

Tolerance: ± 0.1 Unit: mm

Note

The distance between outer surfaces of the A7s Plus and HUB boards after their high-density connectors fit together is 5.0 mm. A 5-mm copper pillar is recommended.

XI'AN NOVASTAR TECH CO., LTD.

Pins

32 Groups of Parallel RGB Data



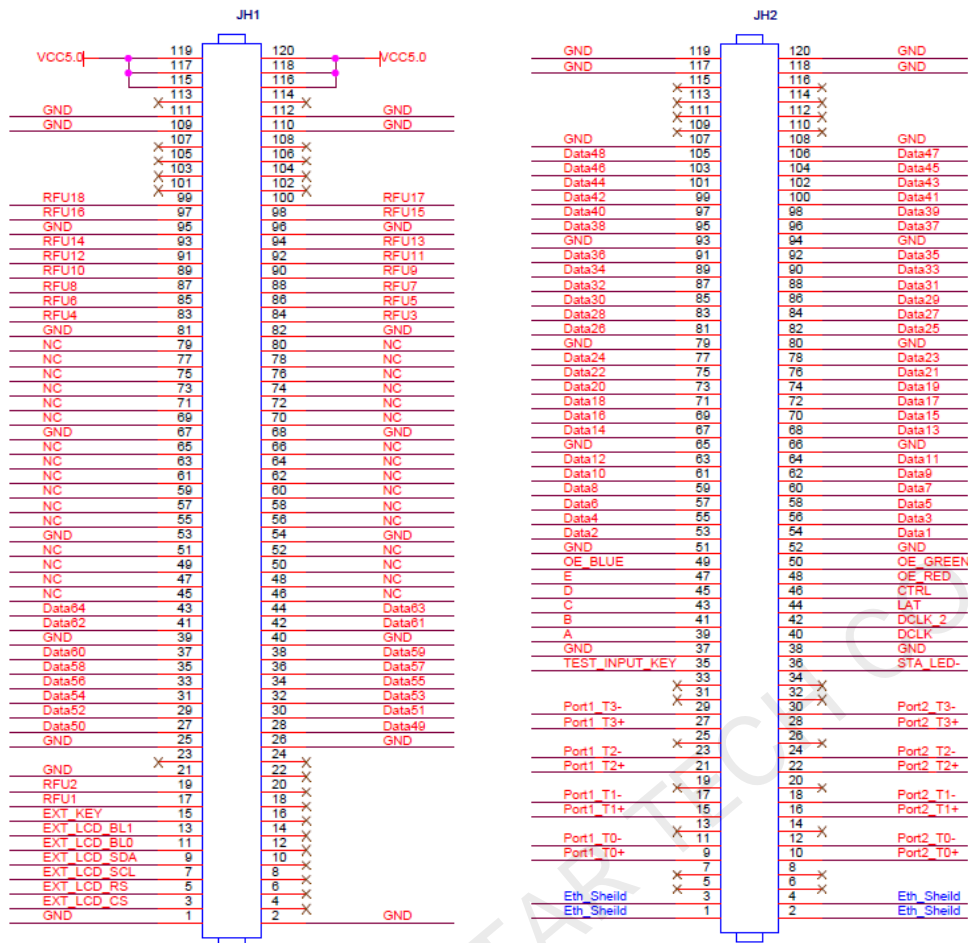
JH1					
	GND	1	2	GND	
LCD CS signal	EXT_LCD_CS	3	4	NC	
LCD RS signal	EXT_LCD_RS	5	6	NC	
LCD clock signal	EXT_LCD_SCL	7	8	NC	
LCD data signal	EXT_LCD_SDA	9	10	NC	
LCD backlight signal 1	EXT_LCD_BL0	11	12	NC	
LCD backlight signal 2	EXT_LCD_BL1	13	14	NC	
LCD control button	EXT_KEY	15	16	NC	
/	RFU1	17	18	NC	
/	RFU2	19	20	NC	
	GND	21	22	NC	
	NC	23	24	NC	
	GND	25	26	GND	
/	G17	27	28	R17	/
/	R18	29	30	B17	/
/	B18	31	32	G18	/
/	G19	33	34	R19	/
/	R20	35	36	B19	/
/	B20	37	38	G20	/
	GND	39	40	GND	

JH1					
/	G21	41	42	R21	/
/	R22	43	44	B21	/
/	B22	45	46	G22	/
/	G23	47	48	R23	/
/	R24	49	50	B23	/
/	B24	51	52	G24	/
	GND	53	54	GND	
/	G25	55	56	R25	/
/	R26	57	58	B25	/
/	B26	59	60	G26	/
/	G27	61	62	R27	/
/	R28	63	64	B27	/
/	B28	65	66	G28	/
	GND	67	68	GND	
/	G29	69	70	R29	/
/	R30	71	72	B29	/
/	B30	73	74	G30	/
/	G31	75	76	R31	/
/	R32	77	78	B31	/
/	B32	79	80	G32	/
	GND	81	82	GND	
/	RFU4	83	84	RFU3	/
/	RFU6	85	86	RFU5	/
/	RFU8	87	88	RFU7	/
/	RFU10	89	90	RFU9	/
/	RFU12	91	92	RFU11	/
/	RFU14	93	94	RFU13	/
	GND	95	96	GND	
/	RFU16	97	98	RFU15	/
/	RFU18	99	100	RFU17	/
	NC	101	102	NC	
	NC	103	104	NC	
	NC	105	106	NC	
	NC	107	108	NC	
	GND	109	110	GND	
	GND	111	112	GND	
	NC	113	114	NC	
	VCC	115	116	VCC	
	VCC	117	118	VCC	
	VCC	119	120	VCC	

