MT9M021IA3XTMZH-GEVB

MT9M021 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
- ROHS Compliant

Figure 1. MT9M021 Evaluation Board

Block Diagram

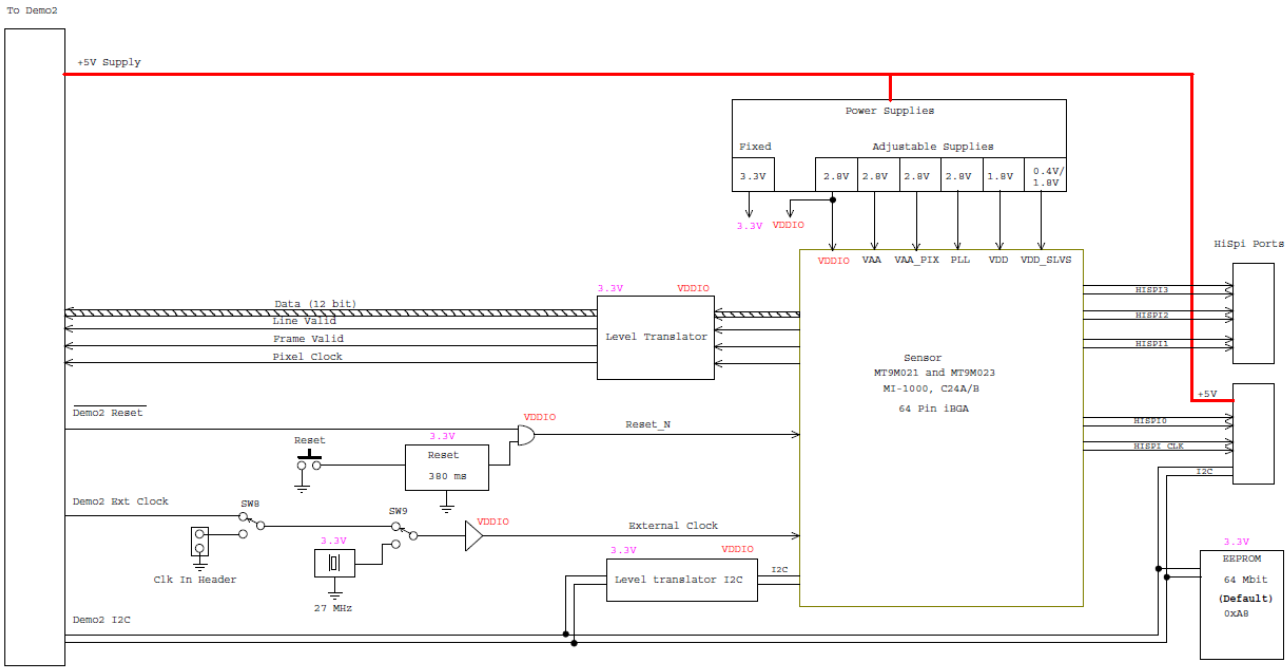

Figure 2. Block Diagram of MT9M021IA3XTMZH−GEVB

Top View

