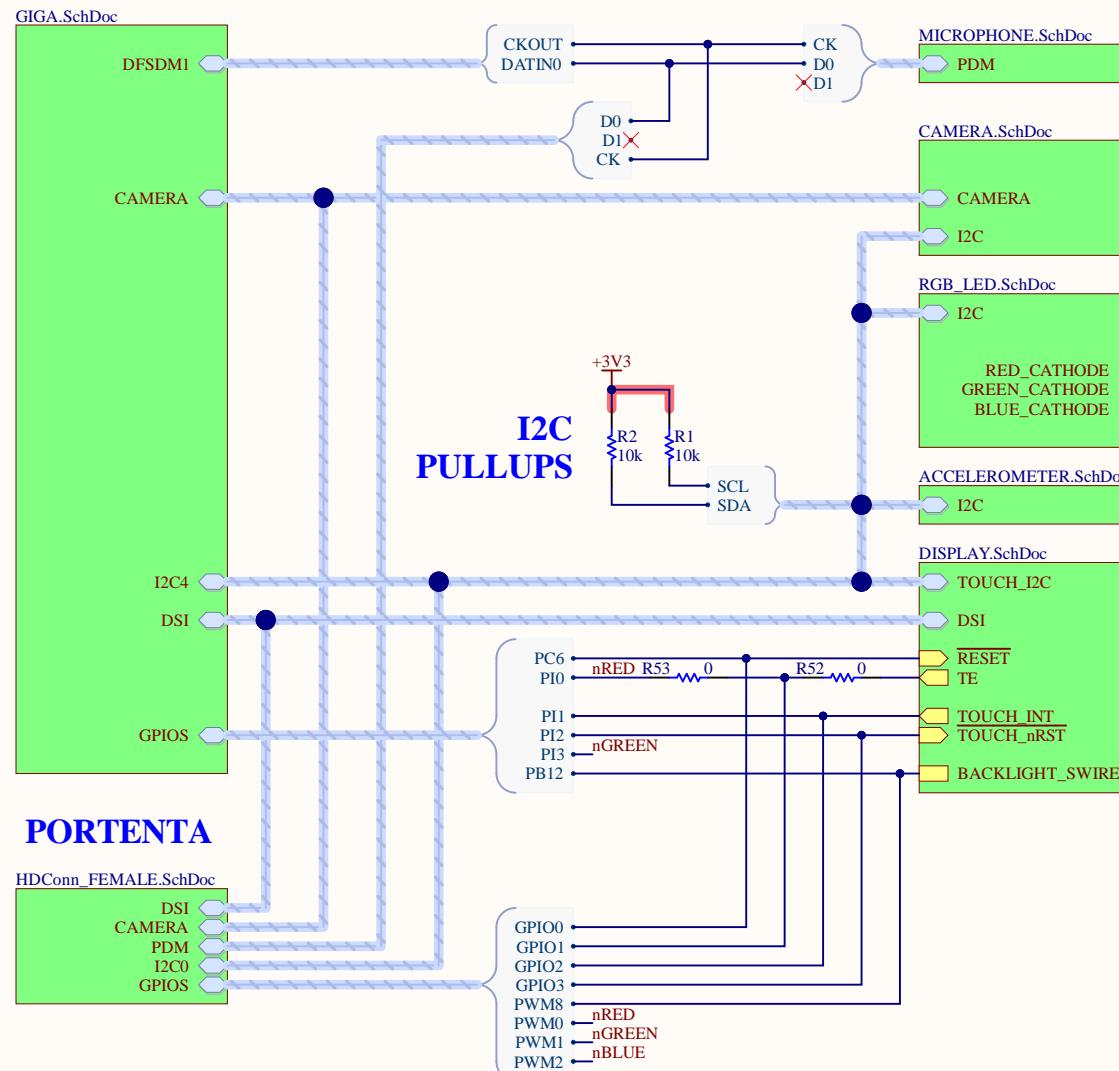


GIGA



nBLUE is not connected to the GIGA which is able to drive the blue LED only if the I2C LED driver is mounted.

Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice.

Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

Title: TOP

ID: ASX00039

Revision: V0.5

Date: 17/10/2024

Time: 13:08:28

Sheet 1 of 8

File: TOP.SchDoc

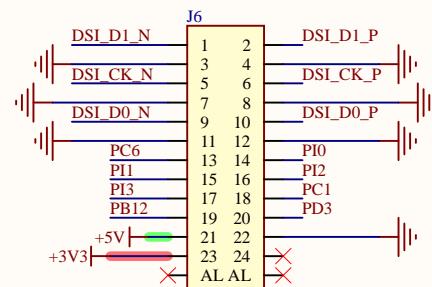
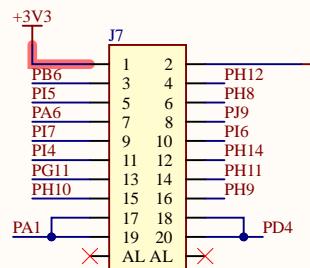
Author: Silvio Navaretti

RevAuthor: Silvio Navaretti

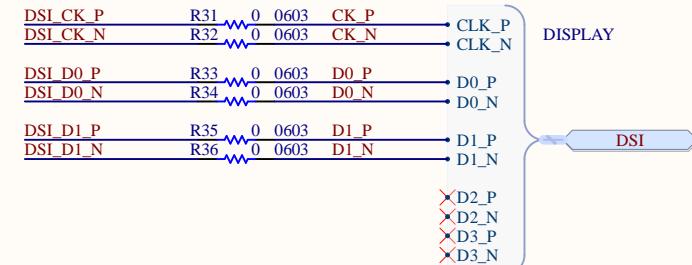
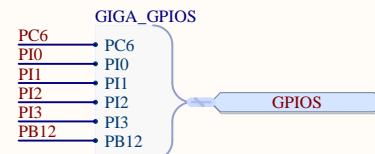
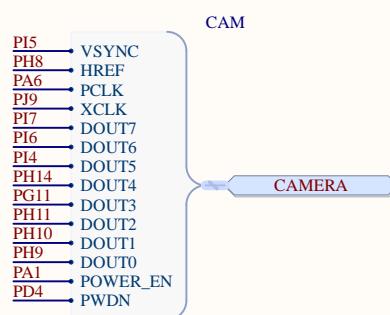


A

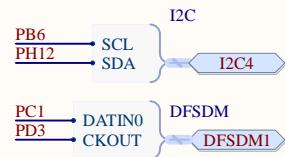
**ON GIGA CAMERA SHARES:
I2C4 WITH JDIGITAL**



