

Descriptions

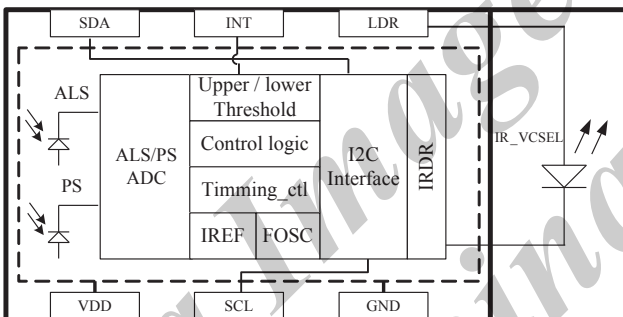
AP314A is a module integrated with a digital ambient light sensor [ALS], a proximity sensor [PS], and an IR VCSEL in a single package.

This device provides a multiple gain ALS function with linear response over various dynamic ranges 1024 / 4096 / 16384 / 65535 Lux and is well suited for applications under clear or darkened glass.

The proximity function is specifically targeted towards near field application and detects external object with simple configurable zone, controlled by registers. With multiple proximity gain control, multiple IR VCSEL current control and 10-bit ADC output, this device is designed specially to fix low reflection objects, such as black hair.

The device supports an interrupt feature to improve system efficiency and several features that help to minimize the occurrence of false triggering. Through internal calibration and CMOS design, the AP314A is designed to minimize device-to-device variations for ease of manufacturability.

Function Block Diagram



Features

- I²C interface (Fast Speed mode at 400k Hz)
- Mode Select: Ambient Light Sensor (ALS), ALS+Proximity Sensor (PS)+IR, Power Down (PD), ALS once, Soft Reset.
- Built-in temperature compensation circuit
- Wide operating temperature range (-30°C to +80°C)
- Ambient Light Photo Sensor
 - 16-bit effective linear output (0~65535)
 - Direct output without calculating 2 Diode
 - 4 user selectable dynamic range
 - Anti-flicker rejection (reject 50/60Hz)
 - High sensitivity at darkened glass
 - Window loss compensation
- Proximity Detector
 - 10 bit effective linear output (0~1023)
 - High ambient light suppression
 - Cross talk compensation
 - Paired with 940nm IR VCSEL to avoid red light blinding
- Heartbeat Sensor (Optional)
- RoHS compliant

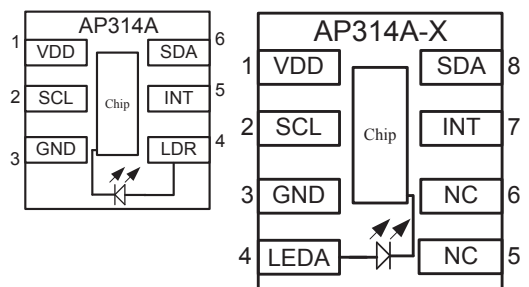
Applications

- Smart phone, Tablet PC, Wearable
- Personal Navigation Device
- Notebook/Ultrabook
- LCD/PDP TV backlight systems
- Digital Photo Frame
- Applications with Capacitive Touch Panel
- Heartbeat Sensor (Optional)

Ordering Information

Part No.	Packing Type	Package	Q'ty	Reel Size
AP314A		6Ld Chipled 3.2x2.0x0.7mm	2500	7"
AP314A-3.65	Tape and Reel (MSL3)	8Ld Chipled 4.35x2.50x3.65mm	1500	13"
AP314A-3.5Z		8Ld Chipled 3.6x2.4x3.5mm		
AP314A-2.8T		8Ld Chipled 4.54x2.96x2.8mm		

Pin Description



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