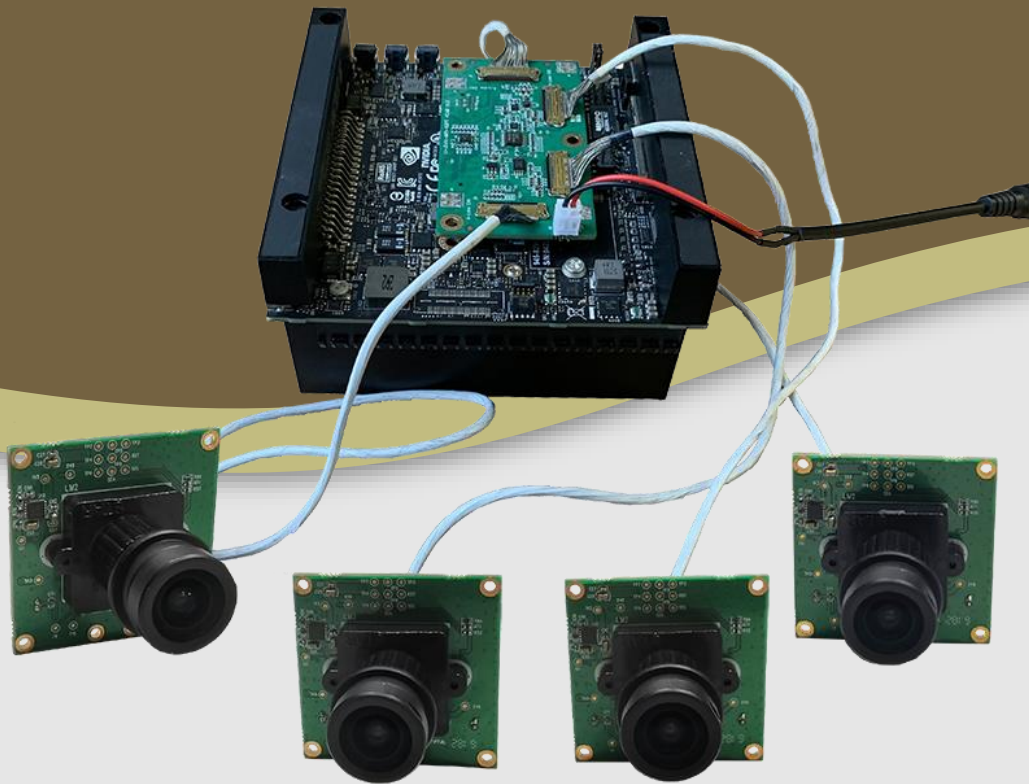




# LI-XAVIER-KIT-IMX415M12-X



**Address:**

48820 Kato Road  
Suite 100B  
Fremont, CA 94538  
USA



**Phone:**

+1 (408)263-0988

**Fax:**

+1 (408)217-1960



**Sales:**

[sales@leopardimaging.com](mailto:sales@leopardimaging.com)

**Support:**

[support@leopardimaging.com](mailto:support@leopardimaging.com)

## KEY FEATURES

- Compatible with Nvidia® Jetson AGX Xavier™ Developer Kit
- MIPI CSI-2 interface
- Supports up to six cameras
- Two adapter board options:  
LI-JXAV-MIPI-ADPT-4CAM  
LI-JXAV-MIPI-ADPT-6CAM-FP
- Sensor: Sony Diagonal 6.43 mm (Type 1/2.8) CMOS Image Sensor IMX415
- Active pixels: 3864 (H) x 2176 (V)
- Color camera
- Length of the I-PEX cable: 300 mm
- Supports multiple length cables
- Connector Part#: 20525-030E-02
- Allows customization
- Part#: LI-XAVIER-KIT-IMX415M12-X

1 Cam	LI-XAVIER-KIT-IMX415M12
2 Cam	LI-XAVIER-KIT-IMX415M12-D
3 Cam	LI-XAVIER-KIT-IMX415M12-T
4 Cam	LI-XAVIER-KIT-IMX415M12-Q
6 Cam	LI-XAVIER-KIT-IMX415M12-H

## LENS SPECIFICATIONS

Effective Focal Length	4.063 mm
Aperture, F/#	2.29 ± 5%
Field of View (FOV)	81.7° horizontal
	44.7° vertical
	95.1° diagonal
Optical Distortion	-28.1%
TV Distortion	-9.3%
Relative Illumination	59.1%
IR Filter	650 nm IR cut filter
Lens Mount	M12 x 0.5

## BOM

Nvidia® Jetson AGX Xavier™ Developer Kit is **NOT** included.

#	Items	QTY
1	LI-JXAV-MIPI-ADPT-4CAM or LI-JXAV-MIPI-ADPT-6CAM-FP	1
2	LI-IMX415-MIPI-081H	1, 2, 3, 4 or 6
3	FAW-1233-03 cable	1, 2, 3, 4 or 6

