



# AK8975/AK8975C

## 3-axis Electronic Compass

### 1. Features

A 3-axis electronic compass IC with high sensitive Hall sensor technology.  
Best adapted to pedestrian city navigation use for cell phone and other portable appliance.

Functions:

- 3-axis magnetometer device suitable for compass application
- Built-in A to D Converter for magnetometer data out
- 13 bit data out for each 3 axis magnetic components
  - Sensitivity: 0.3  $\mu$ T / LSB typ.
- Serial interface
  - I<sup>2</sup>C bus interface.  
Standard mode and Fast mode compliant with Philips I<sup>2</sup>C specification Ver.2.1
  - 4-wire SPI
- Operation mode:  
Power-down mode, Single Measurement mode, Self test mode and Fuse access mode.
- DRDY function for measurement data ready
- Magnetic sensor overflow monitor function
- Built-in oscillator for internal clock source
- Power on Reset circuit
- Self test function with built-in internal magnetic source

Operating temperatures:

- -30°C to +85°C

Operating supply voltage:

- Analog power supply +2.4V to +3.6V
- Digital Interface supply +1.65V to analog power supply voltage.

Current consumption:

- Power-down: 10  $\mu$ A max.
- Measurement:
  - Average power consumption at 8 Hz repetition rate: 350  $\mu$ A typ.

Package:

AK8975	16-pin QFN package:	4.0 mm $\times$ 4.0 mm $\times$ 0.75 mm
AK8975C	14-pin WL-CSP (BGA):	2.0 mm $\times$ 2.0 mm $\times$ 0.6 mm

































































