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AR0330CS1C12SPKAH3-GEVB

AR0330CS Evaluation Board User's Manual



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Evaluation Board Overview

The evaluation boards are designed to demonstrate the features of image sensors products from ON Semiconductor. This headboard is intended to plug directly into the Demo 3 system. Test points and jumpers on the board provide access to the clock, I/Os, and other miscellaneous signals.

Features

- Clock Input
 - ♦ Default – 27 MHz Crystal Oscillator
 - ♦ Optional Demo 3 Controlled MCLK
- Two-wire Serial Interface
 - ♦ Selectable Base Address
- Parallel Interface
- ROHS Compliant

Block Diagram

EVAL BOARD USER'S MANUAL



Figure 1. AR0330CS Evaluation Board

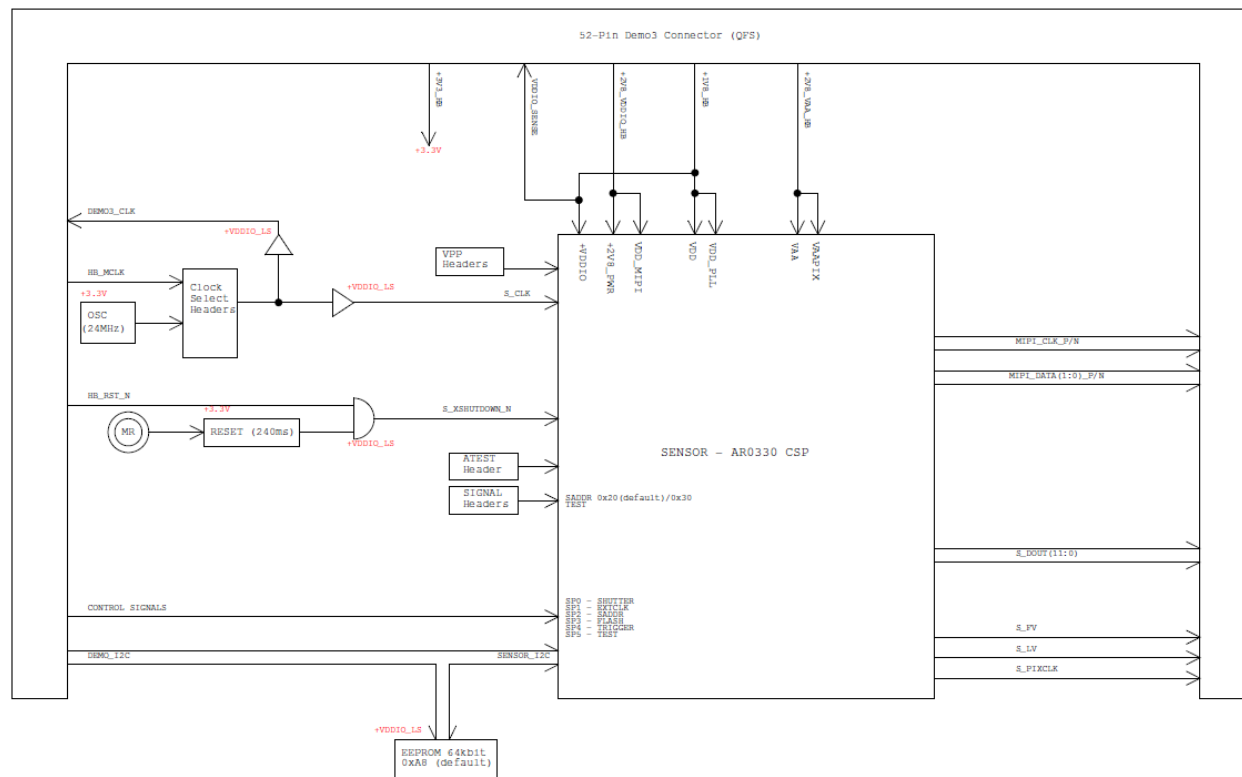
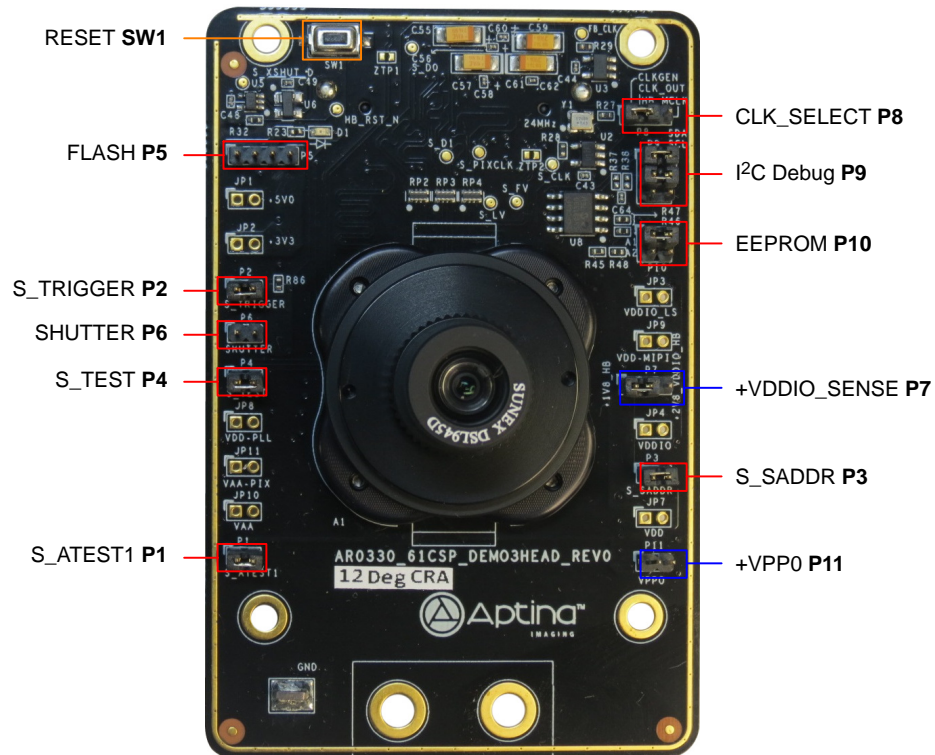
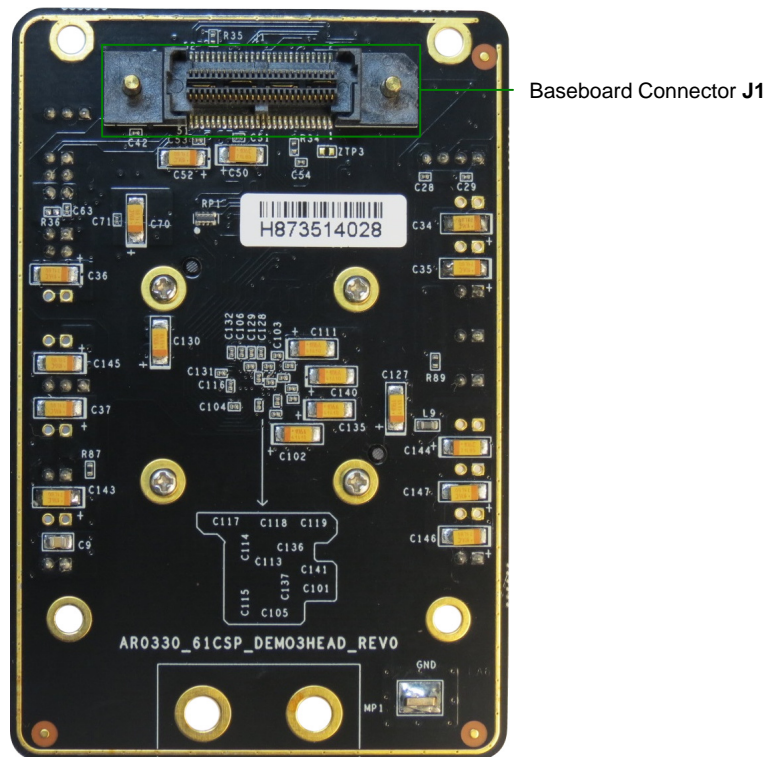


