

# MT9M031I12STMH-GEVB

## MT9M031 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 MC1k
- Two Wire Serial Interface
  - ◆ Selectable base address
- Parallel Interface
- ROHS Compliant

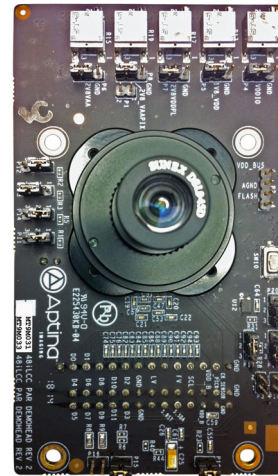


Figure 1. MT9M031 Evaluation Board

#### Block Diagram

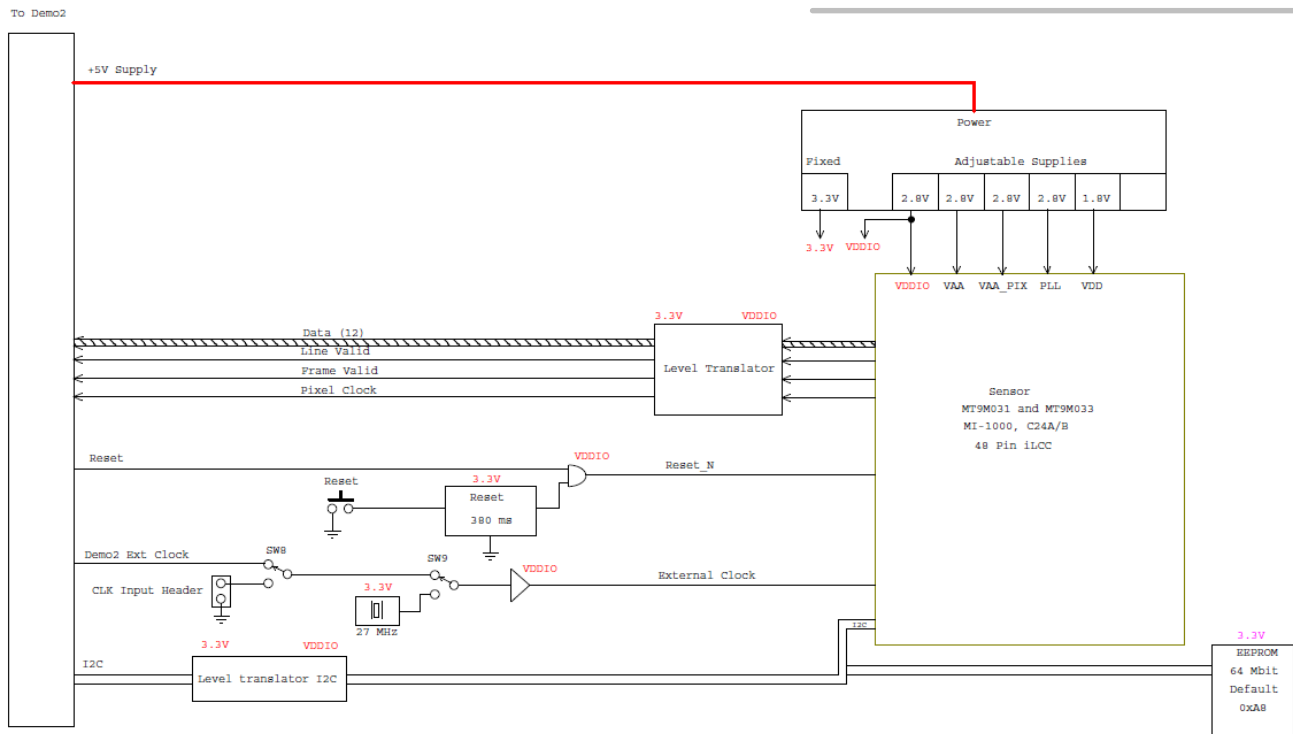


Figure 2. Block Diagram of MT9M031I12STMH-GEVB

# MT9M031I12STMH-GEVB

## Top View

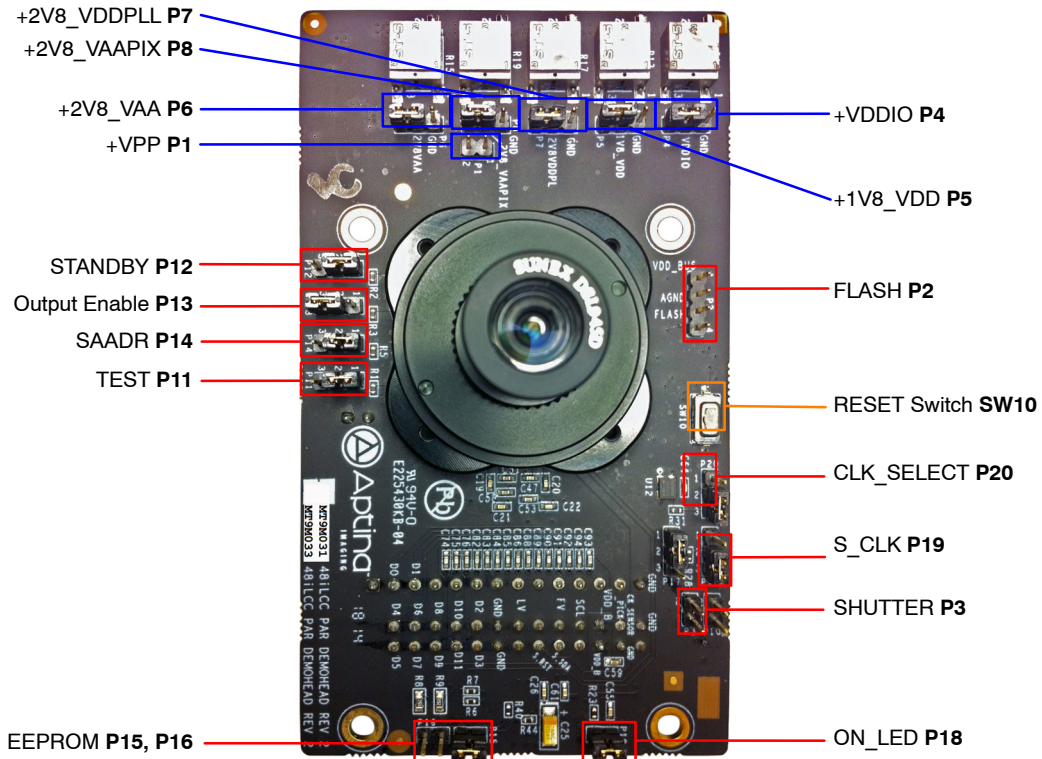


Figure 3. Top View of Evaluation Board – Default Jumpers

## Bottom View

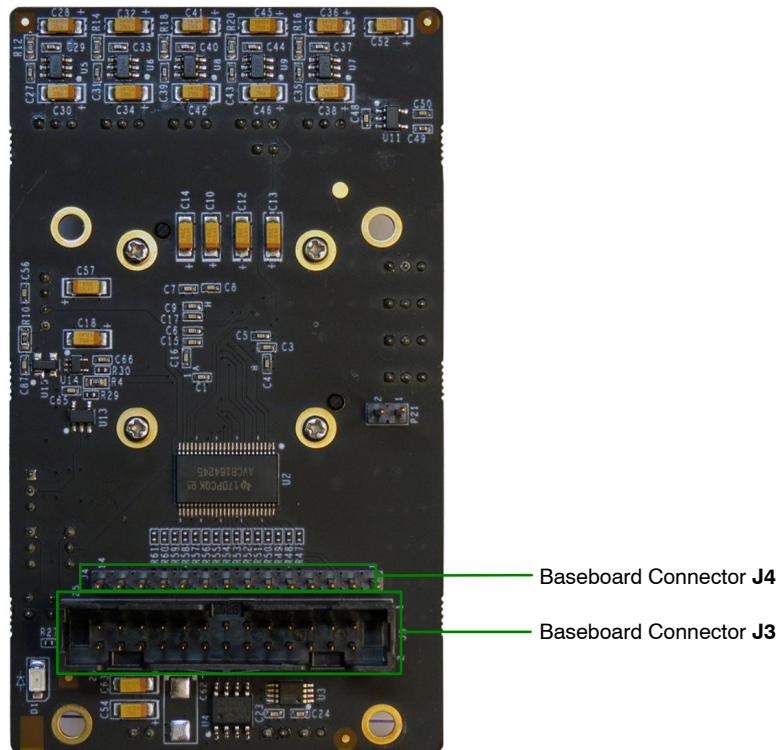
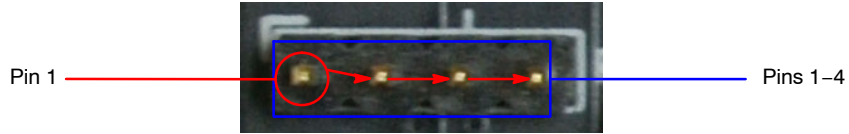


Figure 4. Bottom View of the Evaluation Board – Connector

# MT9M031I12STMH-GEVB

## 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 (Default) | For connection to +VPP power supply           |
| P2                | FLASH              | Open (Default) | For connection to external flash              |
| P3                | SHUTTER            | Open (Default) | For connection to external shutter            |
| 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              |
| P6                | +2V8_VAA           | 1-2 (Default)  | Connects to on-board +2V8_VAA power supply    |
|                   |                    | 2-3            | External power supply connection              |
| P7                | +2V8_VDDPLL        | 1-2 (Default)  | Connects to on-board +2V8_VDDPLL power supply |
|                   |                    | 2-3            | External power supply connection              |
| P8                | +2V8_VAAPIX        | 1-2 (Default)  | Connects to on-board +2V8_VAAPIX power supply |
|                   |                    | 2-3            | External power supply connection              |
| P11               | TEST               | 2-3 (Default)  | Normal Mode                                   |
|                   |                    | 1-2            | Test Mode                                     |
| P12               | STANDBY            | 2-3 (Default)  | Active Mode                                   |
|                   |                    | 1-2            | Standby Mode                                  |

# MT9M031I12STMH-GEVB

**Table 1. JUMPERS AND HEADERS (continued)**

| Jumper/Header No. | Jumper/Header Name | Pins          | Description  |
|-------------------|--------------------|---------------|--|
| P13               | O_EN               | 2-3 (Default) | Parallel Output Enabled                                  |
|                   |                    | 1-2           | Parallel Output Disabled; HiSPi Output Enabled           |
| P14               | SAADR              | 2-3 (Default) | I <sup>2</sup> C Address set to 0x20                     |
|                   |                    | 1-2           | I <sup>2</sup> C Address set to 0x30                     |
| P19               | S_CLK              | 1-2 (Default) | On-board oscillator                                      |
|                   |                    | 2-3           | Demo 2X Clock  |
| SW10              | RESET              | N/A           | When pushed, 240 ms reset signal will be sent to MT9M031 |

## 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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