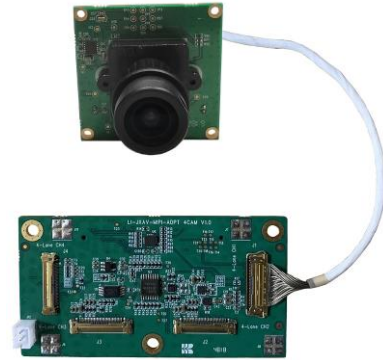
## APPLICATIONS

- Industrial Applications
- Intelligent Transportation System (ITS) Cameras

# BOM DETAILS

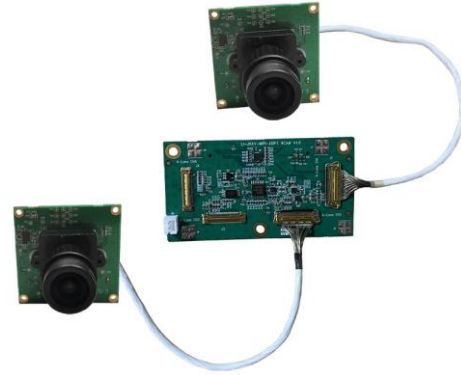
## LI-XAVIER-KIT-IMX415M12

#	Items	QTY
1	LI-JXAV-MIPI-ADPT-4CAM	1
2	LI-IMX415-MIPI-081H	1
3	FAW-1233-03 cable	1



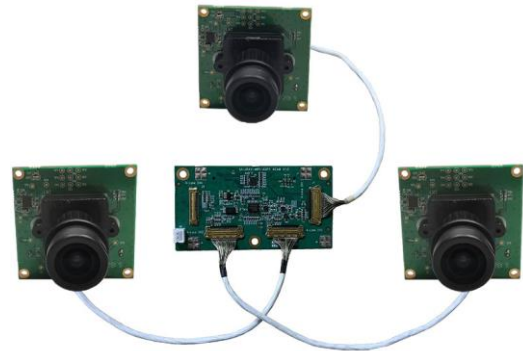
## LI-XAVIER-KIT-IMX415M12-D

#	Items	QTY
1	LI-JXAV-MIPI-ADPT-4CAM	1
2	LI-IMX415-MIPI-081H	2
3	FAW-1233-03 cable	2



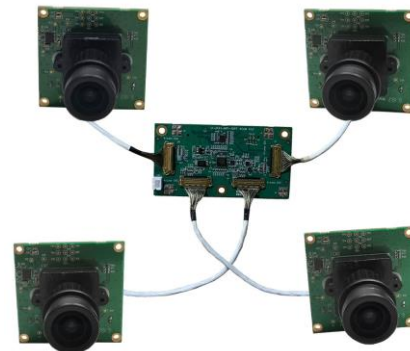
## LI-XAVIER-KIT-IMX415M12-T

#	Items	QTY
1	LI-JXAV-MIPI-ADPT-4CAM	1
2	LI-IMX415-MIPI-081H	3
3	FAW-1233-03 cable	3



## LI-XAVIER-KIT-IMX415M12-Q

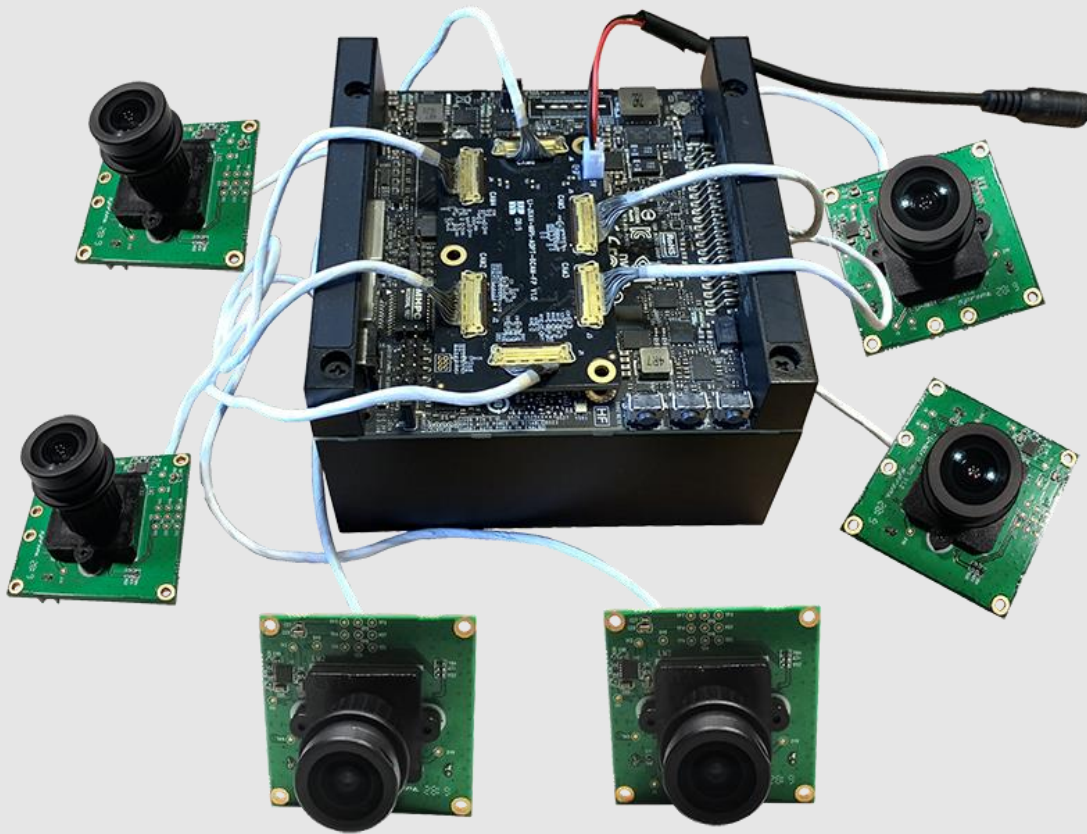
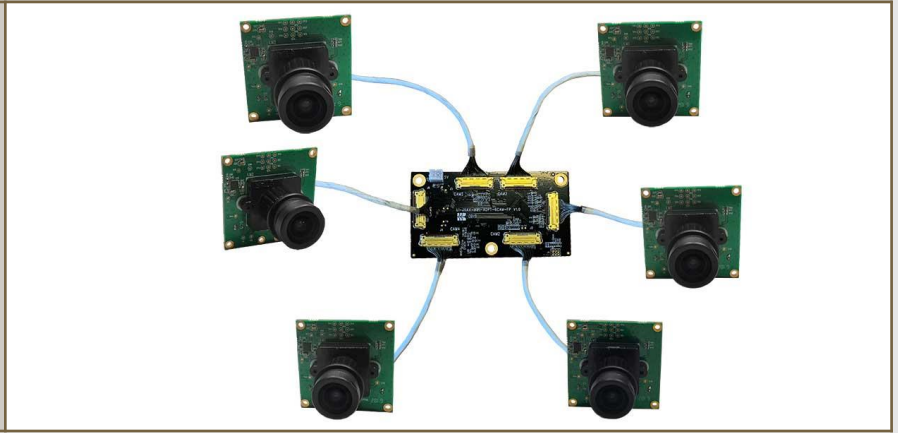
#	Items	QTY
1	LI-JXAV-MIPI-ADPT-4CAM	1
2	LI-IMX415-MIPI-081H	4
3	FAW-1233-03 cable	4



