™ technology.

Patented circuitry produces peak spectral response at 520nm, with IR response less than $\pm 5\%$ of the peak response, about 900nm.

The photo sensor is a pin diode array with a linear, accurate, and very repeat-able current transfer function.

High gain current mirrors on the chips multiply the PIN diode photo-current to a sensitivity level that can be volt-age scaled with a standard value external resistor. Output current from these simple to use two-pin devices can be used directly or converted to a voltage by placing it in series with a single resistor at either of its two pins.

Internal temperature compensation allows dark current to be kept below 200nA over the full specification temperature range (-40°C to +85°C) providing high accuracy at low light levels. Usable ambient light conditions range is from 1 lux to more than 5000 lux.

The LX1972 and LX1972A are optimized for controlling back lighting systems in low cost consumer products such as LCD TV, portable computers, and digital cameras.

Key Features

- Near Human Eye spectral response - LX1972
- Nearly perfect Best Eye™ human eye spectral response - LX1972A
- Very Low IR sensitivity
- Highly accurate & repeatable Output Current vs. Light
- Scalable output voltage
- Temperature stable
- Integrated high gain photo current amplifiers
- No optical filters needed
- Tiny 1206 package
- RoHS Compliant / Pb-free applications
- Portable electronic displays
- LCD TV backlight systems
- Digital still cameras (DCS)
- Desktop monitors
- Notebook computers

LX1972™ LX1972A™