B



C

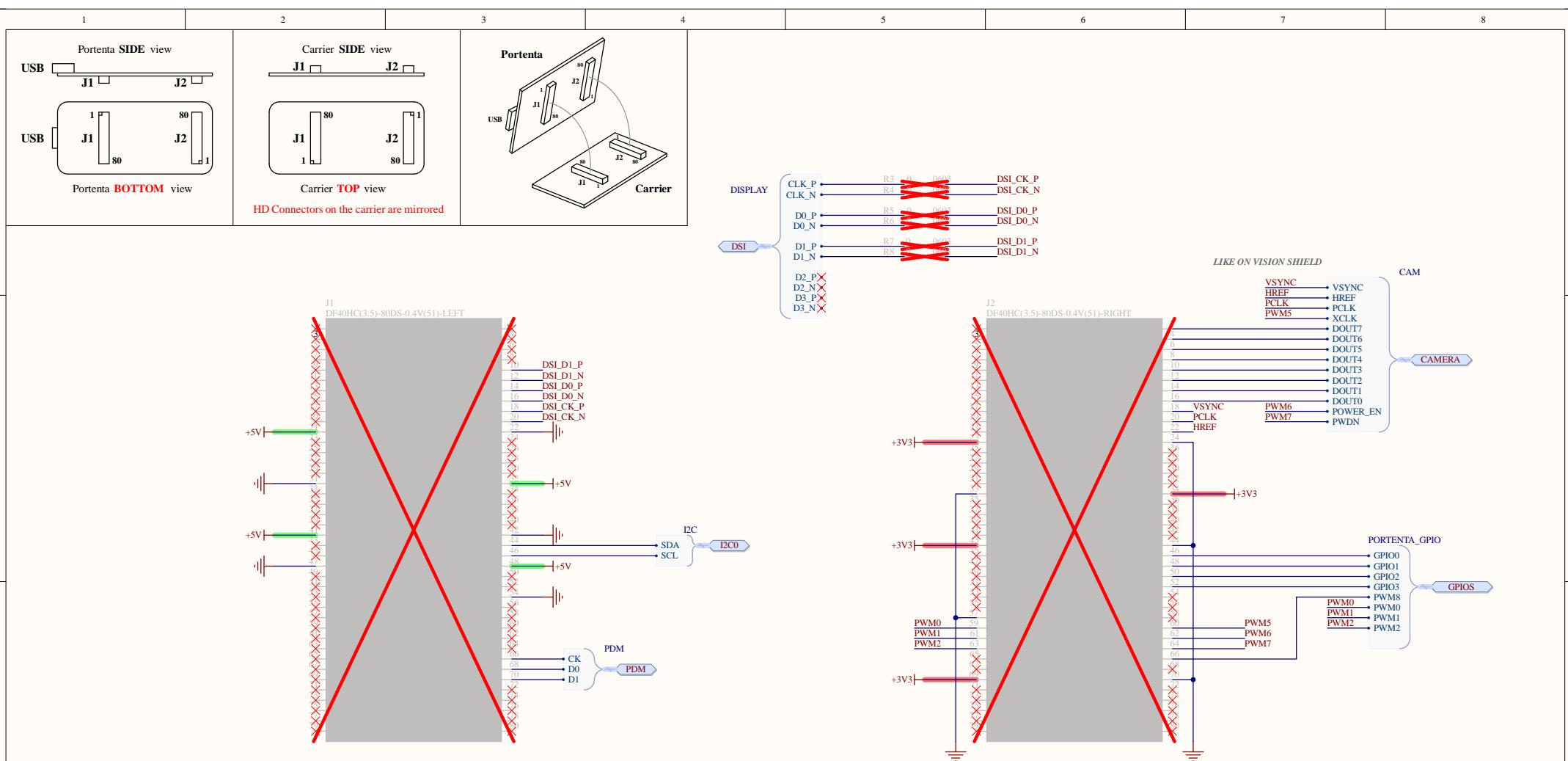


Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice.

Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

Title: **GIGA HEADERS**ID: **ASX00039**Revision: **V0.5**Date: **17/10/2024**Time: **13:08:30**Sheet **2** of **8**File: **GIGA.SchDoc**Author: **Silvio Navaretti**



POWER NETS TABLE

NET	TYPE	RANGES
VIN	<i>PORTENTA INPUT</i>	1.1V to 3.3V in steps, max 1A.
VCC	<i>PORTENTA OUTPUT</i>	1.1V to 3.3V in steps, max 1A.
VSYS	<i>PORTENTA RESERVED OUTPUT</i>	RESERVED, DO NOT USE 3.5V to 4.2V, max 600mA.
LICELL	<i>PORTENTA INPUT</i>	Coinc cell max 3.6V, max 46uA.

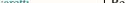
Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. ARDUINO SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined".

Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice.