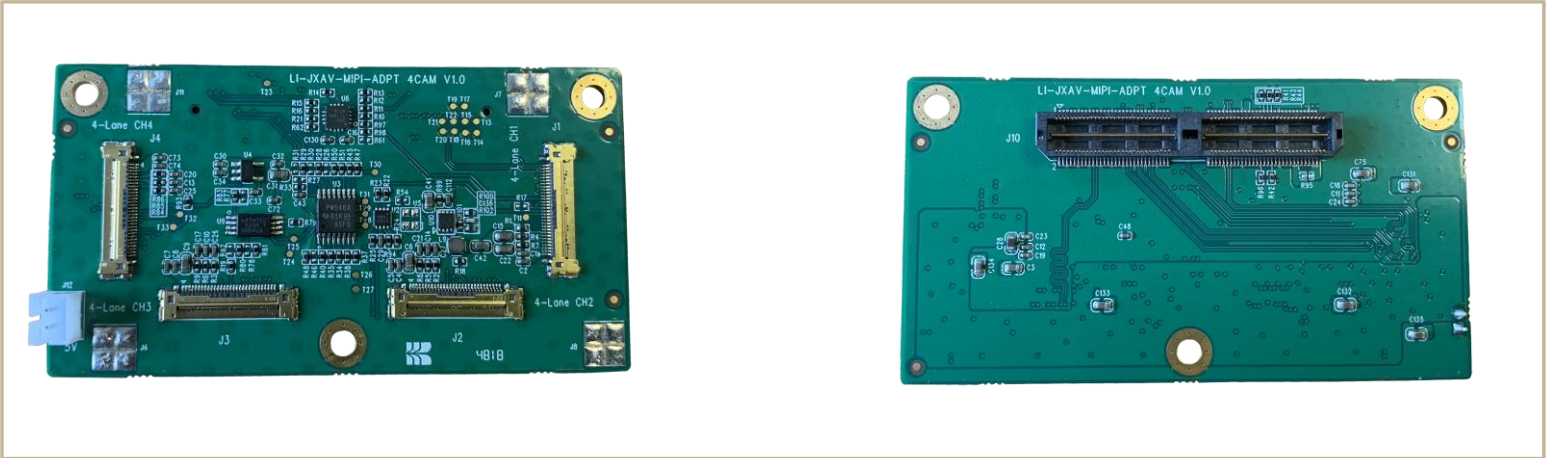
# BOM DETAILS

LI-XAVIER-KIT-IMX415M12-H

#	Items	QTY
1	LI-JXAV-MIPI-ADPT-6CAM-FP	1
2	LI-IMX415-MIPI-081H	6
3	FAW-1233-03 cable	6



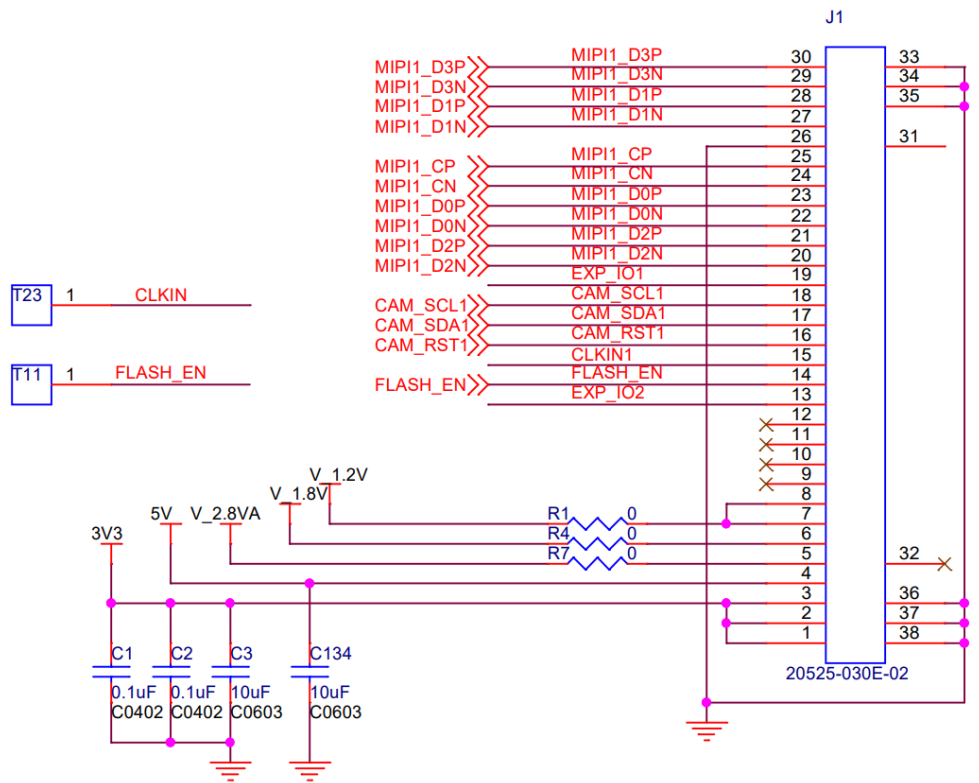
# LI-JXAV-MIPI-ADPT-4CAM



## INTERFACES

### Interface J1 (Camera Channel 1)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX

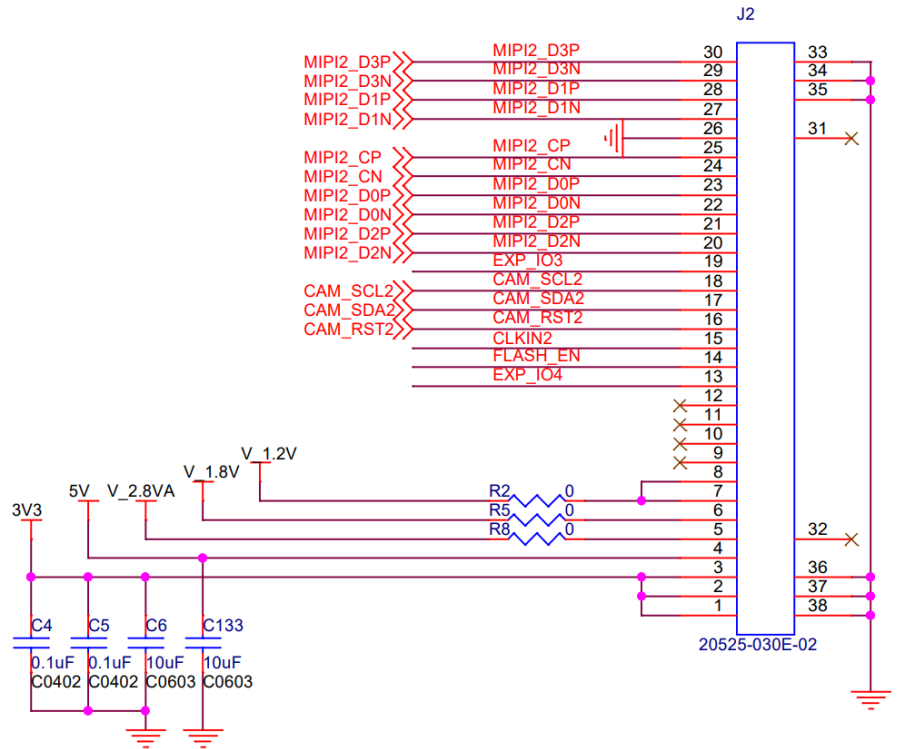


# LI-JXAV-MIPI-ADPT-4CAM

## INTERFACES

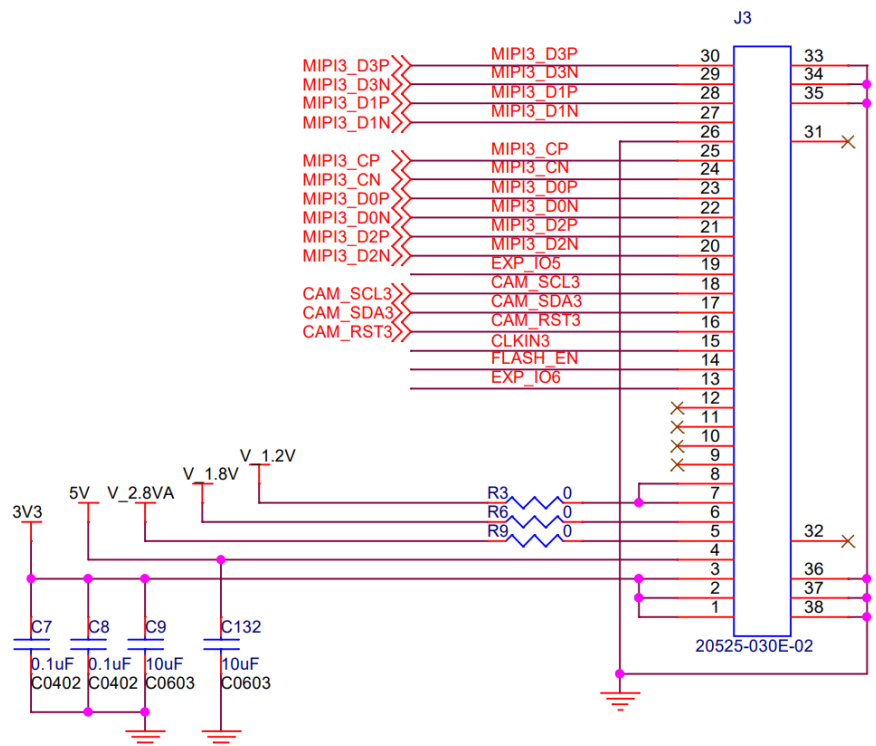
### Interface J2 (Camera Channel 2)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX



### Interface J3 (Camera Channel 3)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX

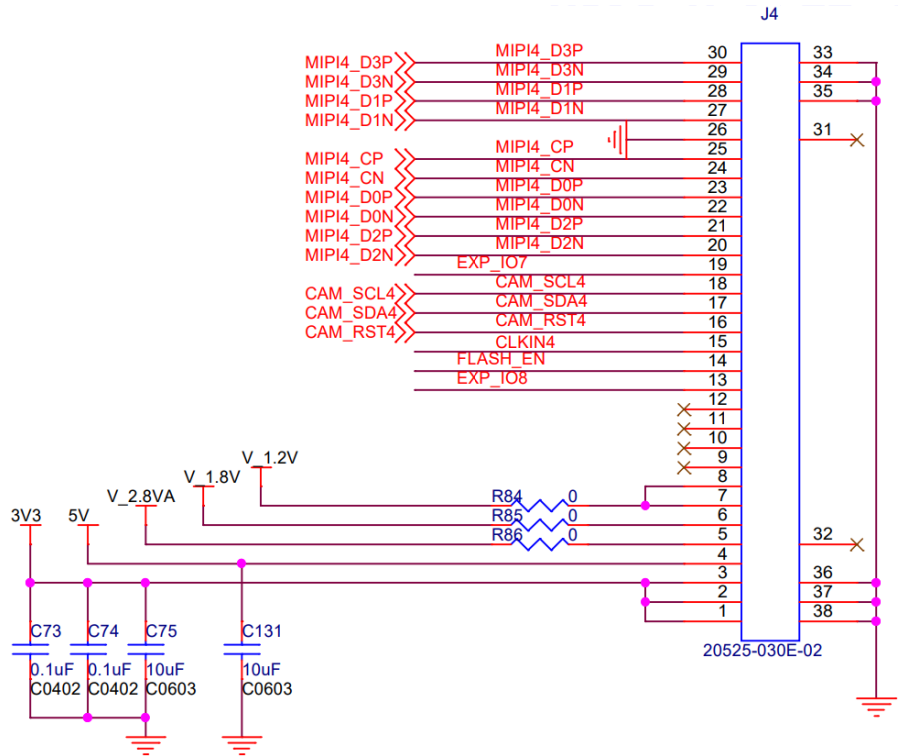


# LI-JXAV-MIPI-ADPT-4CAM

## INTERFACES

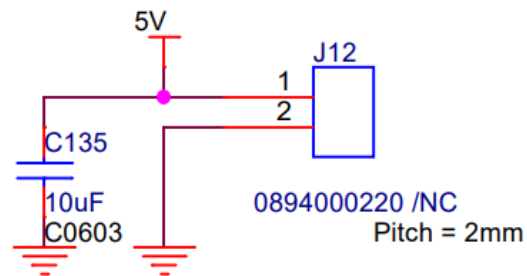
### Interface J4 (Camera Channel 4)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX



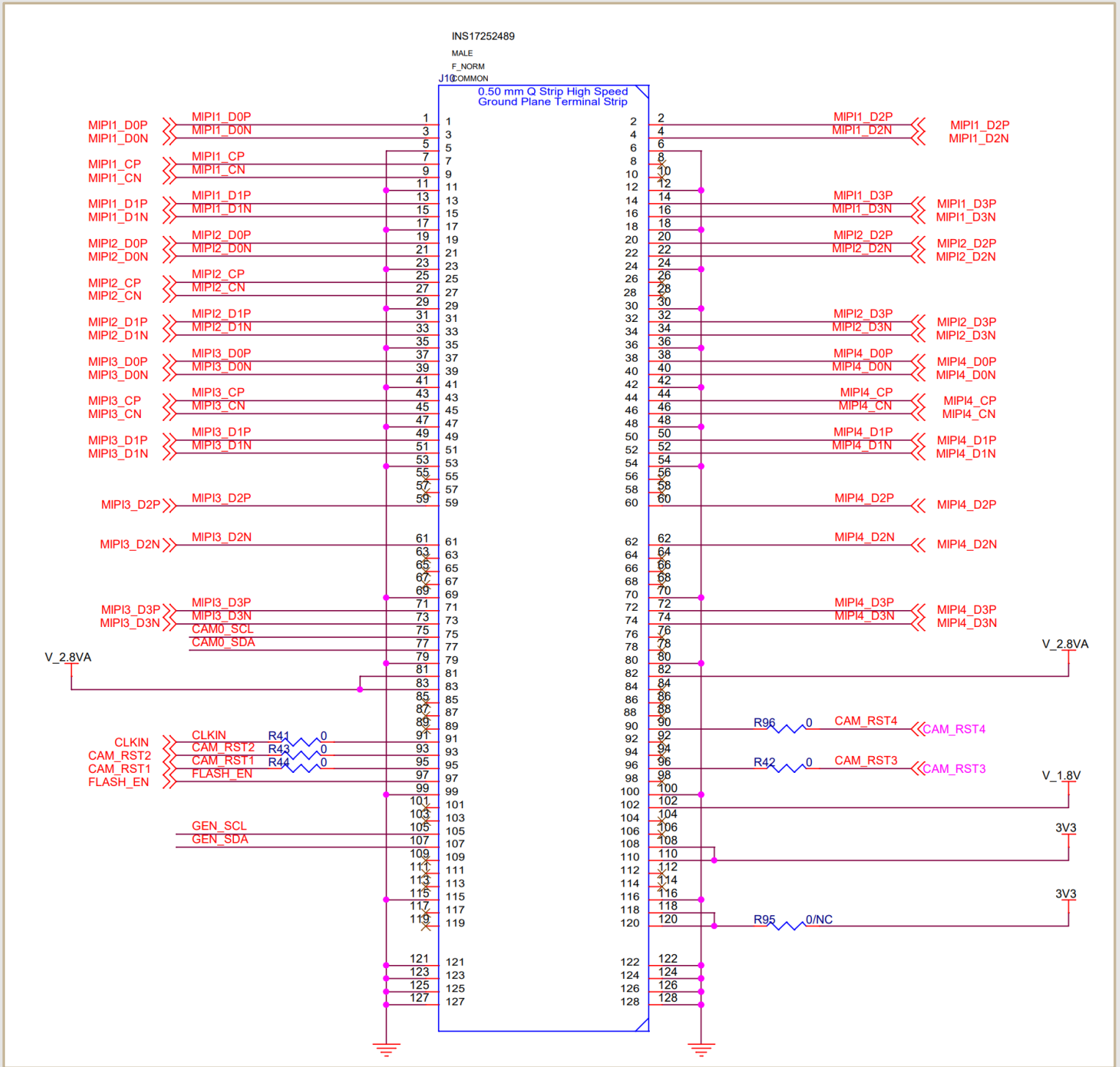
### Interface J12 (NOT Used)

- Part#: 0894000220
- Number of Positions: 2
- Pitch: 2 mm



# LI-JXAV-MIPI-ADPT-4CAM

## INTERFACE J10 (To Xavier)

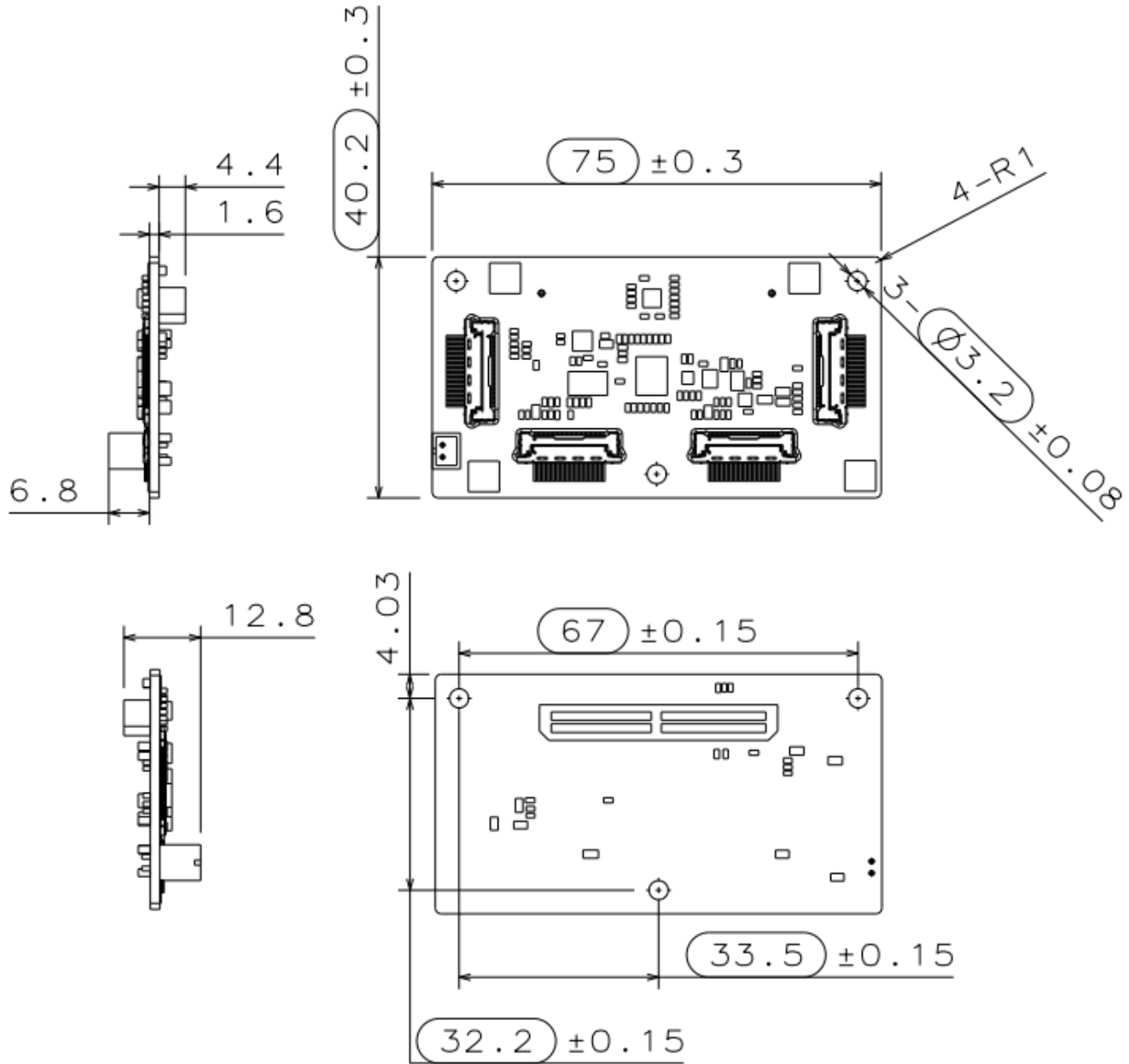


- Part#: QTH-060-01-L-D-A
- Number of Positions: 120
- Number of Rows: 2
- Pitch: 0.5 mm



# LI-JXAV-MIPI-ADPT-4CAM

## DIMENSIONS

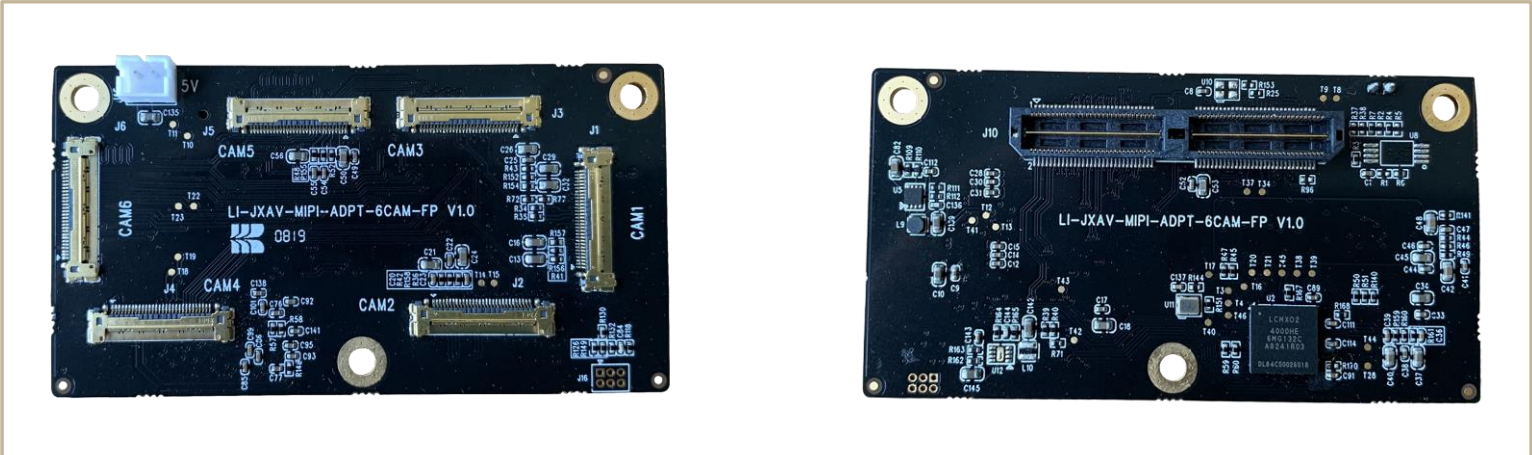


**NOTE:**

- ◻ marked are important sizes.
- Tolerances for the unmarked are ± 0.3 mm.

