ARX3A0 IAS Module

Prototype 1/10.3-inch 0.3 Mp Fast Rolling Shutter

Advance Information

IAS1MOD-ARX3A0CSSM050110-GEVB

The ARX3A0 0.3 MP IAS module is part of the ON Semiconductor IAS family of modules offering standardized connectors, layout configuration and OTPM protocol. The modules are compatible with Evaluations systems and reference designs offered by ON Semiconductor. The modules are offered from ON Semiconductor as prototype modules not meant for customer production shipments. Customer can work with On Semiconductor Distribution partners for equivalent mass production versions of these modules.

Table 1. KEY PERFORMANCE PARAMETERS

Parameter	Value
Sensor	
Sensor Part Number	ARX3A0CSSM00SMD20
FUNCTIONAL	
Output	Raw
CFA	Mono
Max. fps	360 fps @ 560 x 560
Interface	2−lane MIPI
MECHANICAL	
Module size X*Y*Z(mm)	5.4 x 21.95 x 2.53
OPTICAL	
Optical Format	1/10.3”
Image active resolution	560 (H) x 560 (V)
Pixel size	2.2 μm
Focus Range	10 cm~Inf
Hyperfocal Distance	19.8 cm
Effective Focal Length (EFL)	1.34 mm
Lens F number	2.0
Lens Structure	4P
Diagonal Filed of View (DFOV)	65.5°
Vertical Field of View (VFOV)	49.0°
Horizontal Field of View (HFOV)	49.0°
TV distortion	≤1.0%

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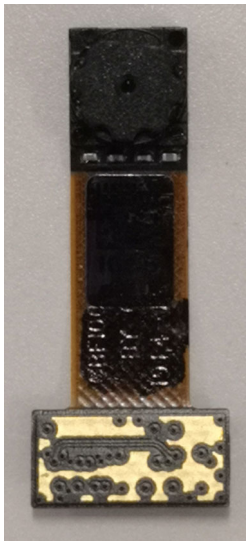
EVAL BOARD USER’S MANUAL



Applications

- IoT and Low Power Applications
- Machine Vision
- Artificial Intelligence

This document contains information on a new product. Specifications and information herein are subject to change without notice.

Table 1. KEY PERFORMANCE PARAMETERS

Parameter	Value
ELECTRICAL	
Supply voltages	VDDIO: 1.8 V VDD: 1.2 V VAA: 2.7 V
I2C Pull−up Resistor in Module (Note 1)	1.5k
PROGRAMMABLE STORAGE	
This module has programmable storage.	EEPROM/OTPM is programed per IAS programming specifications. Please refer to the IAS Module EEPROM and OTPM Application note (AND9865/D) for more information.

1. ON Semiconductor recommends that host sites add a 1.5k pull−up resistor.

Table 2. ORDERING INFORMATION

Part Number	Orderable Product Attribute Description
IAS1MOD−ARX3A0CSSM050110−GEVB	ARX3A0 0.3MP 1/10.3” Mono Die in IAS module with 65.5° DFOV Lens
IAS1−ADPTR−DM3D1−GEVB	Adapter Board to Demo3, DevWareX Supported

Table 3. MODULE CONNECTOR PINOUT

Pin Number	Pin Name	Pin Number	Pin Name
1	GPIO1	34	GPI3
2	GND	33	GND
3	GND	32	EXTCLK
4	DATA_P	31	GND
5	DATA_N	30	DATA_2P
6	GND	29	DATA_2N
7	CLK_P	28	GND
8	CLK_N	27	NC
9	GND	26	NC
10	NC	25	GND
11	NC	24	VDD
12	GND	23	VDD
13	VDDIO	22	SDATA
14	SCLK	21	XSHUTDOWN
15	GPIO0	20	GPI2
16	GND	19	GND
17	VAA	18	VAA

