
Sensor Hub Product Brief

Product Features

- High Performance 32-bit Embedded Controller
- Low power ~4mA in active mode
- System in deep sleep consumes 0.26mA
- 3.3-Volt I/O
- Package
 - 6mm x 6mm body, 84-TFBGA

Sensor Firmware

- Sensor fusion firmware is licensed from Bosch or Movea. Common features include:
 - Self-contained 9-axis sensor fusion
 - Sensor data pass-through
 - Fast in-use background calibration of all sensors and calibration monitor
 - Magnetic immunity: Enhanced magnetic distortion, detection and suppression
 - Gyroscope drift cancellation
 - Ambient Light Sensor Support
- Windows 8/8.1 certification (HID over I²C)
- Easy to implement complete turnkey sensor fusion solution
- Sensor power management
- Sensor agnostic
- Refer to Bosch and Movea sensor fusion firmware addendums for additional sensor fusion details and supported sensors

Hardware Features

The hardware features in the SSC7102 device include the following:

- Two SMB/I²C Controllers
 - Supports I²C bus speeds to 400kHz
 - Multi-master Capable
 - Supports Clock Stretching
- Windows 8 HID over I²C Support
- LPC Interface
 - HID over LPC Support
- Low Power Modes

Target Markets

- PCs: Ultrabooks and 2-in-1 Convertibles
- Mobile: Tablets, Smartphones
- Remote Controls, Gaming
- Fitness Monitoring

Description

The SSC7102 sensor fusion hub is a Windows 8.1 certified, HID over I²C, low-power, flexible, turnkey solution. SSC7102 makes implementing sensor fusion easy for ultrabooks, tablets, and smartphones. Microchip partnered with multiple industry-leading sensor manufacturers and sensor-fusion specialists to create this solution, enabling faster time to market without the need for sensor-fusion expertise. The SSC7102 is extremely efficient. It consumes ~4mA while running complex sensor-fusion algorithms, resulting in longer battery life for Windows 8.1 tablet, laptop, ultrabook, and smart phone applications.