Figure 2. Block Diagram of AR0330CS1C12SPKAH3-GEVB

Top View



Bottom View



Jumper Pin Locations

The jumpers on headboards start with Pin 1 on the leftmost side of the pin. Grouped jumpers increase in pin size with each jumper added.

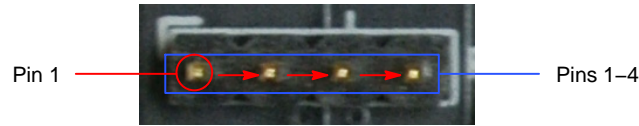


Figure 5. Pin Locations for a Single Jumper. Pin 1 is Located at the Leftmost Side and Increases as it Moves to the Right

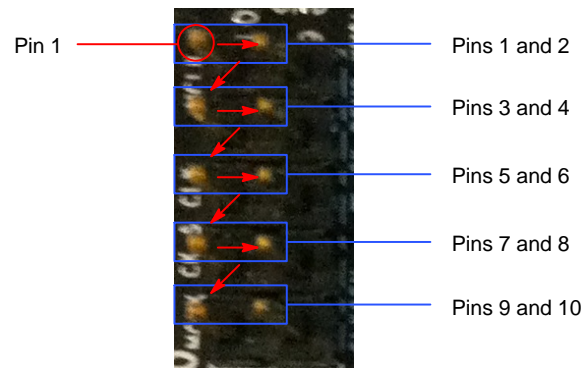


Figure 6. Pin Locations and Assignments of Grouped Jumpers. Pin 1 is Located at the Top-Left Corner and Increases in a Zigzag Fashion Shown in the Picture

Jumper/Header Functions & Default Positions

Table 1. JUMPERS AND HEADERS

| Jumper/Header No. | Jumper/Header Name | Pins | Description |
|-------------------|--------------------|------------------|---|
| P1 | S_ATEST1 | Closed (Default) | ATEST1 Pin is Connected to GND |
| | | Open | External Test Signal can be Provided for Analog Test |
| P2 | S_TRIGGER | Closed (Default) | TRIGGER Pin is Connected to GND |
| | | Open | For Connection to External Trigger for Frame Rate Sync. |
| P3 | S_SADDR | 1-2 (Default) | I ² C Address Set to 0x20 |
| | | Open | I ² C Address Set to 0x30 |
| P4 | S_TEST | 1-2 (Default) | Normal Mode Operation |
| | | Open | Test Mode Operation |
| P5 | FLASH | 1 | +5V0 |
| | | 2 | GND |
| | | 3 | FLASH |
| | | 4 | +3V3 |
| P6 | SHUTTER | Open (Default) | For Connection to External Shutter |
| P7 | +VDDIO_SENSE | 1-2 (Default) | 1.8 V Operation of Sensor |
| | | 2-3 | 2.8 V Operation of Sensor |
| P8 | CLK_SELECT | 1-2 (Default) | On-board Oscillator (24MHz) |
| | | 2-3 | Demo 3 Headboard MCLK |

Table 1. JUMPERS AND HEADERS (continued)

| Jumper/Header No. | Jumper/Header Name | Pins | Description |
|-------------------|------------------------|---------------------------------|---|
| P9 | I ² C Debug | 1–2, 3–4 (Default) | Demo SCL & SDA Connected to Sensor SCL & SDA Respectively |
| P10 | LSC EEPROM | 1–2 Open, 3–4 Open (Default) | EEPROM Address Set to 0xAC |
| | | 1–2 Open, 3–4 Closed | EEPROM Address Set to 0xA4 |
| | | 1–2 Closed, 3–4 Open | EEPROM Address Set to 0xA8 |
| | | 1–2 Closed, 3–4 Closed | EEPROM Address Set to 0xA0 |
| P11 | +VPP0 | Open (Default) | OTPM Programming Voltage Not Supplied |
| SW1 | RESET | N/A | When Pushed, 240 ms Reset Signal will be Sent to AR0330CS |

Interfacing to ON Semiconductor Demo 3 Baseboard

The ON Semiconductor Demo 3 baseboard has a similar 52-pin connector which mates with J1 of the headboard. The four mounting holes secure the baseboard and the headboard with spacers and screws.

Shorted Jumpers for Power Measurement


Different supplies to the evaluation board are provided by trace shorted jumper, for any voltage and power measurements. To conduct current for current measurement on a given power rail, cut the trace between the two pins of their respective JP, and insert an ammeter prior to powering up the system. The figure below shows where the trace to cut is located.

Table 2. SHORTED JUMPERS FOR POWER MEASUREMENT

| Jumper | Voltage (V) |
|------------------------|-------------|
| JP1 (from Demo 3) | 5.0 |
| JP2 (Peripheral 3.3 V) | 3.3 |
| JP3 (VDDIO_LS) | 1.8 |
| JP4 (VDDIO) | 1.8 |
| JP7 (VDD) | 1.8 |
| JP8 (VDD_SLVS) | 1.8 |
| JP9 (VDD_PLL) | 2.8 |
| JP10 (VAA) | 2.8 |
| JP11 (VAA_PIX) | 2.8 |



Figure 7. Top and Bottom View of Shorted Jumper.
The Bottom View Shows the Trace Location to Cut for Current Measurement

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