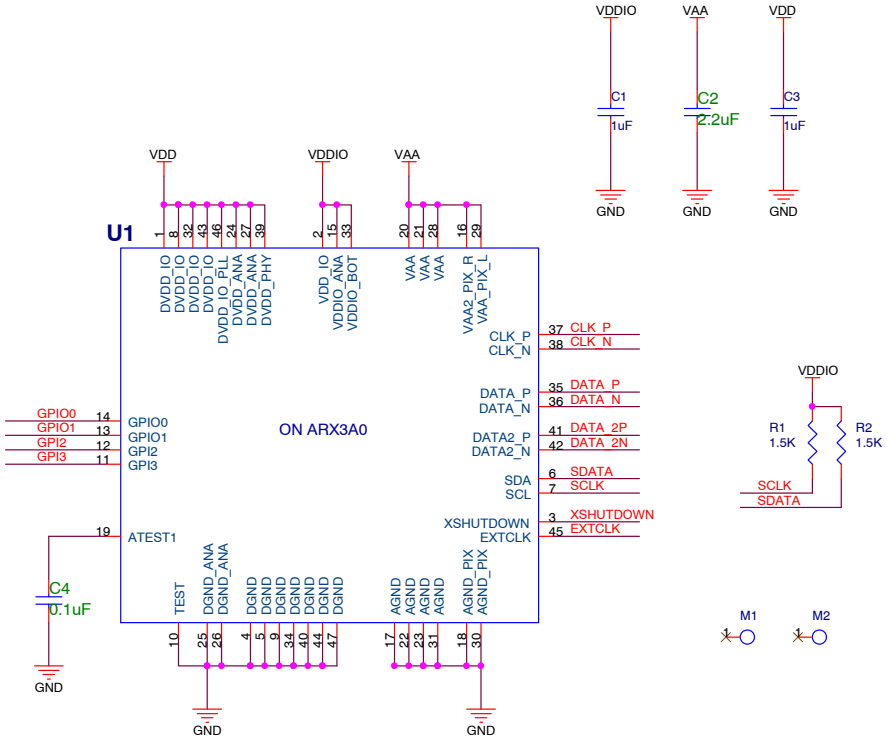


Figure 1. Module Schematic

MODULE CONNECTOR

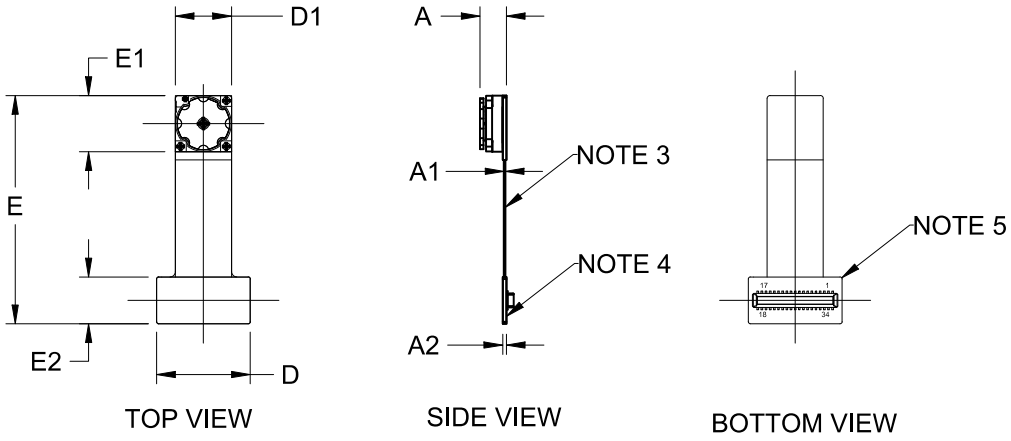
Part Number	Connector Type	Pin Numbers	Mated Height	Contact Pitch
BM20B(0.8)−34DP−0.4V(51)	Plug	34	0.8 mm	0.4 mm

Figure 2.

MECHANICAL DIMENSIONS

USE MODULE IDENTIFIER 9.0x21.95
CASE MODGY
ISSUE O

DATE 29 AUG 2019



NOTES:

1. DIMENSIONING AND TOLERANCING PER. ASME Y14.5M, 2009.
2. CONTROLLING DIMENSION: MILLIMETERS
3. FLEXIBLE PRINT CIRCUIT
   NO CRACK AND BREAK AFTER BENDING.
   BENDING CONDITION: 10 TIMES, RADIUS 0.6mm AND 180°.
4. FLEXIBLE AND RIGID PRINTED CIRCUIT BOARD.
5. CONNECTOR: HRS BM20B(0.8)-34DP-0.4V(51)

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	2.33	2.53	2.73
A1	0.07	0.12	0.17
A2	0.30	0.35	0.40
D	8.90	9.00	9.10
D1	5.25	5.40	5.55
E	21.80	21.95	22.10
E1	5.25	5.40	5.55
E2	4.40	4.50	4.60

ADDITIONAL INFORMATION

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