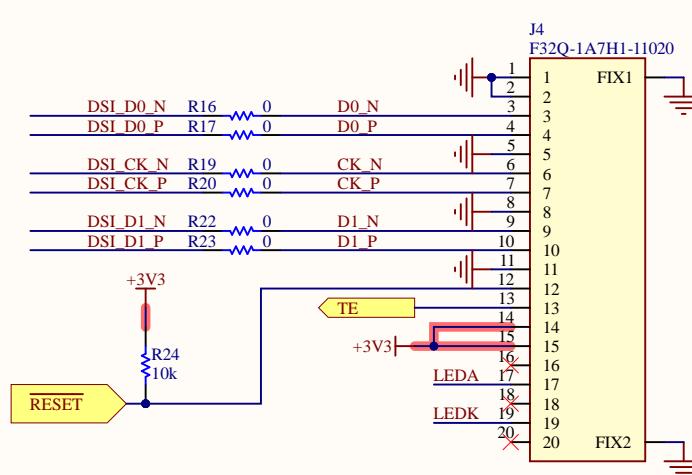
Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

Title: HD Connectors female

ID: [ASX00039](#) **Revision:** V0.5  

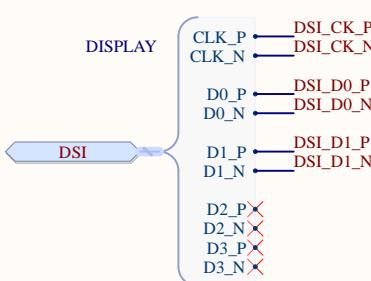
Date: 17/10/2024 **Time:** 13:08:32 **Sheet:** 3 of 8

File: HDCM.h	Author: Silvio Navaretti	RevAuthor: Silvio Navaretti
-------------------------------------	---------------------------------	------------------------------------



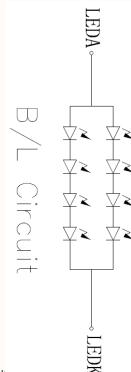
The circuit diagram illustrates the connection between the **TOUCH_INT** pin and the I₂C bus. The **TOUCH_INT** pin is connected to ground through a 10kΩ pull-down resistor **R21**. The output of the **TOUCH_nRST** inverter is connected to the SDA line via a 10kΩ resistor **R18**. The SDA and SCL lines are also connected to the I₂C bus.

NO.	SYMBOL	DESCRIPTION	I/O
1	GND	Ground	P
2	NC	OPEN.	--
3	VDD	Supply voltage (3.3V)	P
4	SCL	I2C clock input	I
5	SDA	I2C data input and output	I
6	INT	External interrupt to the host	I
7	RST	External Reset, Low is active	I
8	GND	Ground	P



Pinout is inverted (pin 20 is pin 1, pin 19 is pin 2 etc) since the connector has been moved on the other side of the board with respect to the display.

NO.	SYMBOL	DESCRIPTION	I/O
1	NC	-	-
2	LEDK	Cathode pin of backlight.	P
3	NC	-	-
4	LEDA	Anode pin of backlight.	P
5	NC	-	-
6	VCI	Supply voltage (3.3V).	P
7	IOVCC	Supply voltage for I/O system.	P
8	TE	Testing effect output Leave the pin to open when not in use	O
9	RESET	The external reset input.	I
10	GND	Ground.	P
11	MPII_D1P	MPII DS1 Differential Data pair.	I/O
12	MPII_D1N	MPII DS1 Differential Data pair.	P
13	GND	Ground.	P
14	MPII_CLP	MPII DS1 Differential Clock pair.	I
15	MPII_CLN	MPII DS1 Differential Clock pair.	P
16	GND	Ground.	P
17	MPII_D0P	MPII DS1 Differential Data pair.	I/O
18	MPII_D0N	MPII DS1 Differential Data pair.	P
19	GND	Ground.	P
20	GND	Ground.	P