Unit: mm

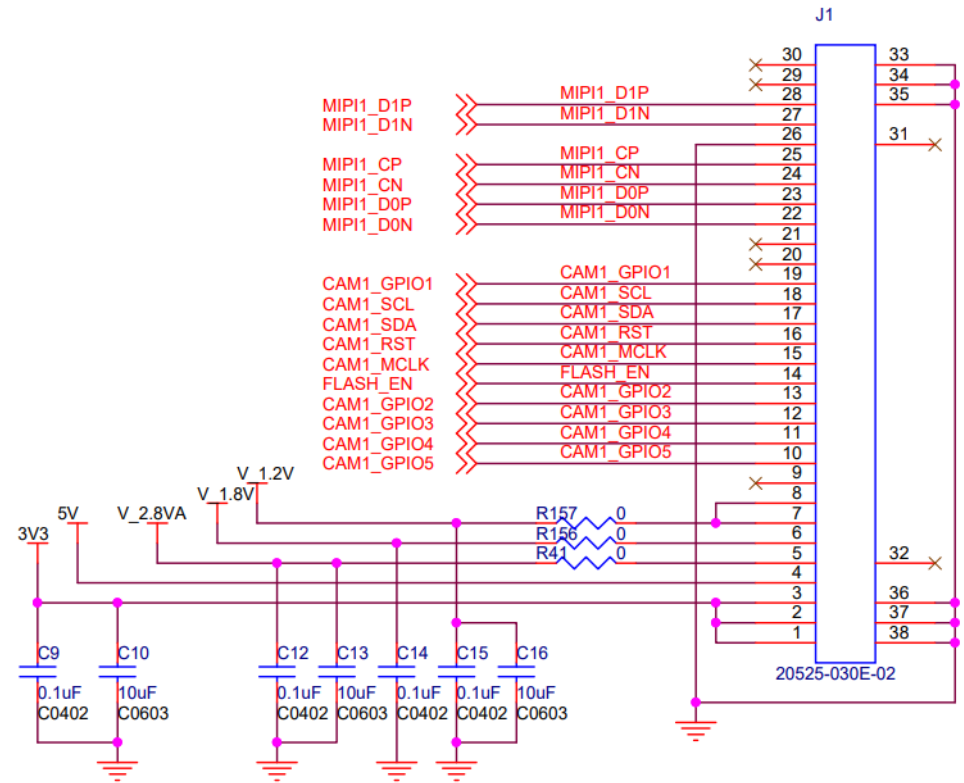
# LI-JXAV-MIPI-ADPT-6CAM-FP



## INTERFACES

### Interface J1 (Camera Channel 1)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX

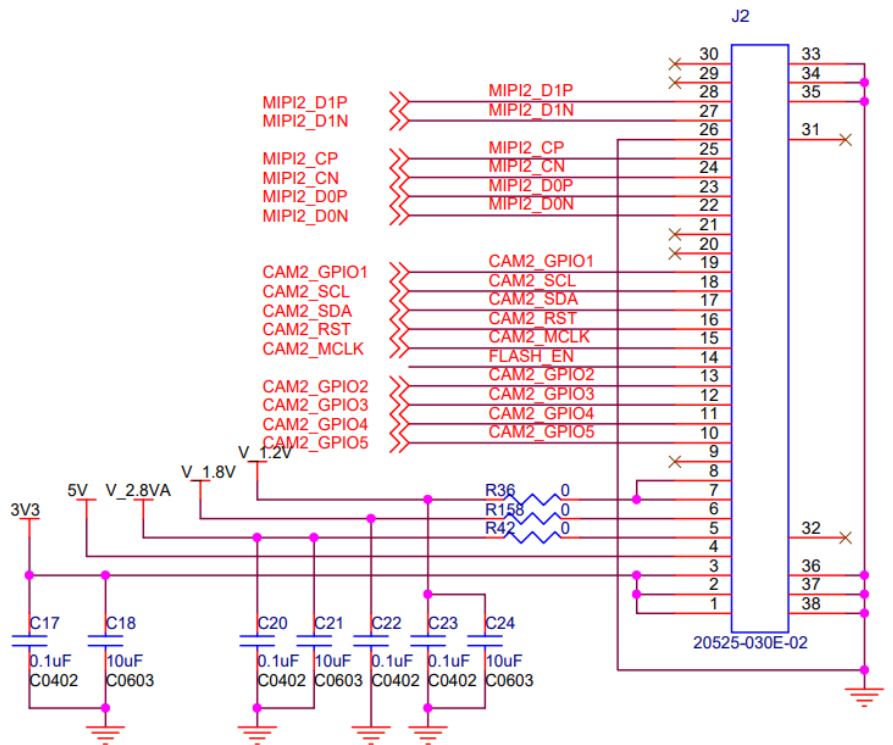


# LI-JXAV-MIPI-ADPT-6CAM-FP

## INTERFACES

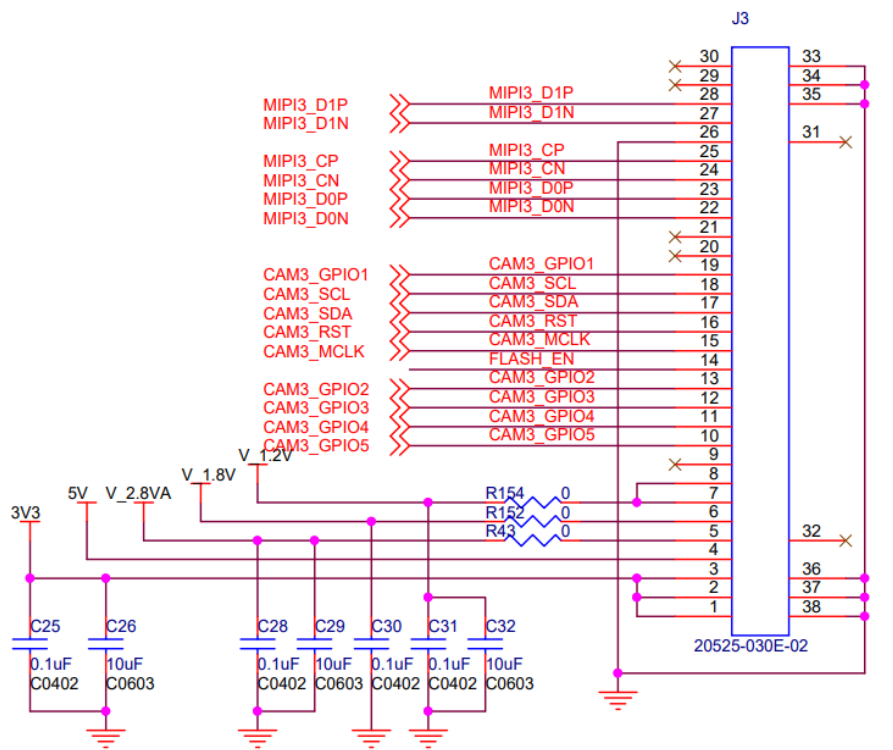
Interface J2 (Camera Channel 2)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX



Interface J3 (Camera Channel 3)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX

