

MT9M024IA3XTRH-GEVB

MT9M024 Evaluation Board User's Manual



ON Semiconductor®

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Evaluation Board Overview

The evaluation boards are designed to demonstrate the features of ON Semiconductor's image sensors products. This headboard is intended to plug directly into the Demo 2X 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 2X Controlled MClk
- Two Wire Serial Interface
 - ◆ Selectable Base Address
- Parallel Interface
- HiSpi (High Speed Serial Pixel) Interface
- ROHS Compliant

EVAL BOARD USER'S MANUAL



Figure 1. MT9M024 Evaluation Board

Block Diagram

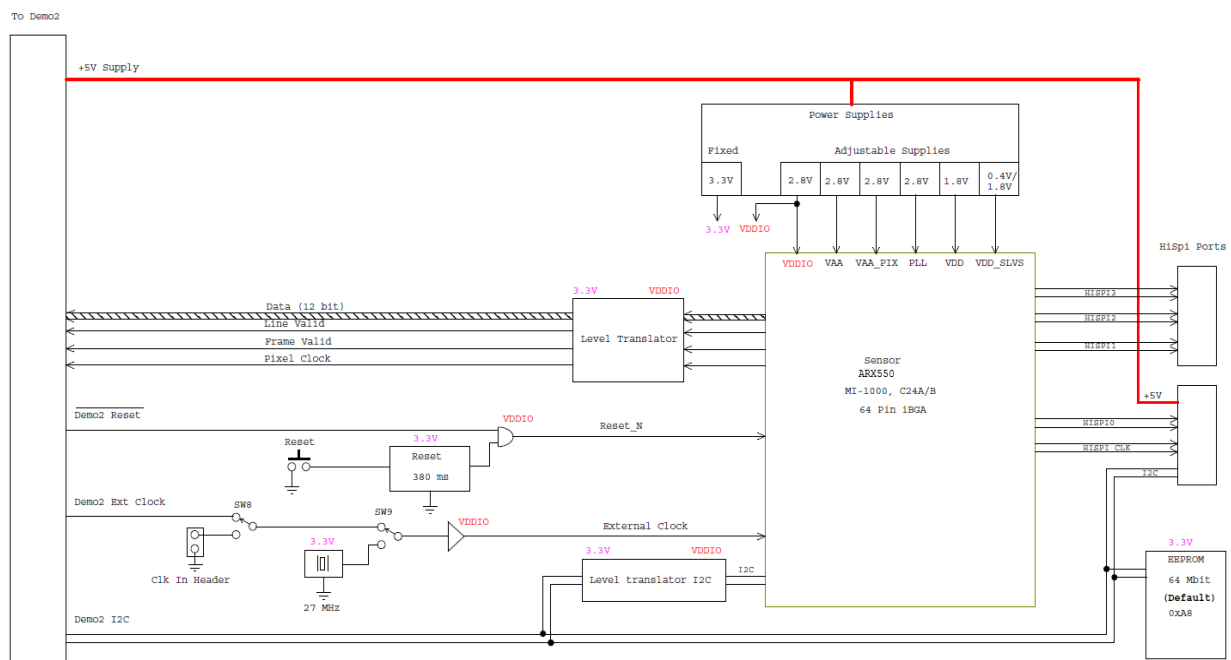


Figure 2. Block Diagram of MT9M024IA3XTRH-GEVB

MT9M024IA3XTRH-GEVB

Top View

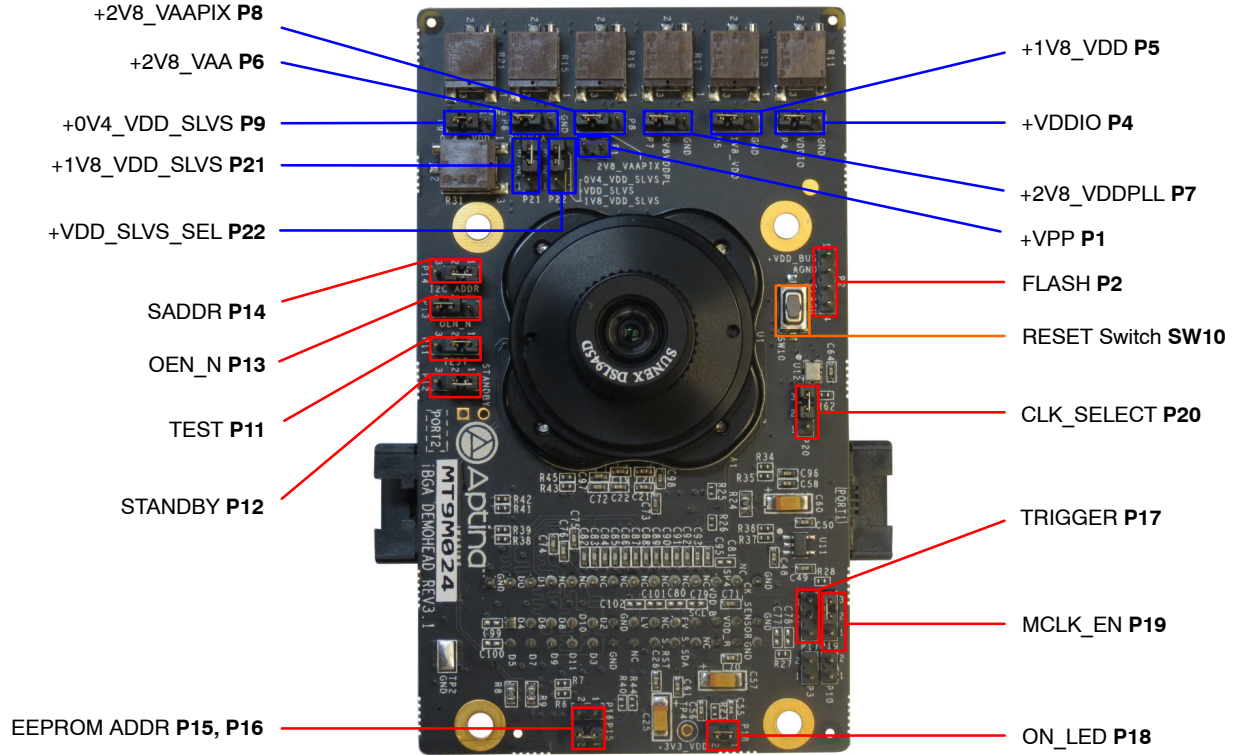


Figure 3. Top View of Evaluation Board – Default Jumpers

Bottom View

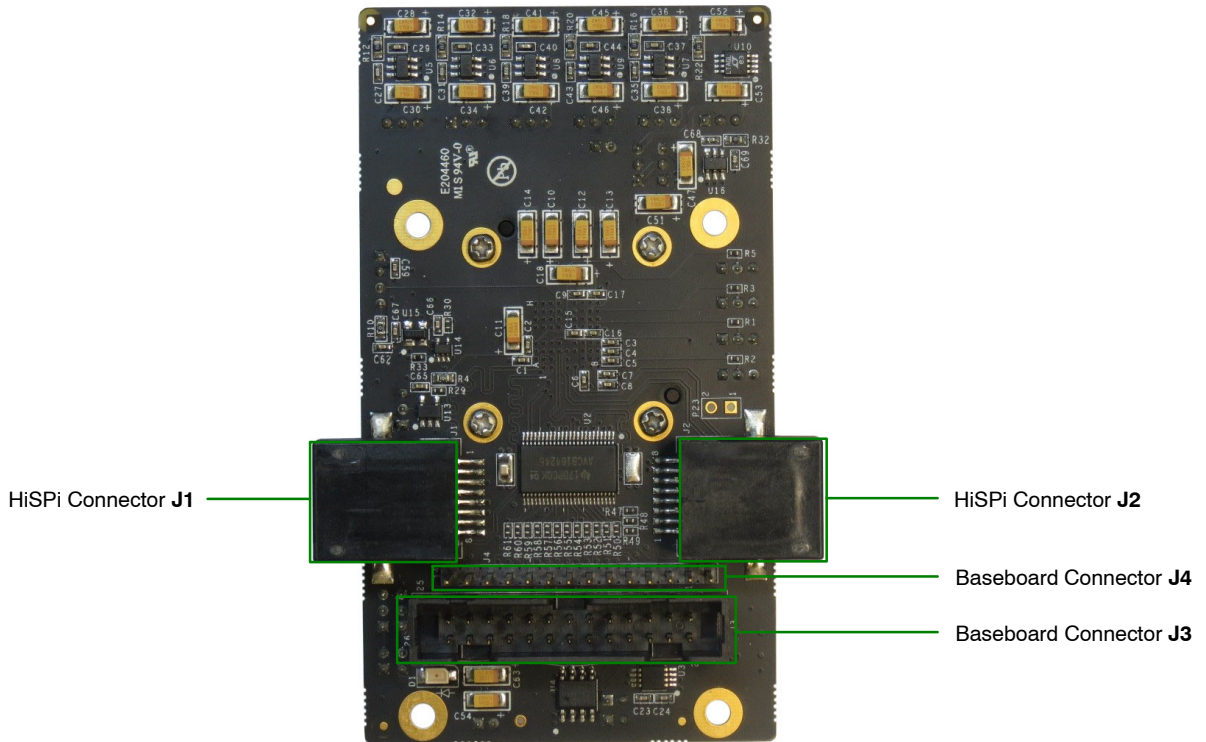


Figure 4. Bottom View of the Evaluation Board – Connectors

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

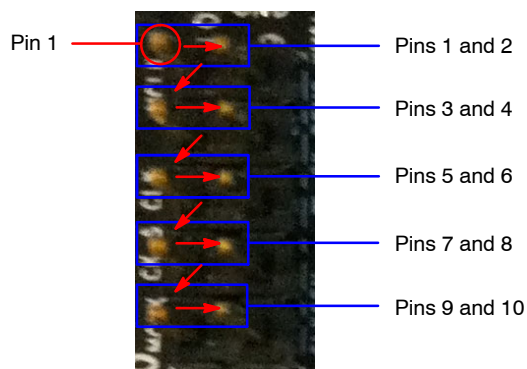


Figure 6. Pin Locations and Assignments of Grouped Jumpers. Pin 1 is Located at the Top-Left Corner and Increases in a Zigzag Fashion Shown in the Picture

Jumper/Header Functions & Default Positions

Table 1. JUMPERS AND HEADERS

| Jumper/Header No. | Jumper/Header Name | Pins | Description |