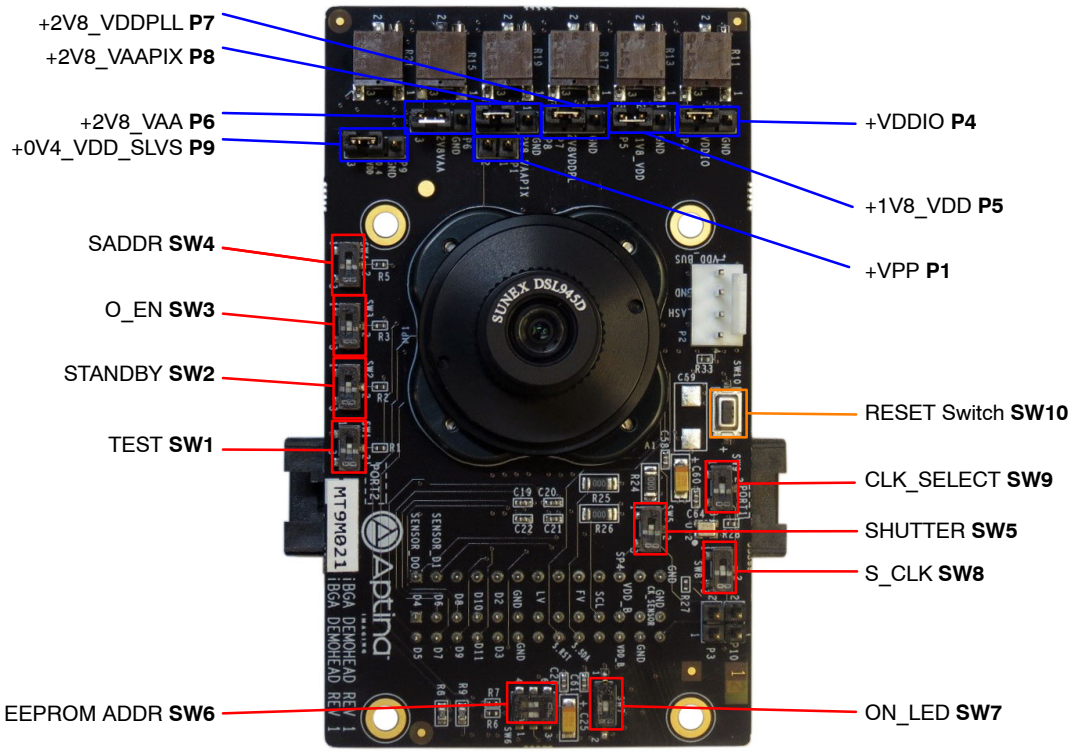

Figure 3. Top View of Evaluation Board − Default Jumpers

Bottom View

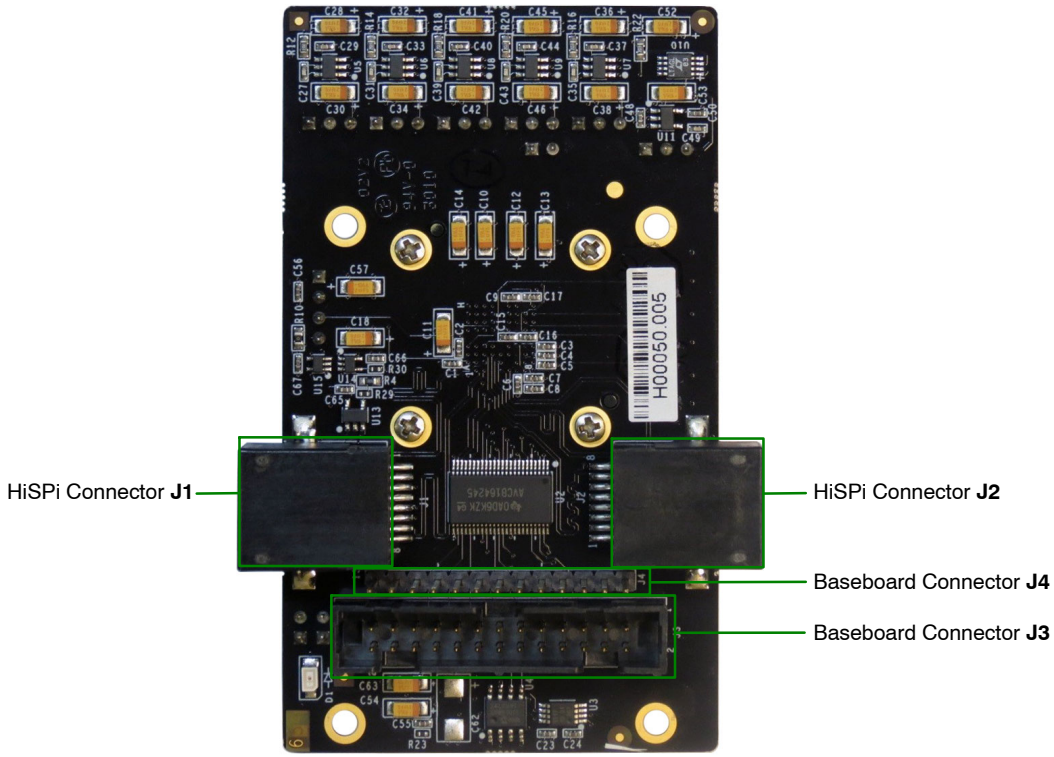

Figure 4. Bottom View of the Evaluation Board − Connector

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.