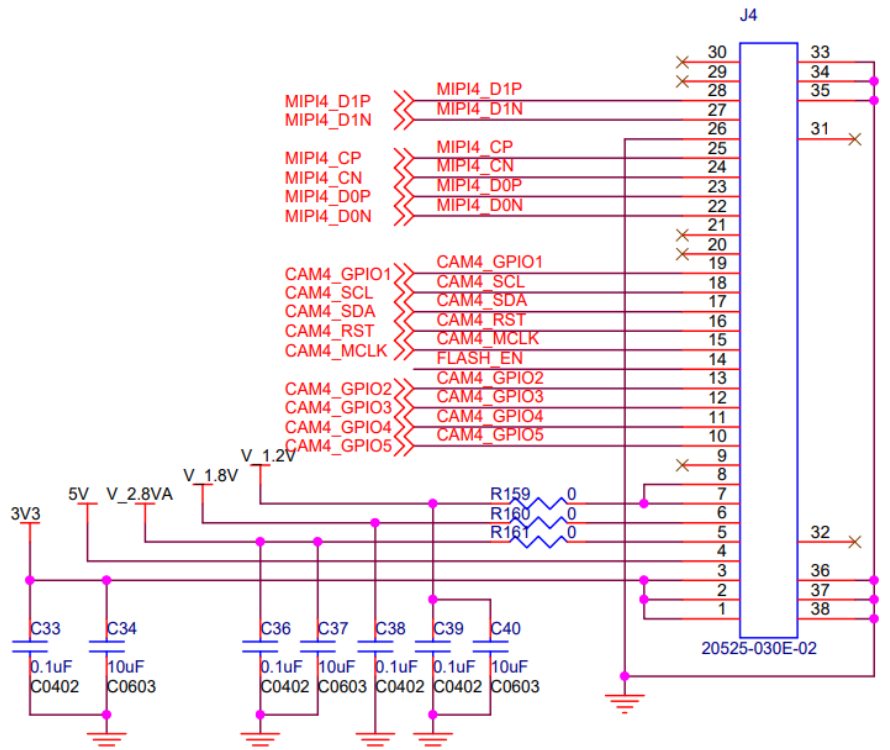


# LI-JXAV-MIPI-ADPT-6CAM-FP

## INTERFACES

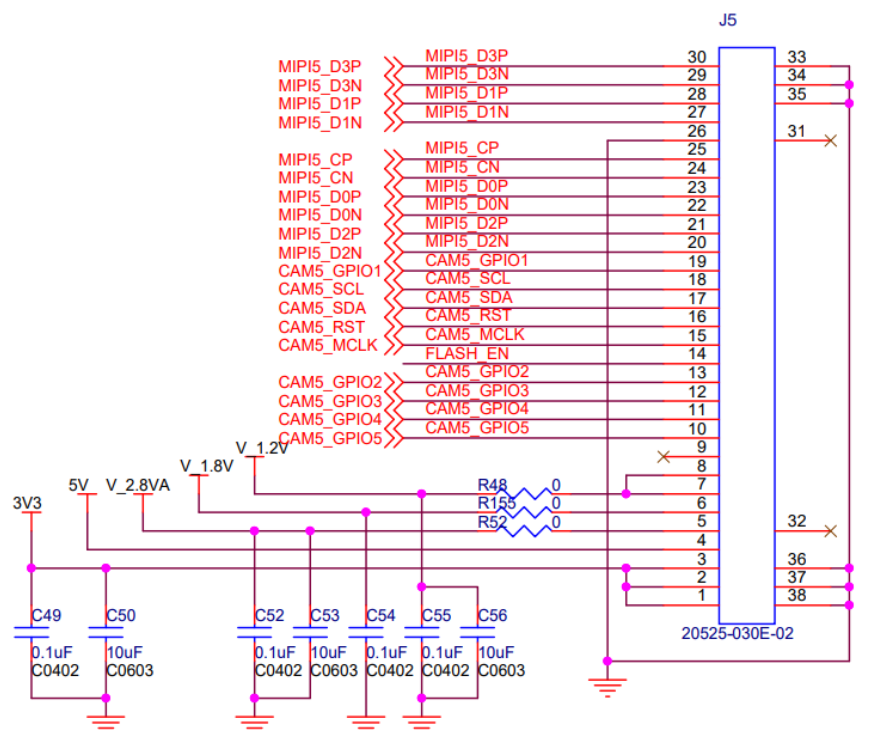
Interface J4 (Camera Channel 4)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX



Interface J5 (Camera Channel 5)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX

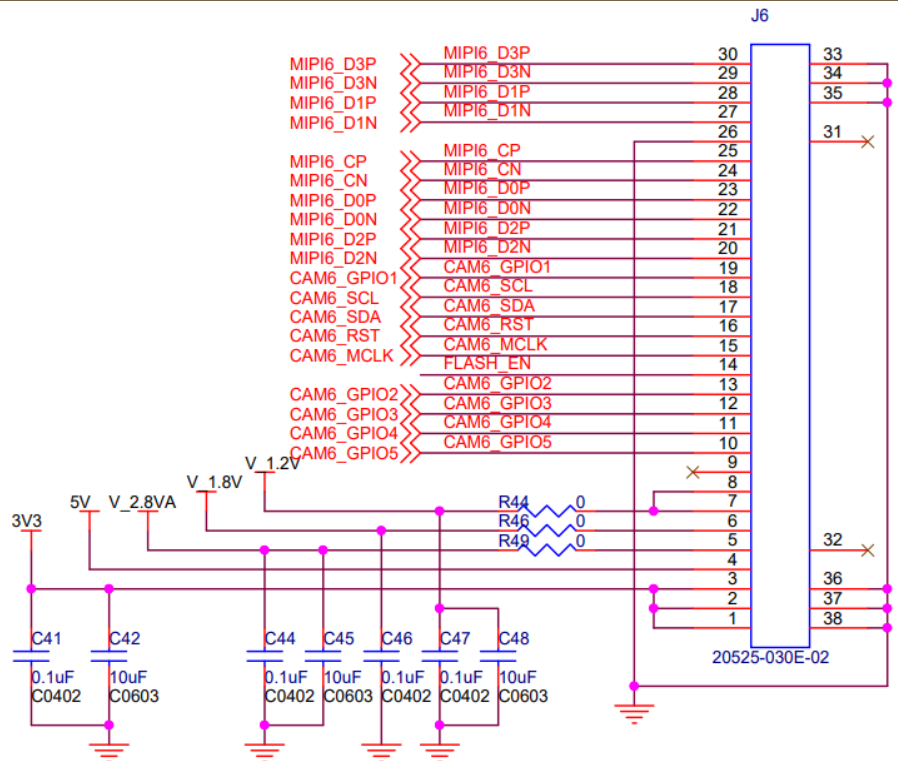


# LI-JXAV-MIPI-ADPT-6CAM-FP

## INTERFACES

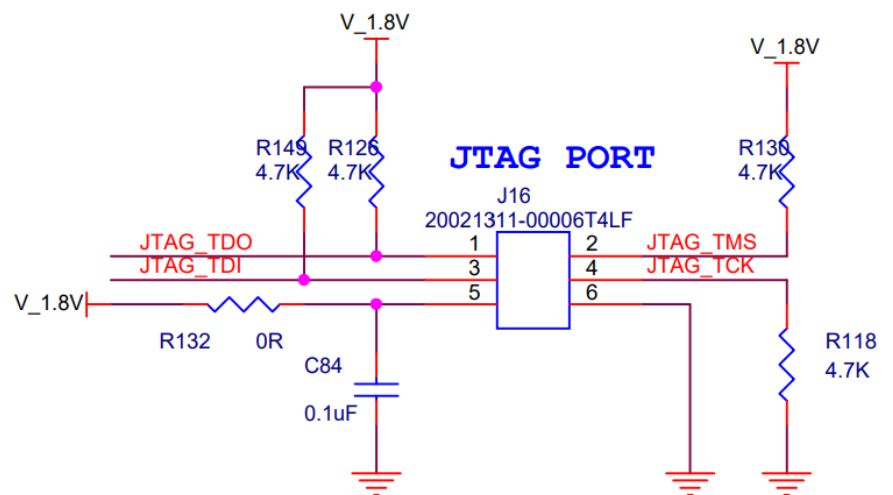
Interface J6 (Camera Channel 6)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX



Interface J16 (FPGA Programming Interface)

- Part#: 20021311-00006T4LF
- Number of Positions: 6
- Pitch: 1.27mm
- Number of Rows: 2