|-------------------|--------------------|---------------|---|
| P1 | VPP | Open | OTPM programming voltage not supplied |
| P2 | FLASH | 1 | +VDD_BUS |
| | | 2 | GND |
| | | 3 | FLASH |
| | | 4 | +3V3_VDD |
| P4 | +VDDIO | 2-3 (Default) | Connects to on-board +VDDIO power supply |
| | | 1-2 | External power supply connection |
| P5 | +1V8_VDD | 2-3 (Default) | Connects to on-board +1V8_VDD power supply |
| | | 1-2 | External power supply connection |
| P6 | +2V8_VAA | 2-3 (Default) | Connects to on-board +2V8_VAA power supply |
| | | 1-2 | External power supply connection |
| P7 | +2V8_VDDPLL | 2-3 (Default) | Connects to on-board +2V8_VDDPLL power supply |
| | | 1-2 | External power supply connection |
| P8 | +2V8_VAAPIX | 2-3 (Default) | Connects to on-board +2V8_VAAPIX power supply |
| | | 1-2 | External power supply connection |

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Table 1. JUMPERS AND HEADERS (continued)

| Jumper/Header No. | Jumper/Header Name | Pins | Description |
|-------------------|--------------------|--------------------------------|--|
| P9 | +0V4_VDD_SLVS | 2-3 (Default) | Connects to on-board +0V4_VDD_SLVS power supply |
| | | 1-2 | External power supply connection |
| P11 | TEST | 1-2 (Default) | Set to Normal Mode |
| | | 2-3 | Set to Test Mode |
| P12 | STANDBY | 1-2 (Default) | Set to Normal Mode |
| | | 2-3 | Set to Standby Mode |
