

# MT9P006I12STCUH-GEVB

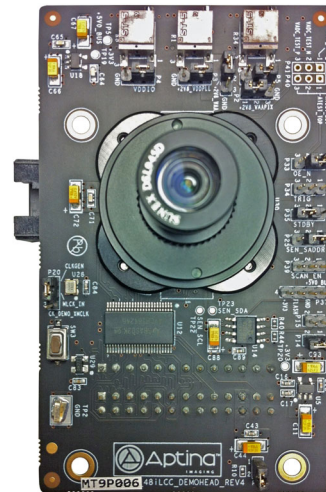
## MT9P006 Evaluation Board User's Manual



ON Semiconductor®

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### EVAL BOARD USER'S MANUAL



#### 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 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
- Serial LVDS Interface
- ROHS Compliant

#### Block Diagram

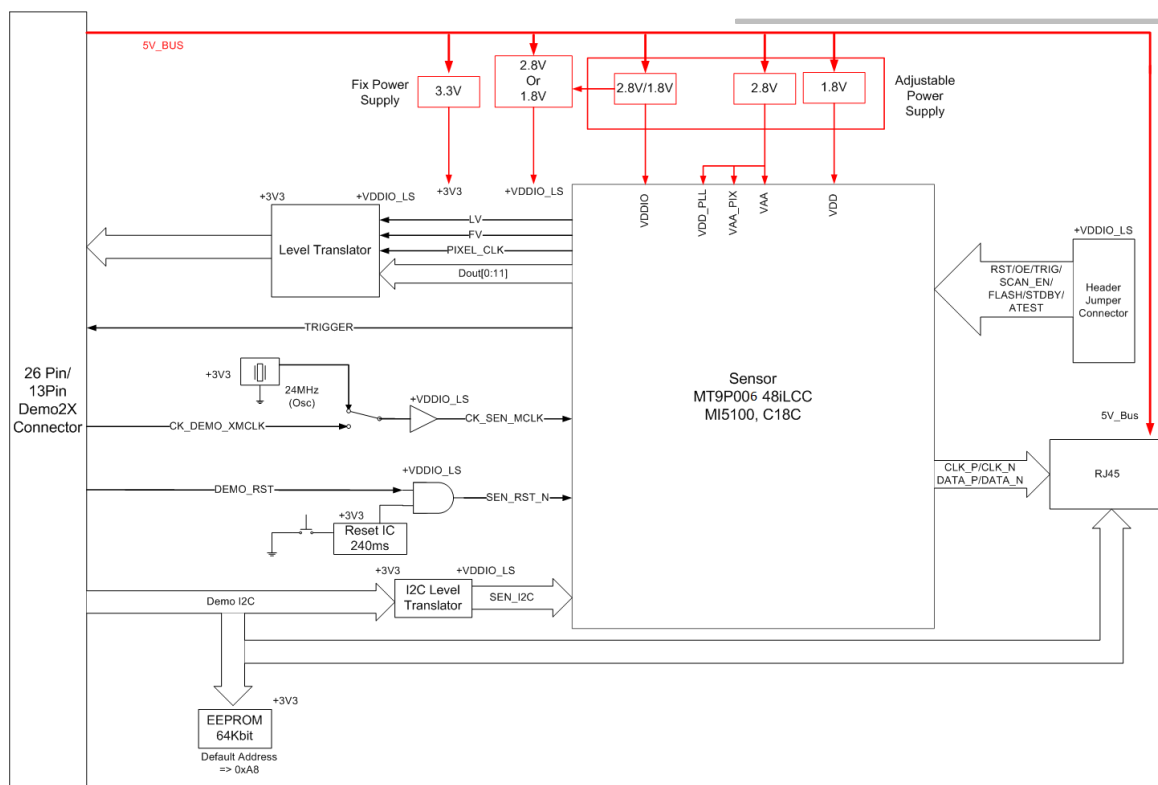


Figure 2. Block Diagram of MT9P006I12STCUH-GEVB

Figure 1. MT9P006 Evaluation Board

# MT9P006I12STCUH-GEVB

## Top View

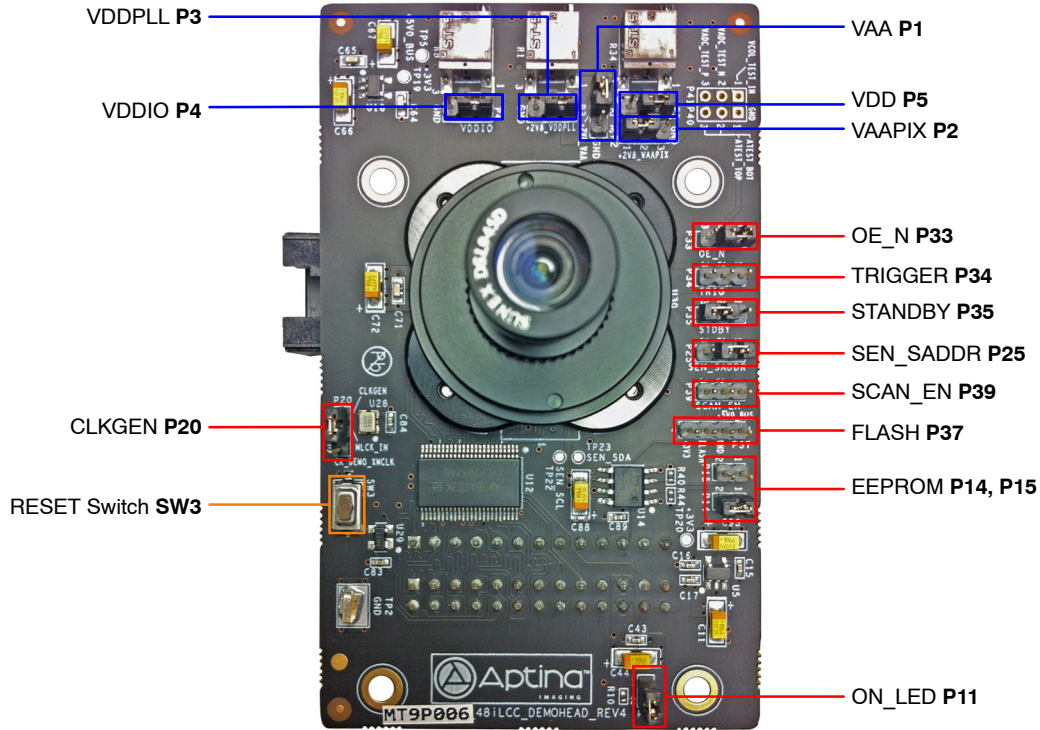


Figure 3. Top View of Evaluation Board – Default Jumpers

## Bottom View

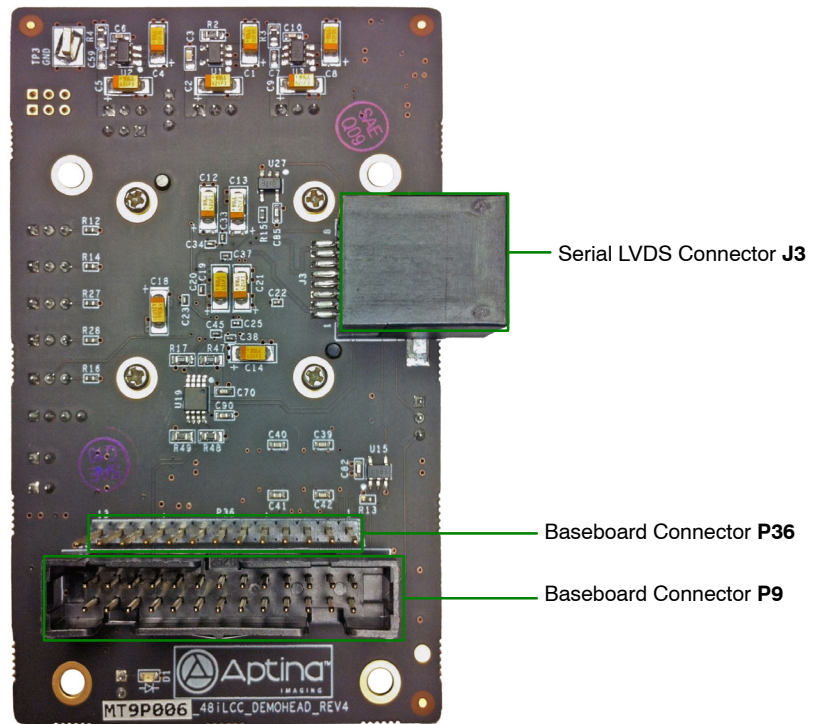
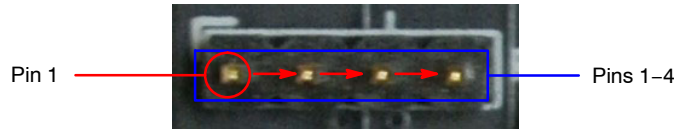