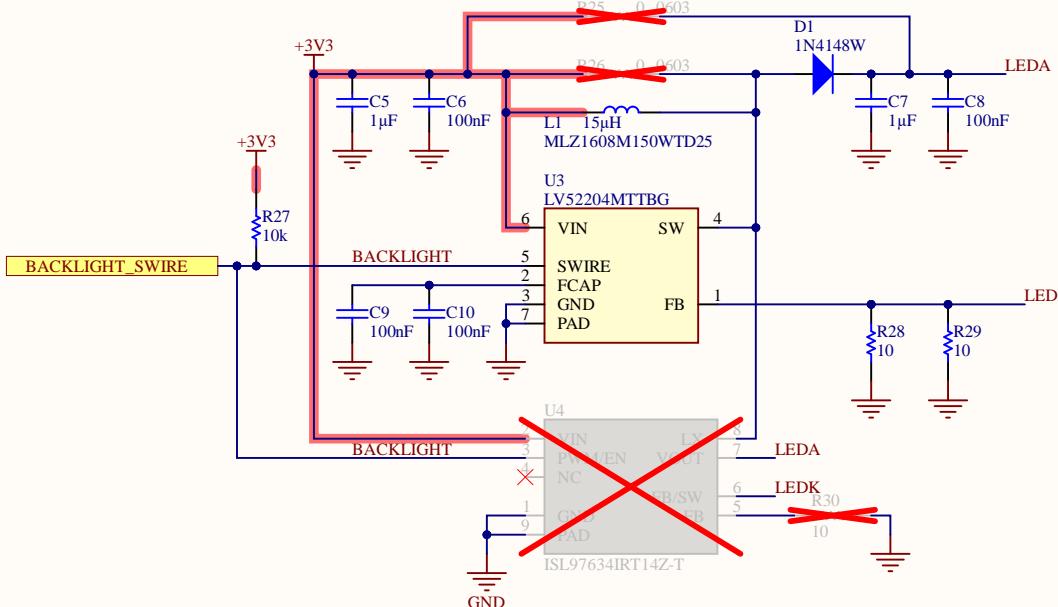


Reference Designs ARE PROVIDED "AS IS".
WARRANTIES OF MERCHANTABILITY OR

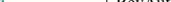
5. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.
Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice.

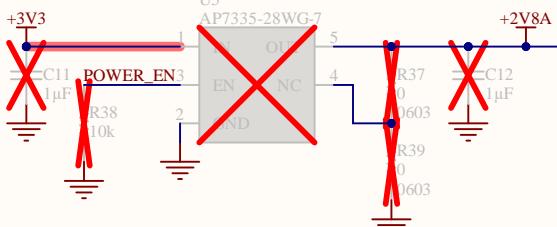
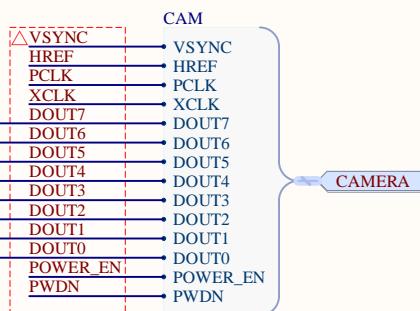
Site or Materials is subject to change without notice.
Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.



