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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# High Performance 6-Axis MEMS MotionTracking™ Device for Automotive Applications

## GENERAL DESCRIPTION

The IAM-20680 is a 6-axis MotionTracking device for Automotive applications that combines a 3-axis gyroscope, 3-axis accelerometer, and FSYNC for image stabilization functionality in a small 3x3x0.75mm (16-pin LGA) package.

- Large 4K-byte FIFO to reduce traffic on the serial bus interface, and reduce power consumption by allowing the system processor to burst read sensor data and then go into a low-power mode
- Gyroscope programmable FSR of  $\pm 250\text{dps}$ ,  $\pm 500\text{dps}$ ,  $\pm 1000\text{dps}$  and  $\pm 2000\text{dps}$
- Accelerometer with Programmable FSR of  $\pm 2g$ ,  $\pm 4g$ ,  $\pm 8g$  and  $\pm 16g$
- EIS FSYNC support
- Tested to meet AEC-Q100 Grade 3 qualification

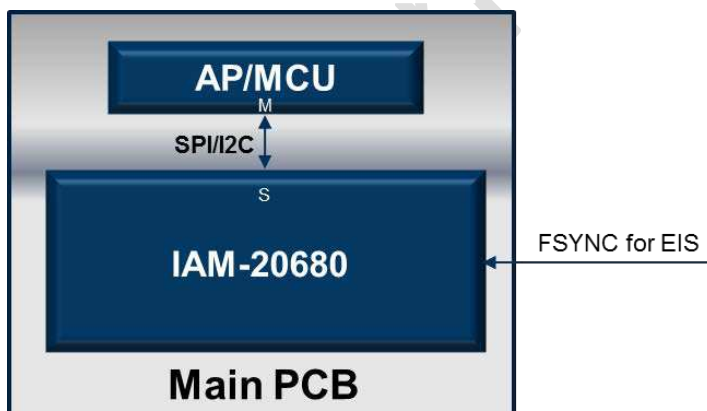
IAM-20680 includes on-chip 16-bit ADCs, programmable digital filters, an embedded temperature sensor, and programmable interrupts. The device features an operating voltage range down to 1.71V. Communication ports include I<sup>2</sup>C and high speed SPI at 8MHz.

## ORDERING INFORMATION

PART	TEMP RANGE	PACKAGE
IAM-20680†	-40°C to +85°C	16-Pin LGA

†Denotes RoHS and Green-Compliant Package

## BLOCK DIAGRAM



## APPLICATIONS

- Navigation Systems Aids for Dead Reckoning
- 360° View Camera Stabilization
- Accurate Location for Vehicle to Vehicle and Vehicle to Infrastructure communication
- Accurate location for e911 call
- Theft detection
- Lift Gate Motion Detection

## FEATURES

- User-programmable interrupts
- Wake-on-motion interrupt for low power operation of applications processor
- 4K-byte FIFO buffer enables the applications processor to read the data in bursts
- On-Chip 16-bit ADCs and Programmable Filters
- Host interface: 8MHz SPI or 400kHz Fast Mode I2C
- Digital-output temperature sensor
- VDD operating range of 1.71 to 3.45V
- MEMS structure hermetically sealed and bonded at wafer level
- RoHS and Green compliant
- Tested to meet AEC-Q100 Grade 3 qualification

## TYPICAL OPERATING CIRCUIT

