MT9P004EBMSTCH-GEVB

MT9P004 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 – 24 MHz crystal oscillator
  - Optional Demo 2X controlled MClk
- Two Wire Serial Interface
  - Selectable base address
- Parallel Interface
- MIPI Interface
- ROHS Compliant

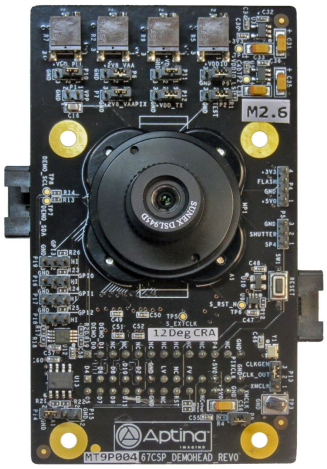

Figure 1. MT9P004 Evaluation Board

Block Diagram

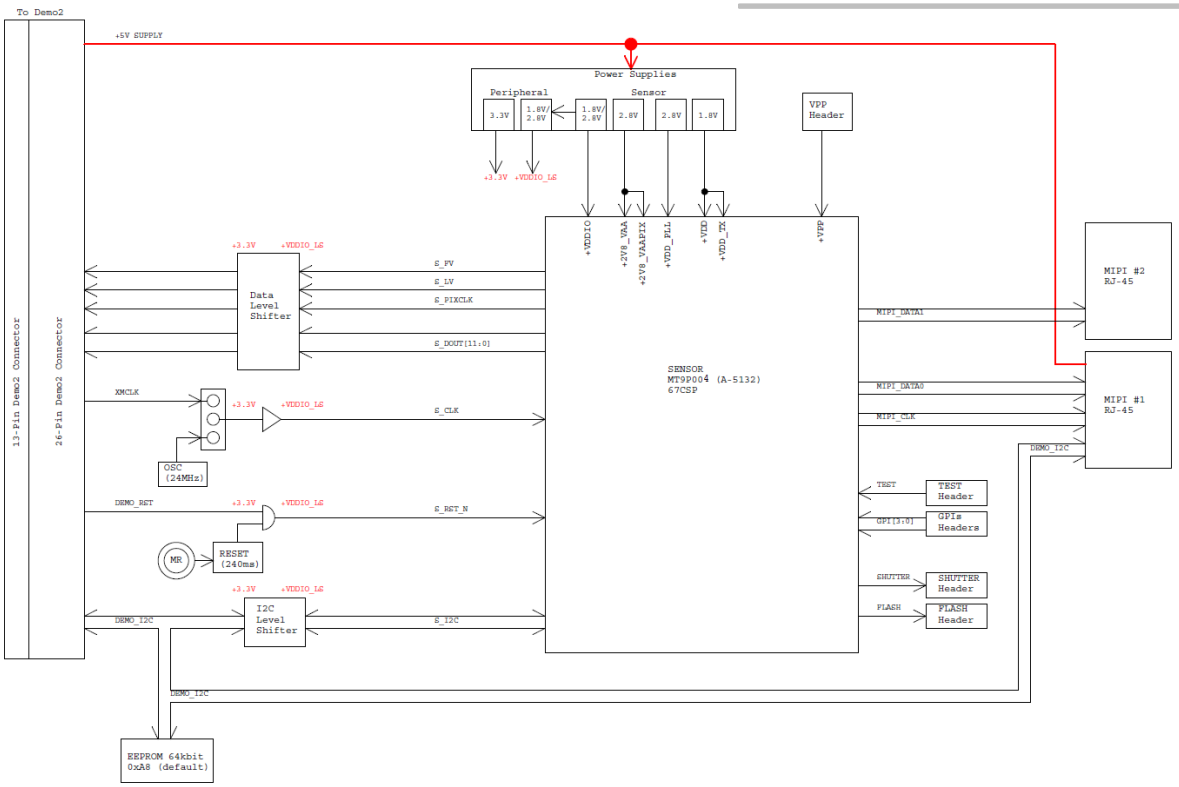

Figure 2. Block Diagram of MT9P004EBMSTCH–GEVB

Top View

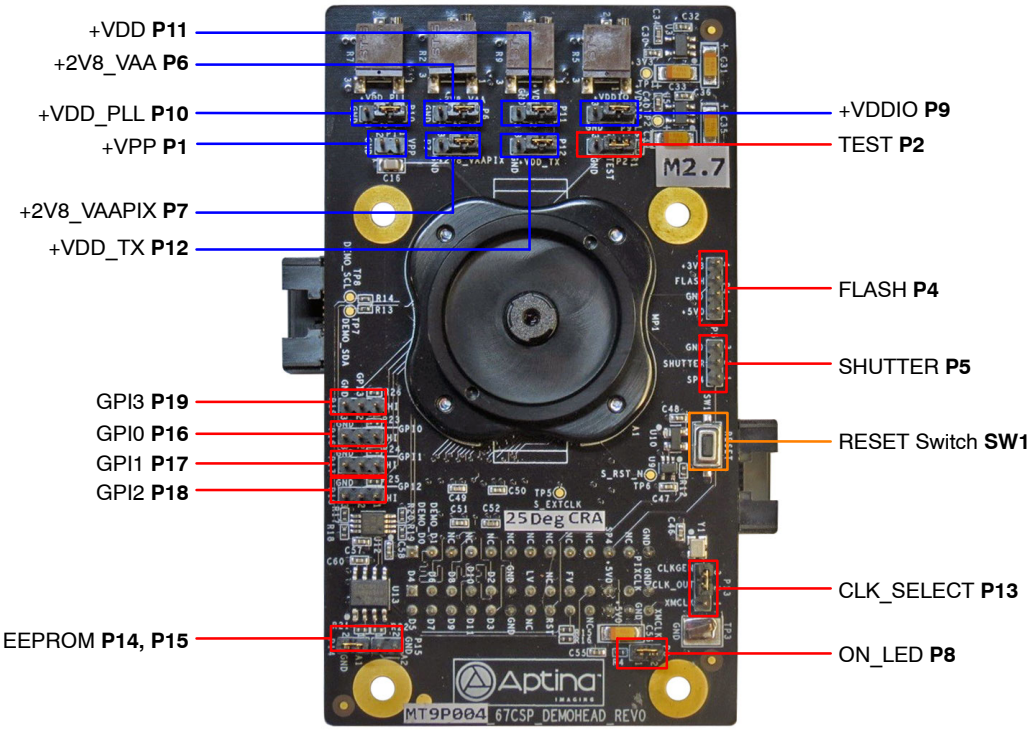

Figure 3. Top View of Evaluation Board − Default Jumpers

Bottom View

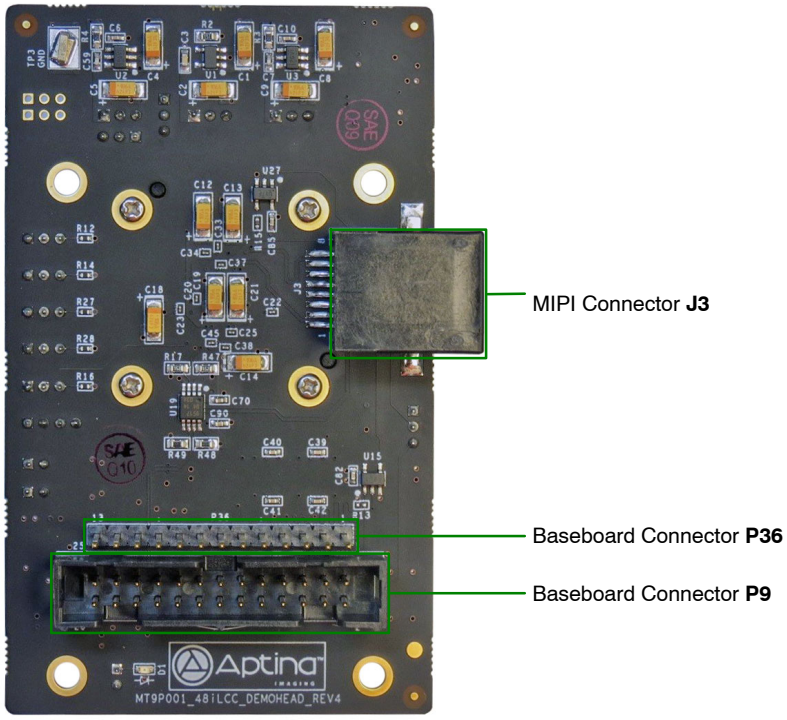

Figure 4. Bottom View of the Evaluation Board − Connector

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.