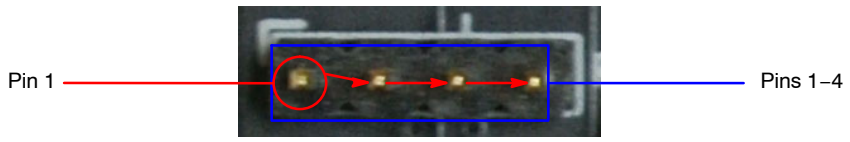

Figure 5. Pin Locations for a Single Jumper.
Pin 1 is Located at the Leftmost Side and Increases as it Moves to the Right

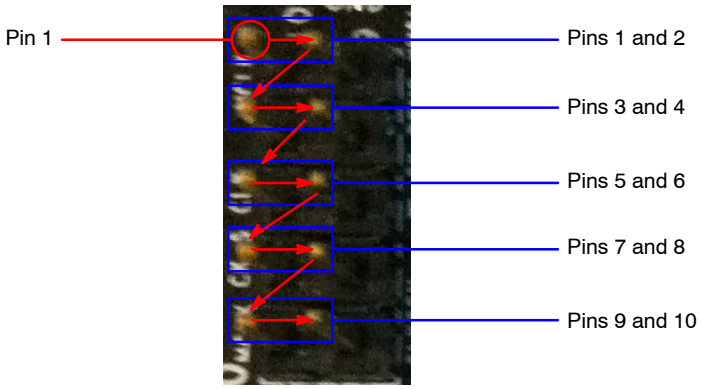

Figure 6. Pin Locations and Assignments of Grouped Jumpers.
Pin 1 is Located at the Top-Left Corner and Increases in a Zigzag Fashion Shown in the Picture

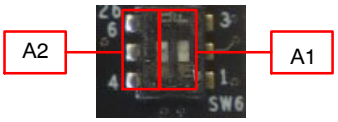

Figure 7. EEPROM Switch Locations in their Default Positions. The First Switch (A2) is Set to ON, while the Second Switch (A1) of SW6 is Set to OFF.

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 external +VPP power supply for OTPM
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	1−2 (Default)	Connection to on-board +2V8_VAA power supply
		2−3	External power supply connection
P7	+2V8_VDDPLL	2−3 (Default)	Connects to on-board +2V8_VDDPLL power supply
		1−2	External power supply connection
P9	+0V4_VDD_SLVS	2−3 (Default)	Connects to on-board +0V4_VDD_SLVS power supply
		1−2	External power supply connection

Table 1. JUMPERS AND HEADERS (continued)

Jumper/Header No.	Jumper/Header Name	Pins	Description
SW1	TEST	On (Default)	Test Mode
		Off	Normal Operation
SW2	STANDBY	On (Default)	Standby mode enabled
		Off	Normal operation
SW3	O_EN	On (Default)	Output disabled
		Off	Output enabled
SW4	STANDBY	On (Default)	Standby mode enabled
		Off	Normal operation
SW5	SHUTTER	On (Default)	Connects to on-board signal from Demo 2X Board
		Off	Connects to external shutter from P3
SW6	EEPROM ADDR	A2 On, A1 Off (Default)	EEPROM Address set to 0xA8
		A2 On, A1 On	EEPROM Address set to 0xAC
		A2 Off, A1 On	EEPROM Address set to 0xA4
		A2 Off, A1 Off	EEPROM Address set to 0xA0
SW7	ON_LED	On (Default)	Connects LED indicator to +VDD_BUS
		Off	Turn off LED indicator
SW8	MCLK	On (Default)	Connects to CK_DEMO 2 from Demo 2X board
		Off	Connects to external signal on Pin 2 from P10 header
SW9	CLK_SELECT	On (Default)	Connects to on-board oscillator
		Off	Connects to output from SW8
SW10	RESET	N/A	When pushed, 380 ms reset signal will be sent to MT9M021

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.

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:
Technical Library: www.onsemi.com/design/resources/technical−documentation
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