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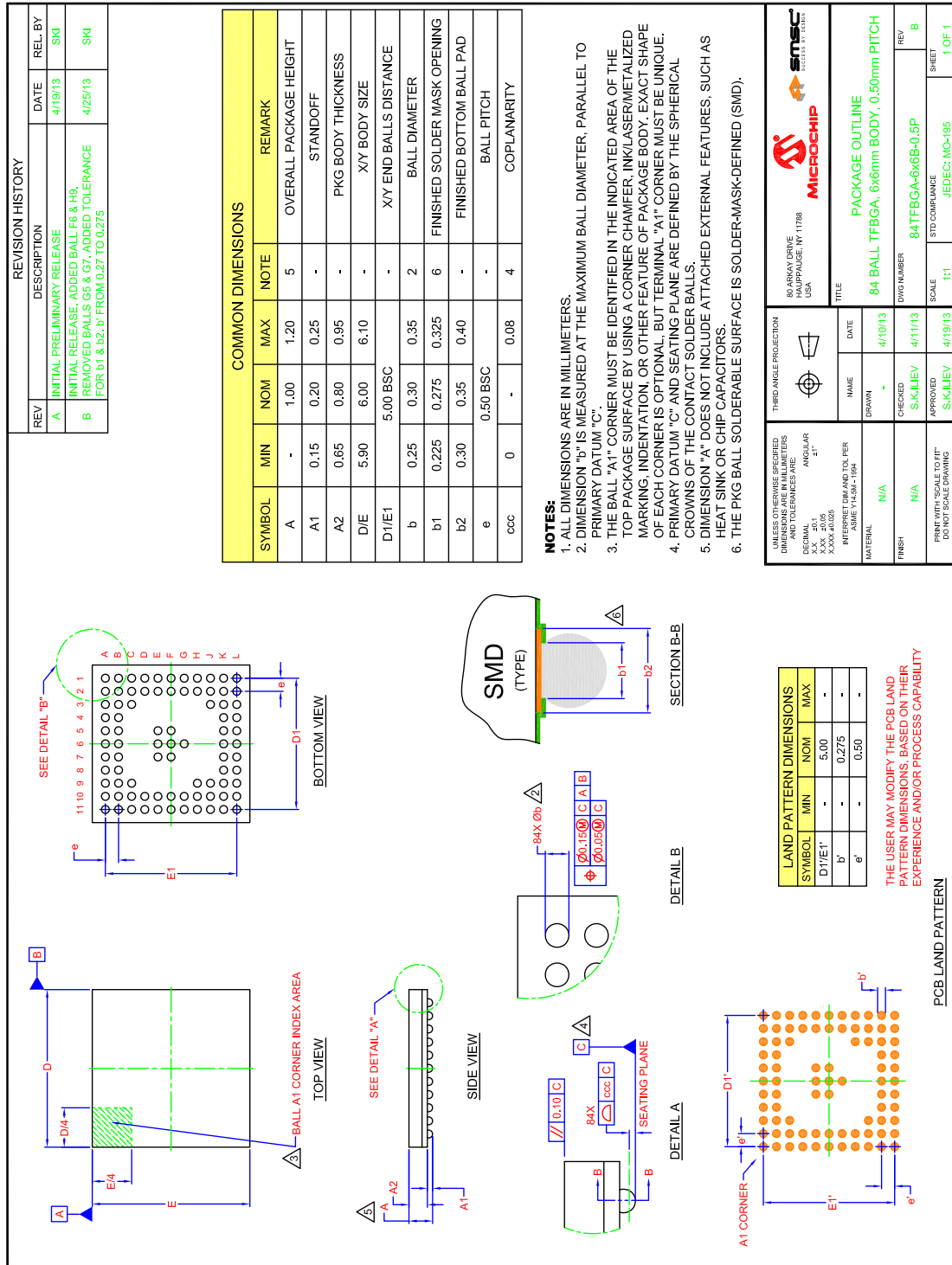
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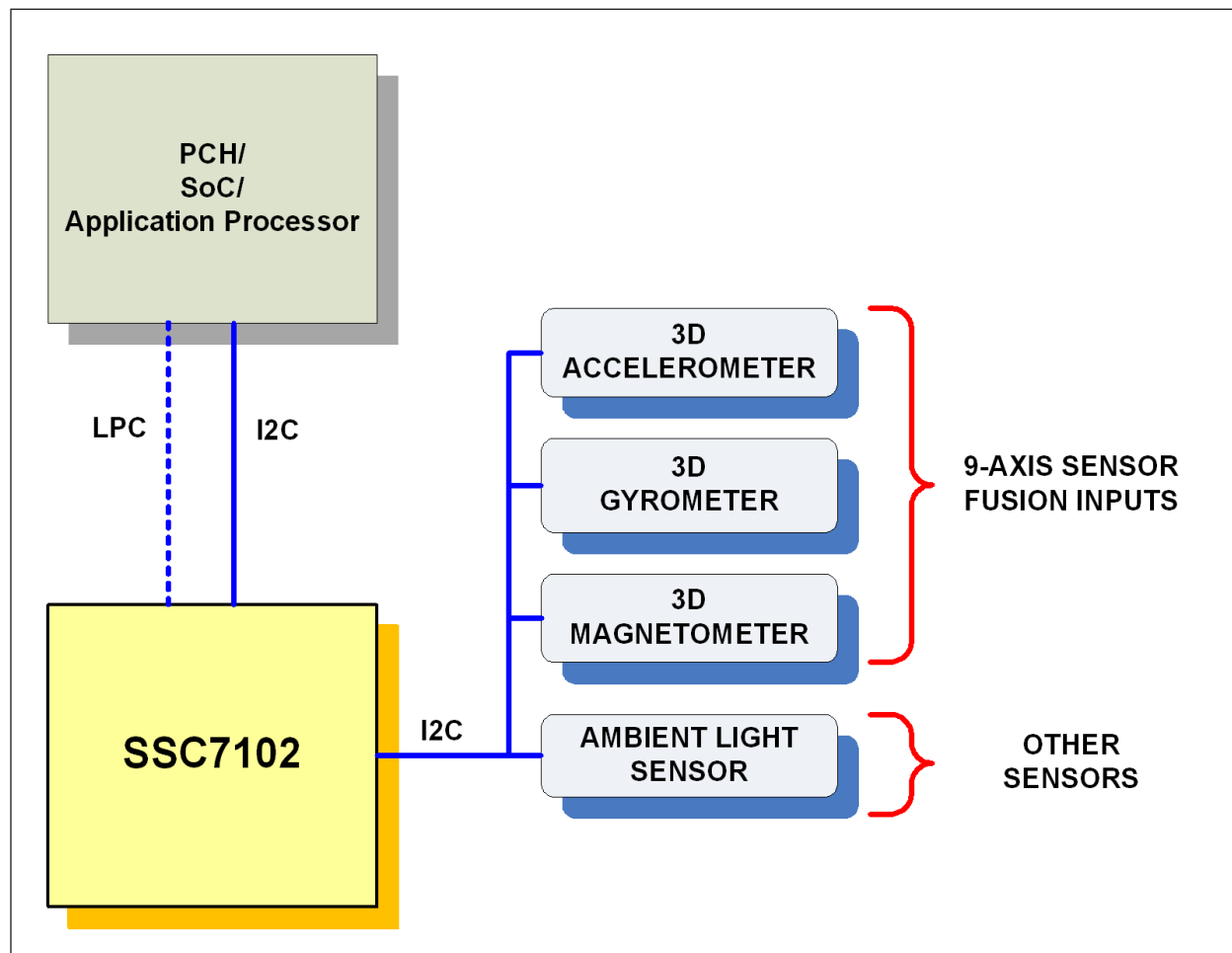
PACKAGE OUTLINE

