

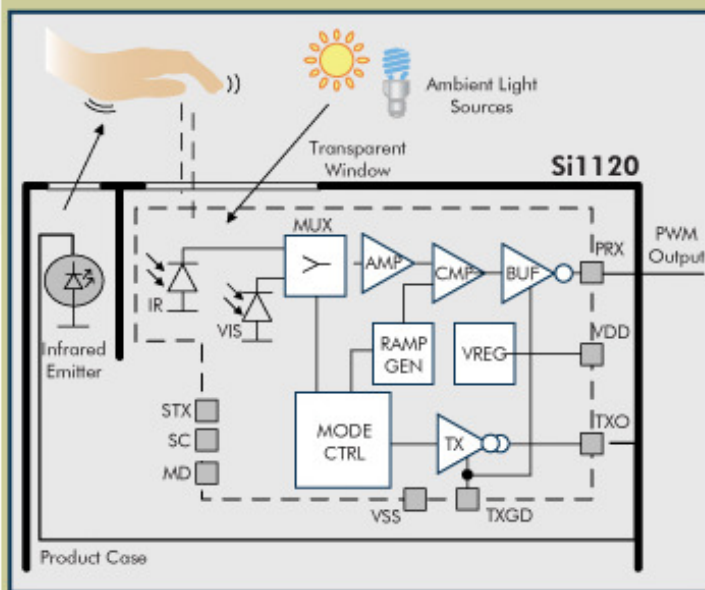
QuickSense™ Si1120 Proximity and Ambient Light Sensor ICs

The QuickSense Si1120 is the industry's most sensitive active infrared proximity sensor IC enabling innovative touchless human interface applications with ultra-low power advantages. Comprised of an infrared LED driver, an infrared photodiode, an ambient light sensor and control logic, the device is packaged in a 3x3 mm clear DFN. The high sensitivity infrared photodiode provides a single-pulse infrared proximity measurement offering customers an opportunity to implement infrared light emitting diodes with unusually low power levels. When combined with a Silicon Labs microcontroller (MCU), the Si1120 proximity and ambient light sensor IC is capable of advanced motion and gesture recognition.



The Si1120 proximity and ambient light sensor IC is supported within the [QuickSense Development Studio](#).

Block Diagram



Features

- PWM output
- Ambient light sensor
- Seven precision optical measurement modes:
 - 3 proximity ranges
 - 3 dc ambient light sensing ranges
 - 1 calibration mode
- Low-noise ambient cancelling circuit allows maximum sensitivity with 8–12 bit resolution
- Works in direct sunlight (100 klux)
- Minimum reflectance sensitivity <math><1 \mu\text{W}/\text{cm}^2</math>
- High EMI immunity without shielded packaging
- Power supply: 2.2–3.7 V
- Operating temperature range: –40 to +85 °C
- Typical 10 μA current consumption
- Programmable 400/50 mA LED constant current driver output
- Allows independent LED supply voltage

Applications

- Touch screens
- Instrumentation panels
- Kiosks
- Gaming systems
- Industrial interface
- Security
- Smoke detectors
- Residential HVAC
- Home appliances
- Toys
- Keyboards
- Fax/printer/scanner front panels

Product Matrix

Part Number	Infrared Range	Ambient Light Sensor	Output Type	Package	Development Kit
Si1120-A-GM	50 cm	Yes	PWM	3 x3 mm ODFN8	Si1120EK