ASX340AT2C00XPEDH3-GEVB

ASX340AT Evaluation Board User's Manual

ON Semiconductor®

EVAL BOARD USER'S MANUAL

Evaluation Board Overview

The evaluation boards are designed to demonstrate the features of image sensors products from ON Semiconductor. This headboard is intended to plug directly into the Demo 3 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 3 Controlled MClk
- Two-wire Serial Interface
  - Selectable Base Address
- Parallel Interface
- ROHS Compliant

Block Diagram

Figure 1. ASX340AT Evaluation Board
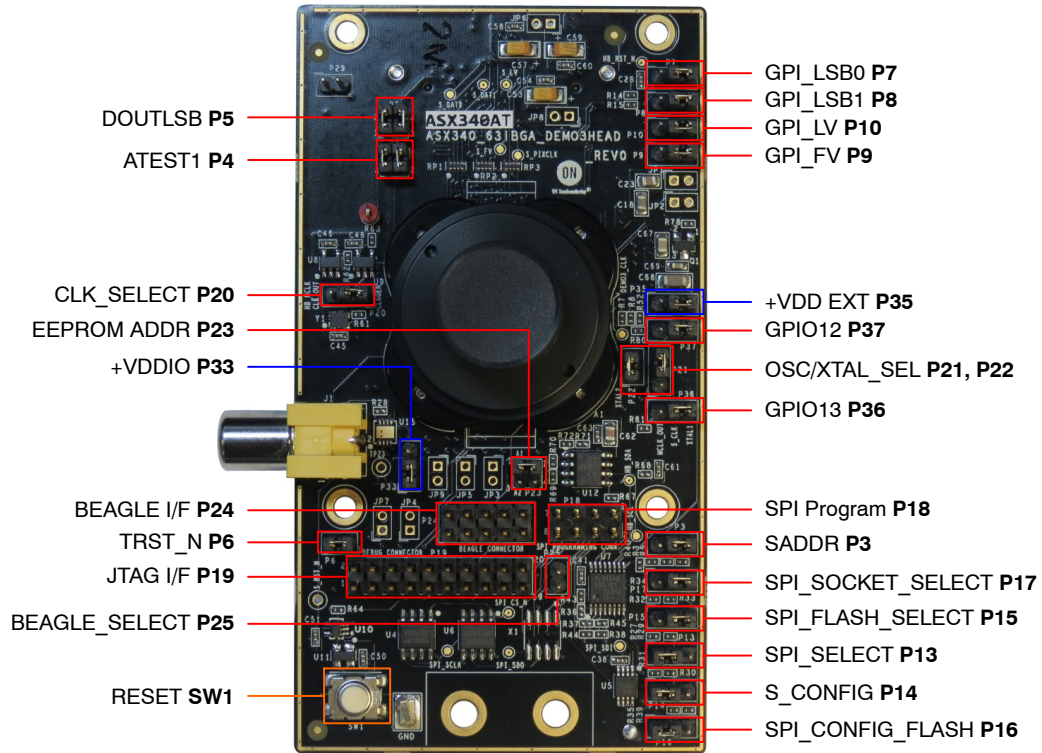

Figure 2. Block Diagram of ASX340AT2C00XPEDH3−GEVB

ASX340AT2C00XPEDH3–GEVB

Top View

DOUTLSB **P5**

ATEST1 **P4**

CLK_SELECT **P20**

EEPROM ADDR **P23**

+VDDIO **P33**

BEAGLE I/F **P24**

TRST_N **P6**

JTAG I/F **P19**

BEAGLE_SELECT **P25**

RESET **SW1**

GPI_LSB0 **P7**

GPI_LSB1 **P8**