Note: For the most current package drawings, see the Microchip Packaging Specification at <http://www.microchip.com/packaging>.

84-pin TFBGA Package Outline



SYSTEM BLOCK DIAGRAM



APPENDIX A: REVISION HISTORY

| Revision | Section/Figure/Entry | Correction |
|----------|---|--|
| REV B | Features | Wording of first bullet under Product Features modified for clarity. |
| | Product Identification System | URL in Note 2 modified. |
| REV A | Document release | |

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| <u>PART NO.</u> ⁽¹⁾ | - | <u>XXX</u> ⁽²⁾ | - | <u>XXX</u> | - | <u>[X]</u> ⁽³⁾ |
|--------------------------------|---|--|---|------------------------|---|---------------------------|
| Device Series | | Package | | Sensor Fusion Firmware | | Tape and Reel Option |
| Device: | | SSC7102 ⁽¹⁾ | | | | |
| Package: | | GQ = 84 pin TFBGA ⁽²⁾ | | | | |
| Sensor Fusion Firmware: | | AA0 = Bosch 9-axis Sensor Fusion BA0 = Movea 9-axis Sensor Fusion | | | | |
| Tape and Reel Option: | | Blank = Tray packaging TR = Tape and Reel ⁽³⁾ | | | | |

Examples:

a) SSC7102-GQ-AA0 = 84-TFBGA, Bosch 9-axis sensor fusion.

b) SSC7102-GQ-BA0 = 84-TFBGA, Movea 9-axis sensor fusion.

Note 1: These products meet the halogen maximum concentration values per IEC61249-2-21.

Note 2: All package options are RoHS compliant. For RoHS compliance and environmental information, please visit <http://www.microchip.com/pagehandler/en-us/aboutus/>

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