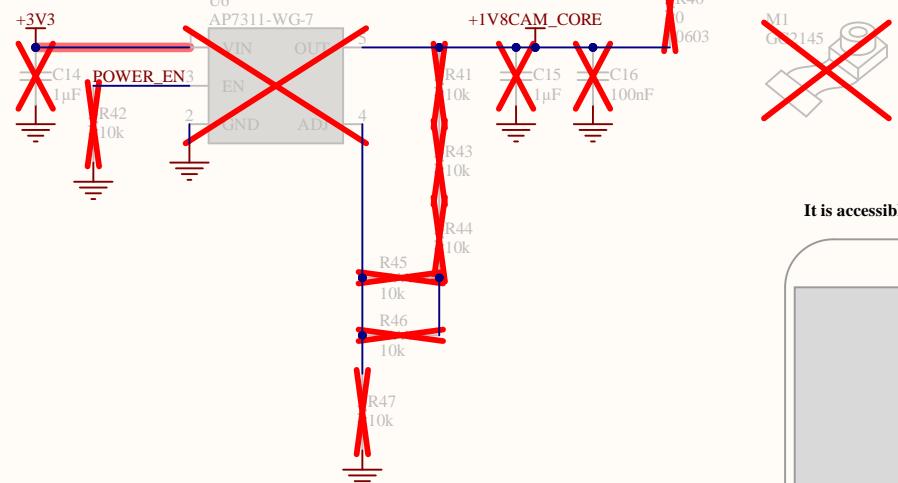
Title: DISPLAY

ID: ASX00039 **Revision:** V0.5  

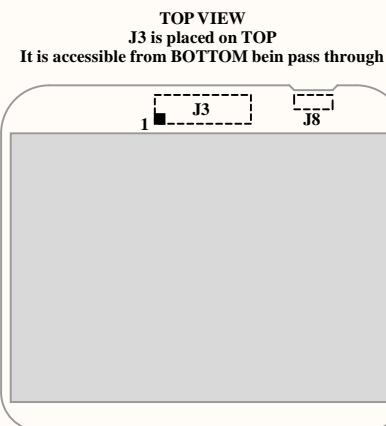
Date: 17/10/2024 **Time:** 13:08:33 Sheet 4 of 8

CAMERA 2V8 LDO**CAMERA Arducam-GC2145****Arducam-GC2145 camera module pinout**

CONNECTOR PIN DESCRIPTION	
NO.	定义
1	AGND
2	AVDD2.8V
3	GND
4	NC
5	FVLD
6	LVLD
7	SCL
8	SDA
9	NC
10	DGND
11	IOVDD1.8V
12	DVDD1.8V
13	DGND
14	MCLK
15	DGND
16	PCLK
17	D0
18	D1
19	D2
20	D3
21	D4
22	D5
23	D6
24	D7

CAMERA 1V8 LDO

**TWO CAMERA CONNECTORS:
FLAT CABLE OR 2.54mm HEADER.
THEY CANNOT BE USED AT THE
SAME TIME**

**CAMERA
2.54mm header**GIGA PINS
ON SILK

J3 21TW-247	
66	POWER_EN 1
66	3 2
64	4 6
62	5 7
60	6 8
58	7 9
56	8 10
54	9 11
SCL1	10 12
3V3	11 13
+3V3	12 14
	13 15
	14 16
	15 17
	16 18
	17 19
	18 20

GIGA PINS
ON SILK

J3 21TW-247	
1	PWDN
2	4
3	6 DOUT0
4	5 DOUT1
5	7 DOUT2
6	8 DOUT3
7	9 DOUT4
8	10 DOUT5
9	11 DOUT6
10	12 DOUT7
11	13 XCLK
12	14 HREF
13	15 SDA
14	16 SCL
15	17 GND
16	18 GND
17	19 GND
18	20 GND

Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice.

Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

Title: **CAMERA**ID: **ASX00039**Revision: **V0.5**Date: **17/10/2024**Time: **13:08:35**Sheet **5** of **8**File: **CAMERA.SchDoc**Author: **Silvio Navaretti**RevAuthor: **Silvio Navaretti**

A

A

B

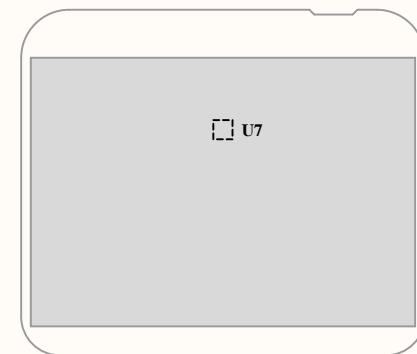
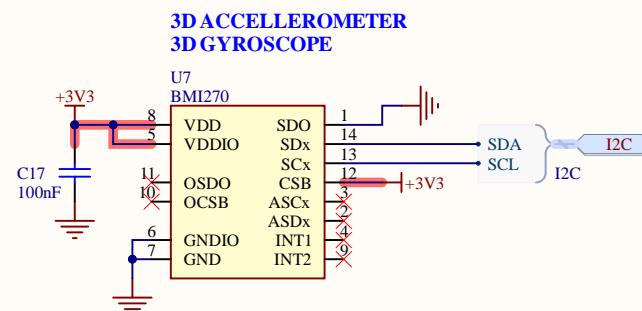
B

C

C

D

D



Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice.

Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

Title: ACCELEROMETER

ID: ASX00039

Revision: V0.5

Date: 17/10/2024

Time: 13:08:36

Sheet 6 of 8

File: ACCELEROMETER.SchDoc

Author: Silvio Navaretti



A

A

B

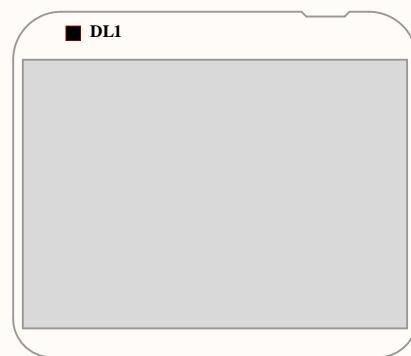
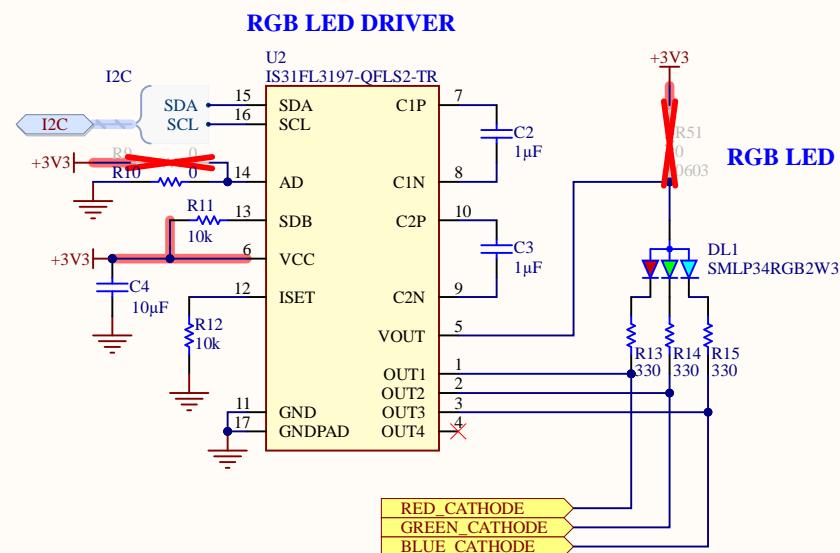
B

C

C

D

D



Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice.

Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

Title: **RGB**

ID: **ASX00039**

Version: **V0.5**

Date: **17/10/2024** Time: **13:08:38**

Sheet **7** of **8**

File: **RGB_LED.SchDoc**

Author: **Silvio Navaretti**



A

A

B

B

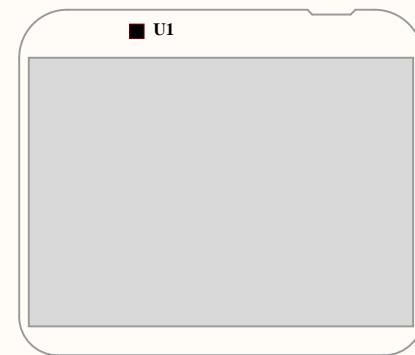
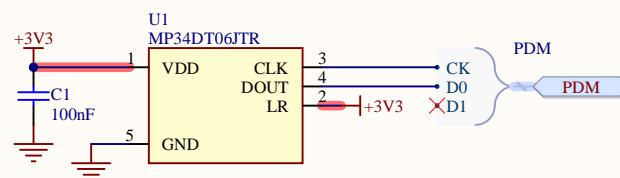
C

C

D

D

MICROPHONE



Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice.

Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

Title: MICROPHONE

ID: ASX00039

Version: V0.5

Date: 17/10/2024

Time: 13:08:39

Sheet: 8 of 8

File: MICROPHONE.SchDoc

Author: Silvio Navaretti



This project's hardware is licensed under the Creative Commons Attribution-ShareAlike 4.0 International License. To view a copy of this license, visit <https://creativecommons.org/licenses/by-sa/4.0/deed.en>