GPI_LV **P10**

GPI_FV **P9**

+VDD EXT **P35**

GPIO12 **P37**

OSC/XTAL_SEL **P21**, **P22**

GPIO13 **P36**

SPI Program **P18**

SADDR **P3**

SPI_SOCKET_SELECT **P17**

SPI_FLASH_SELECT **P15**

SPI_SELECT **P13**

S_CONFIG **P14**

SPI_CONFIG_FLASH **P16**

Figure 3. Top View of the Board – Default Jumpers

Bottom View

Baseboard Connector **J2**
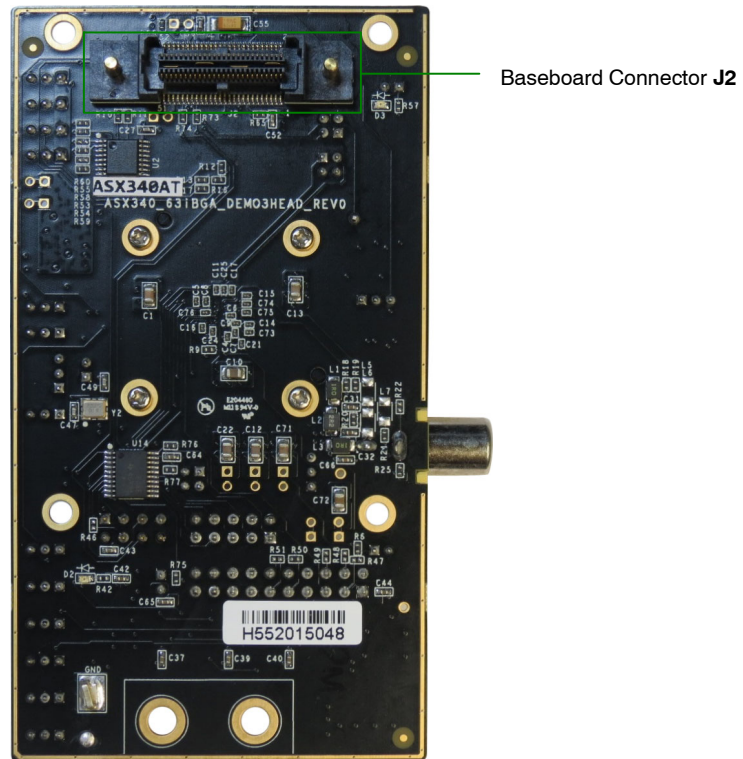
Figure 4. Bottom View of the Board – Connector

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.
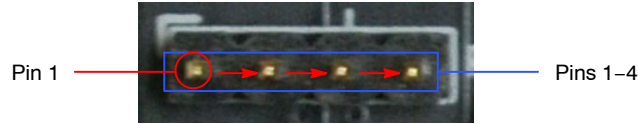
Figure 5. Pin Locations for a Single Jumper. Pin 1 is Located at the Leftmost Side and Increases as it Moves to the Right
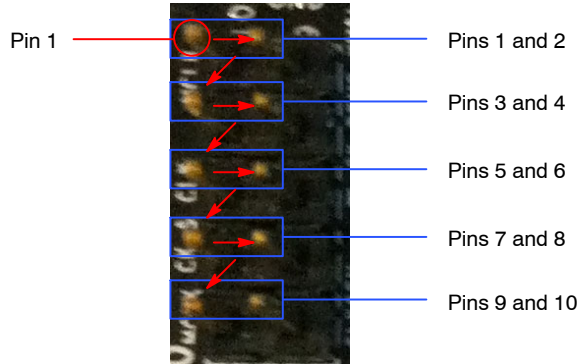
Figure 6. Pin Locations and Assignments of Grouped Jumpers.
Pin 1 is Located at the Top-Left Corner and Increases in a Zigzag Fashion Shown in the Picture