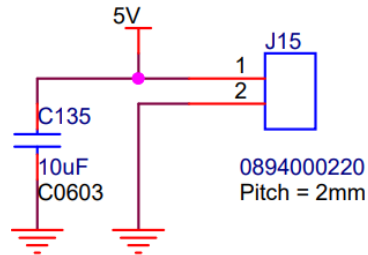


# LI-JXAV-MIPI-ADPT-6CAM-FP

## INTERFACES

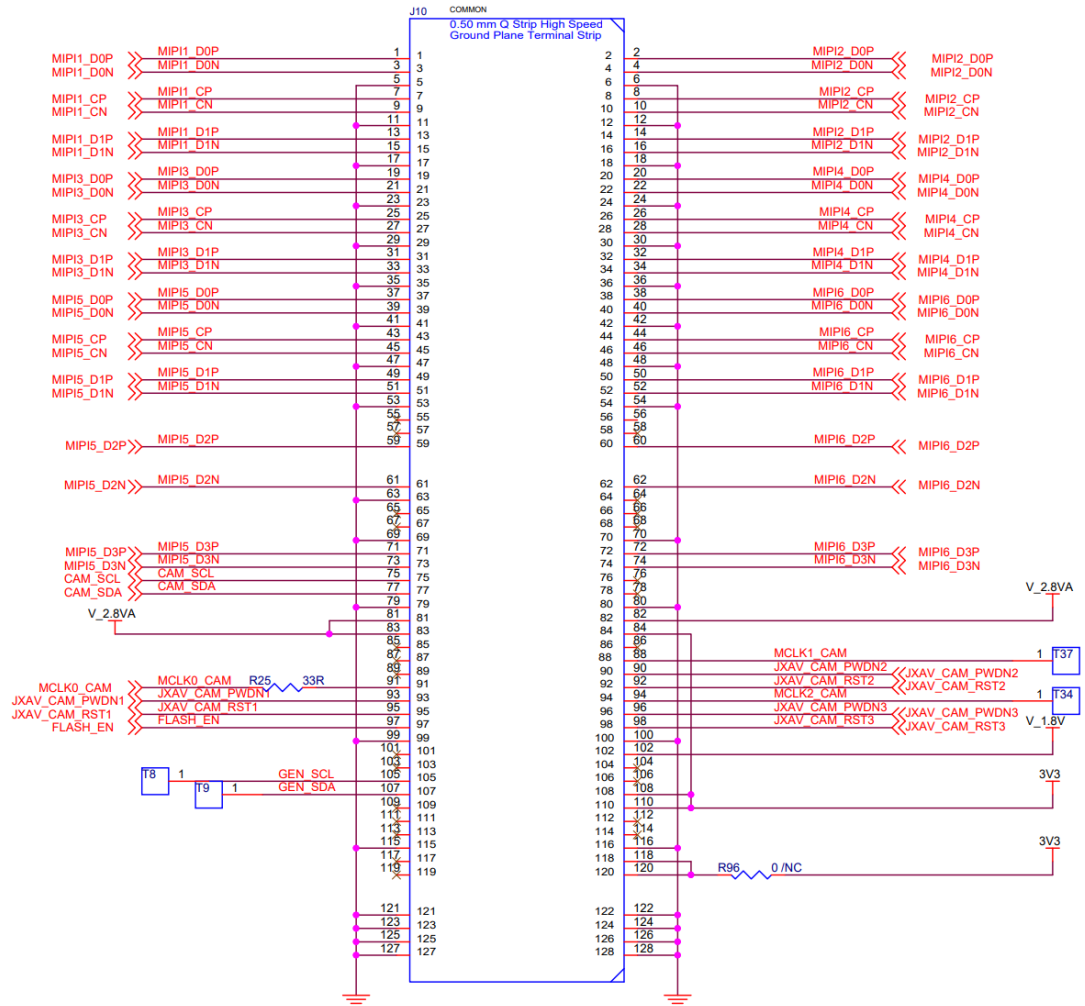
### Interface J15 (External Power Input Interface)

- Part#: 0894000220
- Number of Positions: 2
- Pitch: 2 mm



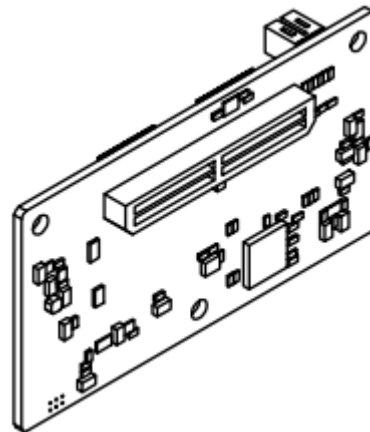
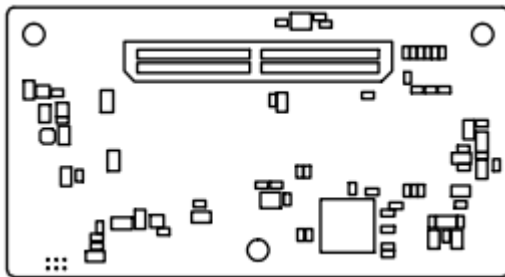
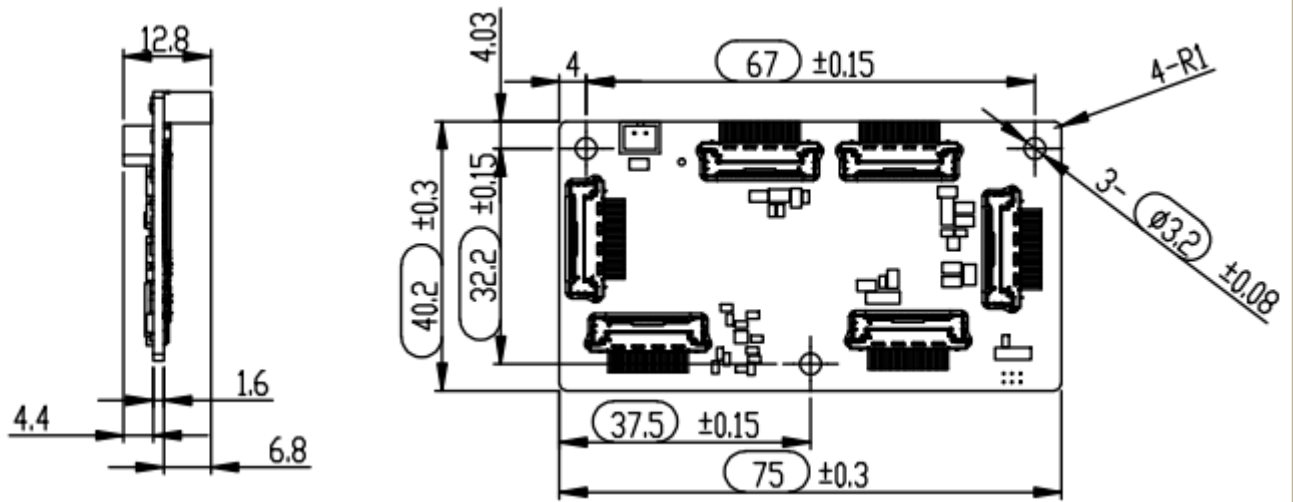
### Interface J10 (To Xavier)

- Part#: QTH-060-01-L-D-A
- Number of Positions: 120
- Number of Rows: 2
- Pitch: 0.5 mm



# LI-JXAV-MIPI-ADPT-6CAM-FP

## DIMENSIONS



### **NOTE:**

- marked are important sizes.
- Tolerances for the unmarked are  $\pm 0.3$  mm.

Unit: mm

# FAW-1233-03 Cable



## MECHANICAL DIAGRAM

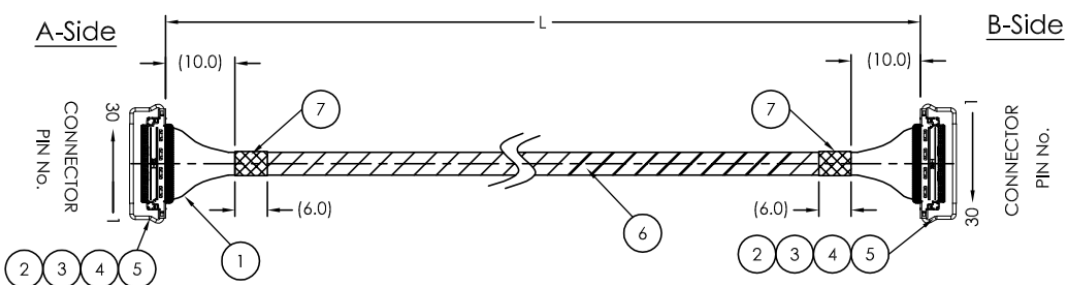
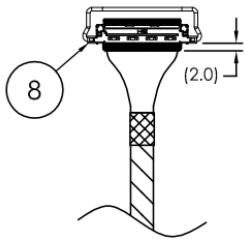
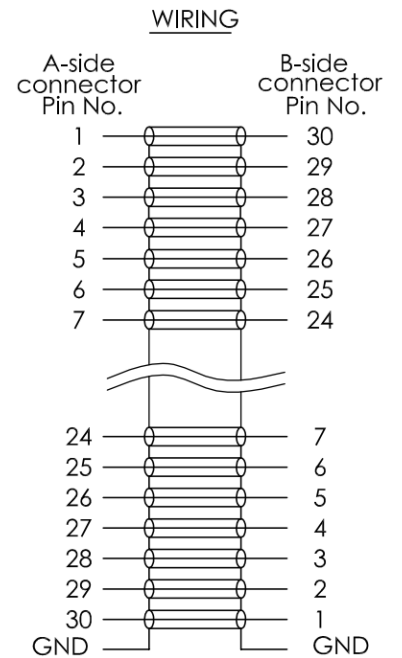


Fig. 1 Applying UV resin



### WIRING



8	UV RESIN	2	LOCBOND P/N : LOCBOND 349
7	TAPE	2	CHUKOH P/N: ASF-116T
6	TAPE	1	CHUKOH P/N: SEF-110
5	FLAT COPPER WIRE	4	GROUND BAR
4	PULL BAR	2	I-PEX P/N : 2766-0301
3	SHIELD PLATE	2	I-PEX P/N : 2764-0301-002
2	CONNECTOR	2	I-PEX P/N : 20634-130T-02
1	CABLE	30	UL10231 AWG40 MCX (Z=50ohm)
ITEM	DESCRIPTION	Q'TY	REMARK

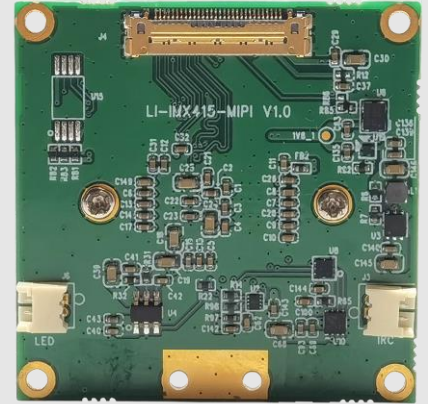
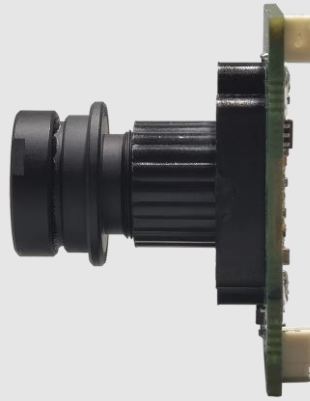
### NOTE:

- Total length:  $300.0 \pm 10.0$ .
- Apply UV resin at the end of connector to cover cables both sides of the cable assembly (Fig.1).

