

FEATURES

- 16 element FIFO for event recording**
- 10 configurable I/Os allowing functions such as**
 - Key pad decoding for a matrix of up to 5 × 5**
 - 11 GPIOs (5 × 6) with an ADP5585ACBZ-01-R7 option**
- Key press/release interrupts**
- GPIO functions**
 - GPI with selectable interrupt level**
 - 100 kΩ or 300 kΩ pull-up resistors**
 - 300 kΩ pull-down resistors**
 - GPO with push-pull or open-drain**
- Programmable logic block**
- PWM generator**
 - Internal PWM generation**
 - External PWM with internal PWM AND function**
- Reset generators**
- I²C interface with fast mode plus (Fm+) support of up to 1 MHz**
- Open-drain interrupt output**
- 16-ball WLCSP, 1.59 mm × 1.59 mm**

APPLICATIONS

- Keypad entries and input/output expansion capabilities**
- Smart phones, remote controls, and cameras**
- Healthcare, industrial, and instrumentation**

GENERAL DESCRIPTION

The ADP5585 is a 10 input/output port expander with a built-in keypad matrix decoder, programmable logic, reset generator, and PWM generator. Input/output expander ICs are used in portable devices (phones, remote controls, and cameras) and nonportable applications (healthcare, industrial, and instrumentation). I/O expanders can be used to increase the number of I/Os available to a processor or to reduce the number of I/Os required through interface connectors for front panel designs.

The ADP5585 handles all key scanning and decoding and can flag the main processor via an interrupt line that new key events have occurred. GPI changes and logic changes can also be tracked

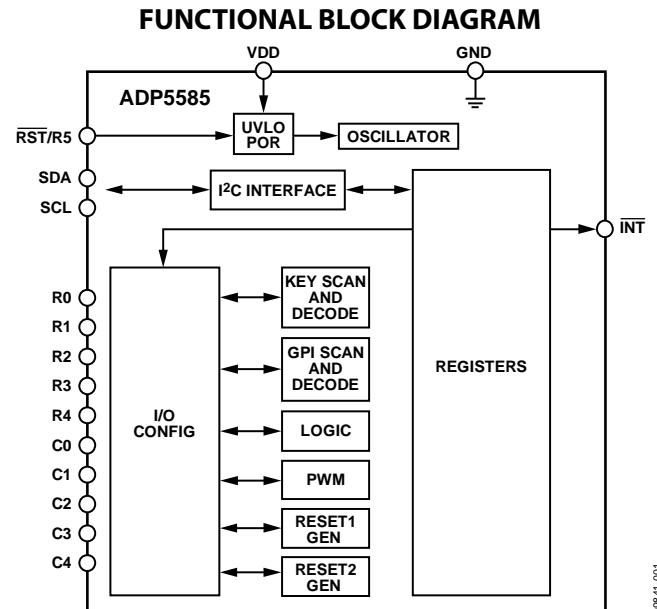


Figure 1.

as events via the FIFO, eliminating the need to monitor different registers for event changes. The ADP5585 is equipped with a FIFO to store up to 16 events. Events can be read back by the processor via an I²C-compatible interface.

The ADP5585 frees up the main processor from having to monitor the keypad, thereby reducing power consumption and/or increasing processor bandwidth for performing other functions.

The programmable logic functions allow common logic requirements to be integrated as part of the GPIO expander; thus, saving board area and cost.

For more information about the ADP5585, including the complete data sheet, contact your local Analog Devices, Inc., sales office at www.analog.com/sales.

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OUTLINE DIMENSIONS

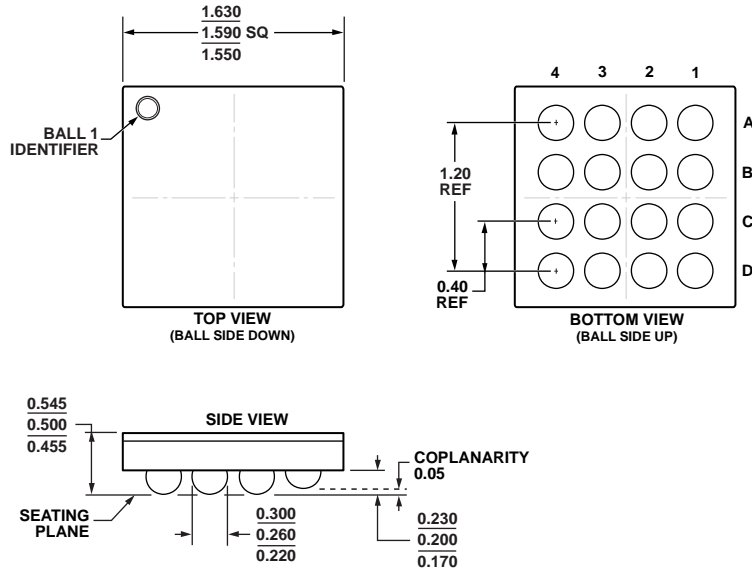


Figure 2. 16-Ball Wafer Level Chip Scale Package [WLCSP]
(CB-16-10)
Dimensions shown in millimeters

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I²C refers to a communications protocol originally developed by Philips Semiconductors (now NXP Semiconductors).