Jumper/Header Functions & Default Positions

Table 1. JUMPERS AND HEADERS

Jumper/Header No.	Jumper/Header Name	Pins	Description
P3	SADDR	2−3 (Default)	I^{2}C Address Set to 0x90
		1−2	I^{2}C Address Set to 0xBA
P	Mode	Open	Set to Test Mode
P4	ATEST1	1−2, 3−4 (Default)	Normal Operation
		Open	For Debug/Test
P5	DOUTLSB	1−2, 3−4 (Default)	DOUTLSB[1:0] are Used
		Open	DOUTLSB[1:0] are Not Used
P6	TRST_N	1−2 (Default)	Normal Operation
		Open	Test Mode
P7	GPI_LSB0	2−3 (Default)	Video Output in NTSC Mode
		1−2	Video Output in PAL Mode
P8	GPI_LSB1	2−3 (Default)	Video Output is Not Vertical Flipped
		1−2	Video Output is Vertical Flipped
P9	GPI_FV	2−3 (Default)	Video Output is Not Horizontal Flipped
		1−2	Video Output is Horizontal Flipped
P10	GPI_LV	2−3 (Default)	Video Output does Not Have Pedestal
		1−2	Video Output has Pedestal
P13	SPI_SELECT	1−2 (Default)	SPI EEPROM (1 Mbit) Selected
		2−3	SPI EEPROM (1 Mbit) Not Selected

Table 1. JUMPERS AND HEADERS (continued)

Jumper/Header No.	Jumper/Header Name	Pins	Description
P14	S_CONFIG	2−3 (Default)	Sensor Operating in AUTO Mode
		1−2	Sensor Operating in HOST Mode
P15	SPI_FLASH_SELECT	1−2 (Default)	SPI FLASH (512 Kbit) Selected
		2−3	SPI FLASH (512 Kbit) Not Selected
P16	S_CONFIG_FLASH	2−3 (Default)	Sensor Operating in Host/Auto CONFIG Mode
		1−2	Sensor Operating in FLASH Mode
P17	SPI_SOCKET_SELECT	2−3 (Default)	SPI SOCKET Not Selected
		1−2	SPI SOCKET Selected
P18	SPI Program	Open (Default)	For Connection to External SPI Memory Programmer
P19	JTAG I/F	Open (Default)	For Debug/Test
P20	CLK_SELECT	1−2 (Default)	Connects to On-board Oscillator
		2−3	Connects to HB_MCLK from Demo 3 Baseboard
P21, P22	OSC/XTAL_SELECT	P21 2−3, P22 Closed (Default)	Selects Crystal as Sensor Input Clock
		P21 1−2 P22 Open	Selects Oscillator as Sensor Input Clock
P23	EEPROM ADDR	1−2 Closed, 3−4 Open (Default)	EEPROM Address Set to 0xA8
		1−2 Open, 3−4 Open	EEPROM Address Set to 0xAC
		1−2 Open, 3−4 Closed	EEPROM Address Set to 0xA4
		1−2 Closed, 3−4 Closed	EEPROM Address Set to 0xA0
P24	BEAGLE I/F	Open (Default)	For Debug/Test
P25	BEAGLE_SELECT	1−2 (Default)	BEAGLE I/F Disabled
		Open	BEAGLE I/F Enabled
P33	+VDDIO	1−2 (Default)	Selects +2V8_VDDIO_HB
P35	+VDD_EXT	2−3 (Default)	Connects to On-board +VDD_EXT Power Supply
		1−2	External Power Supply Connection
P36	GPIO13	2−3 (Default)	Selects Device Address to 0x90
		1−2	Selects Device Address to 0xBA
P37	GPIO12	2−3 (Default)	Selects Device Address to 0x90
		1−2	Selects Device Address to 0xBA
SW1	RESET	N/A	When Pushed, 240 ms Reset Signal will be Sent to ASX340

Interfacing to ON Semiconductor Demo 3 Baseboard

The ON Semiconductor Demo 3 baseboard has a similar 52-pin connector which mates with J2 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 MEASUREMENT

Jumper	Voltage (V)
JP1 (+2V8_VAA)	2.8
JP2 (+2V8_VAAPIX)	2.8
JP3 (+2V8_VDDPLL)	2.8
JP4 (+2V8_VDDIO)	2.8
JP5 (+2V8_VDDDAC)	2.8
JP6 (+1V8_VDD)	1.8
JP7 (+VDDIO_LS)	2.8
JP8 (+3V3)	3.3

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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