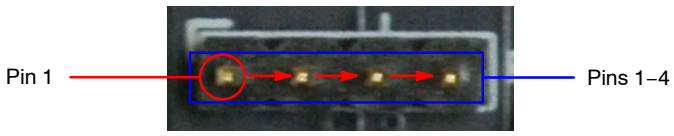

Figure 5. Pin Locations for a Single Jumper.
Pin 1 is Located at the Leftmost Side and Increases as it Moves to the Right

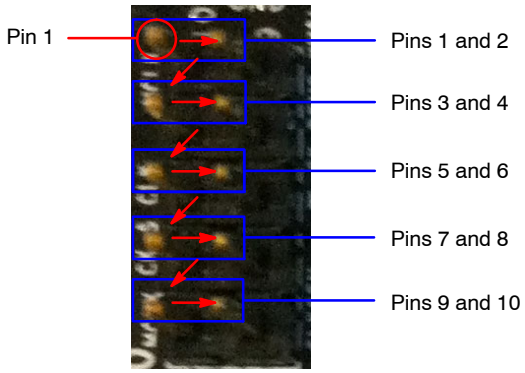

Figure 6. Pin Locations and Assignments of Grouped Jumpers.
Pin 1 is Located at the Top-Left Corner and Increases in a Zigzag Fashion Shown in the Picture

Jumper/Header Functions & Default Positions

Table 1. JUMPERS AND HEADERS

Jumper/Header No.	Jumper/Header Name	Pins	Description
P1	+VPP	Open (Default)	For connection to external 6.5~7.0 V +VPP power supply for OTPM
P2	TEST	1−2 (Default)	Configure to MIPI
		2−3	Configure to CCP2
P4	FLASH	Open (Default)	For connection to external flash
P5	SHUTTER	Open (Default)	For connection to external shutter
P6	+2V8_VAA	1−2 (Default)	Connects to on-board +2V8_VAA power supply
		2−3	External power supply connection
P7	+2V8_VAAPIX	1−2 (Default)	Connects to on-board +2V8_VAAPIX power supply
		2−3	External power supply connection
P8	ON_LED	1−2 (Default)	Turn on +5V bus LED indicator
		2−3	Turn on +5V bus LED indicator
P9	+VDDIO	1−2 (Default)	Connects to on-board +VDDIO power supply
		2−3	External power supply connection
P10	+VDD_PLL	1−2 (Default)	Connects to on-board +VDD_PLL power supply
		2−3	External power supply connection
P11	+VDD	1−2 (Default)	Connects to on-board +VDD power supply
		2−3	External power supply connection

Table 1. JUMPERS AND HEADERS (continued)

Jumper/Header No.	Jumper/Header Name	Pins	Description
P12	+VDD_TX	1−2 (Default)	Connects to on-board +VDD_TX power supply
		2−3	External power supply connection
P13	CLK_SELECT	2−3 (Default)	Connects to on-board oscillator
		1−2	Connects to XMCLK from Demo 2X Baseboard
P14, P15	EEPROM ADDR	P14 Closed, P15 Open (Default)	EEPROM Address set to 0xA8
		P14 Open, P15 Open	EEPROM Address set to 0xAC
		P14 Open, P15 Closed	EEPROM Address set to 0xA4
		P14 Closed, P15 Closed	EEPROM Address set to 0xA0
P16	GPI0	Open (Default)	For various sensor's settings/connection to external peripherals
P17	GPI1	Open (Default)	For various sensor's settings/connection to external peripherals
P18	GPI2	Open (Default)	For various sensor's settings/connection to external peripherals
P19	GPI3	Open (Default)	For various sensor's settings/connection to external peripherals
SW1	RESET	N/A	When pushed, 240 ms reset signal will be sent to MT9P004

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.

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