| P14 | SADDR | 1-2 (Default) | I ² C address set to 0x20 |
| | | 2-3 | I ² C address set to 0x30 |
| P15, P16 | EEPROM ADDR | P15 Closed, P16 Open (Default) | EEPROM Address set to 0xA8 |
| | | P15 Open, P16 Open | EEPROM Address set to 0xAC |
| | | P15 Open, P16 Closed | EEPROM Address set to 0xA4 |
| | | P15 Closed, P16 Closed | EEPROM Address set to 0xA0 |
| P17 | TRIGGER | 2 | Trigger Input |
| P18 | ON_LED | 1-2 (Default) | Connects to on-board LED to indicate “power on” |
| P19 | MCLK | 2-3 (Default) | Demo 2X Clock Input Enable |
| | | 1-2 | Demo 2X Clock Input Disable |
| P20 | CLK_SELECT | 2-3 (Default) | Select on-board oscillator |
| | | 1-2 | Select Demo 2X clock |
| P21 | +1V8_VDD_SLVS | 2-3 (Default) | Connects to on-board +1V8_VDD_SLVS power supply |
| | | 1-2 | External power supply connection |
| P22 | +VDD_SLVS_SEL | 2-3 (Default) | Connects to on-board +VDD_SLVS_SEL power supply |
| | | 1-2 | External power supply connection |
| SW10 | RESET | N/A | When pushed, 380 ms reset signal will be sent to MT9M024 |

Interfacing to ON Semiconductor Demo 2X Baseboard

The ON Semiconductor Demo 2X baseboard has a similar 26-pin connector and 13-pin connector which mate

with J3 and J4 of the headboard. The four mounting holes secure the baseboard and the headboard with spacers and screws.

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