Unit: mm



# LI-IMX415-MIPI-081H



## CAMERA SPECIFICATIONS

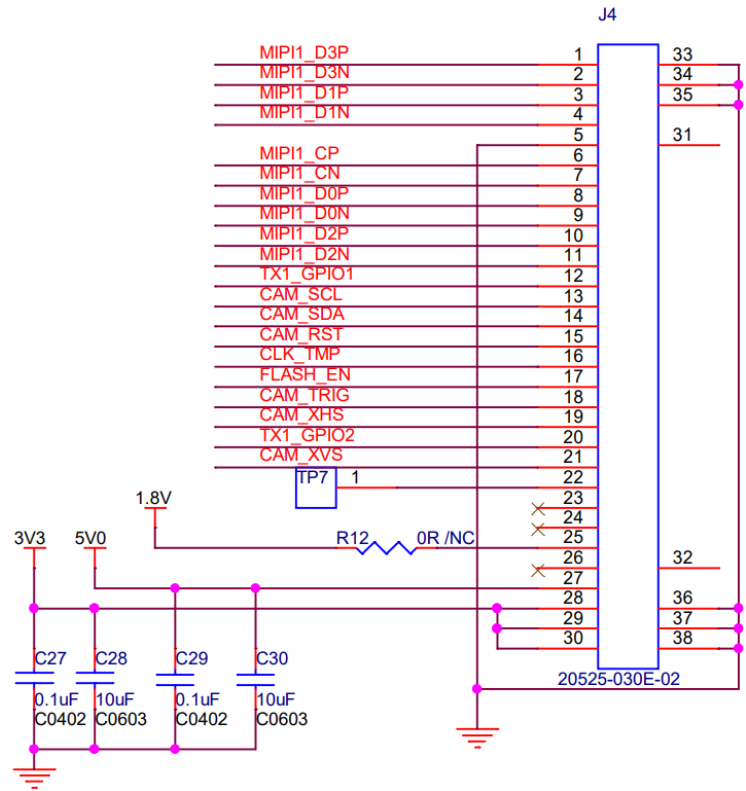
Sensor	Sony Diagonal 6.43 mm (Type 1/2.8) CMOS Image Sensor IMX415
Optical Format	1/2.8"
Resolution	3864 (H) x 2176 (V) (active pixels)
Pixel Size	1.45 x 1.45 $\mu\text{m}$
Output Format	10-bit / 12-bit RAW data
ISP	Not included
Color / Mono	Color sensor
Interface	4-lane MIPI CSI-2
Lens Mount	M12
Size	38 (L) x 38 (W) x 32.04 (D) mm
Weight	~ 17 g
Part#	LI-IMX415-MIPI-081H

# LI-IMX415-MIPI-081H

## INTERFACES

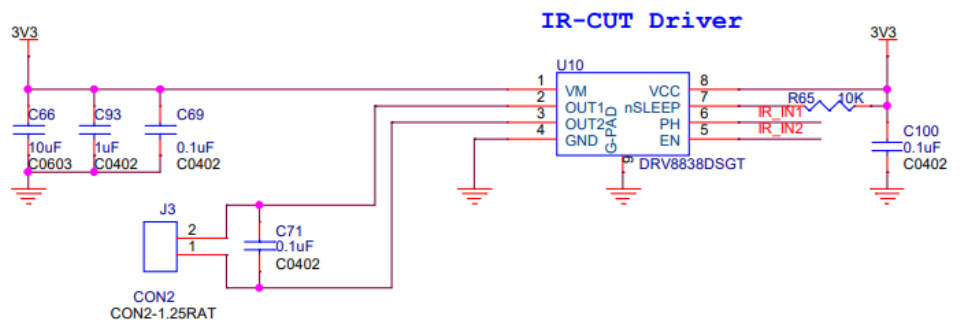
### Interface J4

- Connector Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX cable: LI-FAW-1233
- Sensor I2C Address: 0x1A (7-bit)
- External Power Supply: 3.3V
- 2.9V (analog), 1.8V and 1.1V are generated from board



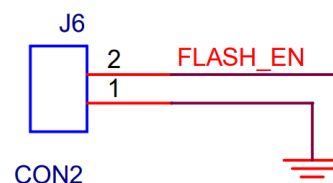
### Interface J3

- Part#: 1734829-2
- Number of Positions: 2
- Pitch: 1.25 mm



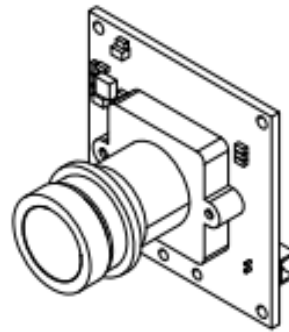
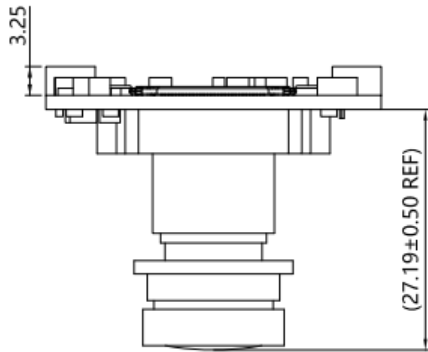
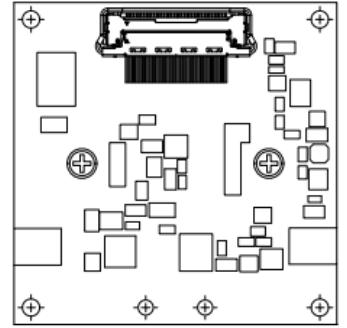
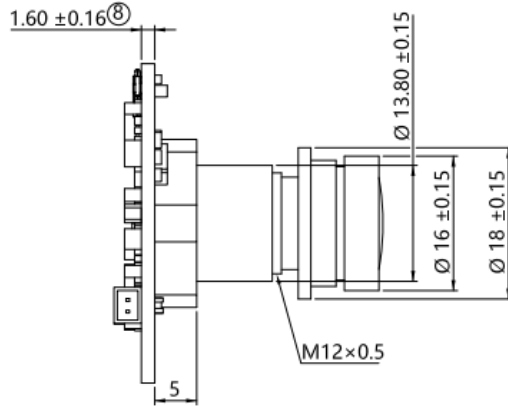
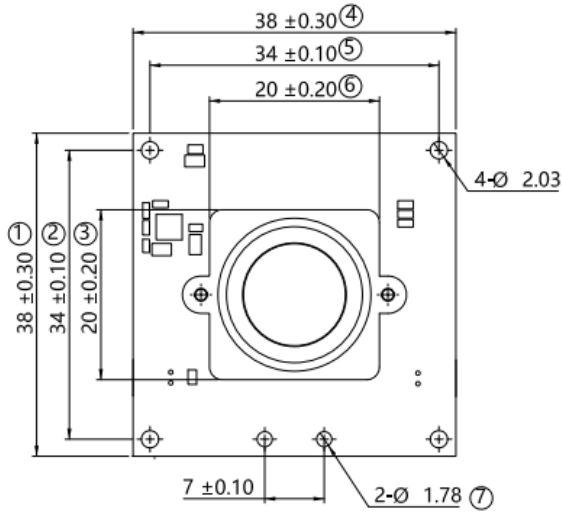
### Interface J6

- Part#: 1734829-2
- Number of Positions: 2
- Pitch: 1.25 mm



# LI-IMX415-MIPI-081H

## DIMENSIONS



### NOTE:

- ⊗ marked are important sizes.
- Tolerances for the unmarked are ± 0.3 mm.

Unit: mm