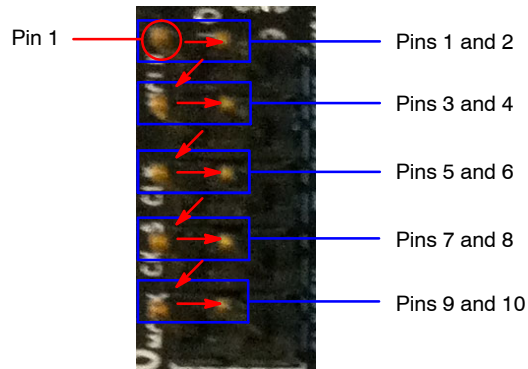
Figure 4. Bottom View of the Evaluation Board – Connector

### 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                | +2V8_VAA           | 1-2 (Default)                 | Connects to on-board +2V8_VAA power supply      |
|                   |                    | 2-3                           | External power supply connection                |
| P2                | +2V8_VAAPIX        | 1-2 (Default)                 | Connects to on-board +2V8_VAAPIX power supply   |
|                   |                    | 2-3                           | External power supply connection                |
| P3                | +2V8_VDDPLL        | 1-2 (Default)                 | Connects to on-board +2V8_VDDPLL power supply   |
|                   |                    | 2-3                           | External power supply connection                |
| P4                | +VDDIO             | 1-2 (Default)                 | Connects to on-board +VDDIO power supply        |
|                   |                    | 2-3                           | External power supply connection                |
| P5                | +1V8_VDD           | 1-2 (Default)                 | Connects to on-board +1V8_VDD power supply      |
|                   |                    | 2-3                           | External power supply connection                |
| P11               | ON_LED             | 1-2 (Default)                 | Connects to on-board LED to indicate "power on" |
| P14, P15          | EEPROM ADDR, Sel   | A1 Closed & A2 Open (Default) | EEPROM Address set to 0xA8                      |
|                   |                    | A1 Open & A2 Open             | EEPROM Address set to 0xAC                      |
|                   |                    | A1 Open & A2 Closed           | EEPROM Address set to 0xA4                      |
|                   |                    | A1 Closed & A2 Closed         | EEPROM Address set to 0xA0                      |
| P20               | MCLK               | 1-2 (Default)                 | Master Mode on-board oscillator                 |
|                   |                    | 2-3                           | Master Mode Demo 2X clock                       |

Table 1. JUMPERS AND HEADERS (continued)

| Jumper/Header No. | Jumper/Header Name | Pins          | Description                                              |
|-------------------|--------------------|---------------|----------------------------------------------------------|
| P25               | SEN_SAADR          | 1-2 (Default) | I <sup>2</sup> C Address: 0x90                           |
|                   |                    | 2-3           | I <sup>2</sup> C Address: 0xBA                           |
| P33               | OE_N               | 1-2 (Default) | Parallel Interface                                       |
|                   |                    | 2-3           | Non-Parallel Interface                                   |
| P34               | TRIGGER            | 2             | Snapshot Trigger                                         |
| P35               | STANDBY            | 2-3 (Default) | Normal Mode                                              |
|                   |                    | 1-2           | Standby Mode                                             |
| P37               | FLASH              | 3             | Snapshot Flash                                           |
| P39               | SCAN_EN            | 2             | Snapshot scan enable                                     |
| SW3               | RESET              | N/A           | When pushed, 240 ms reset signal will be sent to MT9P006 |

#### 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 P9 and P36 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 MEASUREMENTS

| Jumper           | Voltage (V) |
|------------------|-------------|
| P1 (+2V8_VAA)    | 2.8         |
| P2 (+2V8_VAAPIX) | 2.8         |
| P3 (+2V8_VAAPLL) | 2.8         |
| P4 (VDDIO)       | 2.8         |
| P5 (+1V8_VDD)    | 1.8         |



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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