JH2					
Chassis ground	Eth_Sheild	1	2	Eth_Sheild	Chassis ground
Chassis ground	Eth_Sheild	3	4	Eth_Sheild	Chassis ground
	NC	5	6	NC	
	NC	7	8	NC	
Gigabit Ethernet port	Port1_T0+	9	10	Port2_T0+	Gigabit Ethernet port
	Port1_T0-	11	12	Port2_T0-	
	NC	13	14	NC	
	Port1_T1+	15	16	Port2_T1+	
	Port1_T1-	17	18	Port2_T1-	
	NC	19	20	NC	
	Port1_T2+	21	22	Port2_T2+	

JH2					
	Port1_T2-	23	24	Port2_T2-	
	NC	25	26	NC	
	Port1_T3+	27	28	Port2_T3+	
	Port1_T3-	29	30	Port2_T3-	
	NC	31	32	NC	
	NC	33	34	NC	
Test button	TEST_INPUT_KEY	35	36	STA_LED-	Running indicator (active low)
	GND	37	38	GND	
Line decoding signal	A	39	40	DCLK	Shift clock output 1
Line decoding signal	B	41	42	DCLK_2	Shift clock output 2
Line decoding signal	C	43	44	LAT	Latch signal output
Line decoding signal	D	45	46	CTRL	Afterglow control signal
Line decoding signal	E	47	48	OE_RED	Display enable
Display enable	OE_BLUE	49	50	OE_GREEN	Display enable
	GND	51	52	GND	
/	G1	53	54	R1	/
/	R2	55	56	B1	/
/	B2	57	58	G2	/
/	G3	59	60	R3	/
/	R4	61	62	B3	/
/	B4	63	64	G4	/
	GND	65	66	GND	
/	G5	67	68	R5	/
/	R6	69	70	B5	/
/	B6	71	72	G6	/
/	G7	73	74	R7	/
/	R8	75	76	B7	/
/	B8	77	78	G8	/
	GND	79	80	GND	
/	G9	81	82	R9	/
/	R10	83	84	B9	/
/	B10	85	86	G10	/
/	G11	87	88	R11	/
/	R12	89	90	B11	/
/	B12	91	92	G12	/
	GND	93	94	GND	
/	G13	95	96	R13	/
/	R14	97	98	B13	/
/	B14	99	100	G14	/
/	G15	101	102	R15	/
/	R16	103	104	B15	/
/	B16	105	106	G16	/
	GND	107	108	GND	
	NC	109	110	NC	
	NC	111	112	NC	
	NC	113	114	NC	
	NC	115	116	NC	
	GND	117	118	GND	
	GND	119	120	GND	

64 Groups of Serial Data



JH1					
	GND	1	2	GND	
LCD CS signal	EXT_LCD_CS	3	4	NC	
LCD RS signal	EXT_LCD_RS	5	6	NC	
LCD clock signal	EXT_LCD_SCL	7	8	NC	
LCD data signal	EXT_LCD_SDA	9	10	NC	
LCD backlight signal 1	EXT_LCD_BL0	11	12	NC	
LCD backlight signal 2	EXT_LCD_BL1	13	14	NC	
LCD control button	EXT_KEY	15	16	NC	
/	RFU1	17	18	NC	
/	RFU2	19	20	NC	
	GND	21	22	NC	
	NC	23	24	NC	
	GND	25	26	GND	
/	Data50	27	28	Data49	/
/	Data52	29	30	Data51	/
/	Data54	31	32	Data53	/
/	Data56	33	34	Data55	/
/	Data58	35	36	Data57	/
/	Data60	37	38	Data59	/
	GND	39	40	GND	
/	Data62	41	42	Data61	/
/	Data64	43	44	Data63	/
	NC	45	46	NC	
	NC	47	48	NC	

JH1					
	NC	49	50	NC	
	NC	51	52	NC	
	GND	53	54	GND	
	NC	55	56	NC	
	NC	57	58	NC	
	NC	59	60	NC	
	NC	61	62	NC	
	NC	63	64	NC	
	NC	65	66	NC	
	GND	67	68	GND	
	NC	69	70	NC	
	NC	71	72	NC	
	NC	73	74	NC	
	NC	75	76	NC	
	NC	77	78	NC	
	NC	79	80	NC	
	GND	81	82	GND	
/	RFU4	83	84	RFU3	/
/	RFU6	85	86	RFU5	/
/	RFU8	87	88	RFU7	/
/	RFU10	89	90	RFU9	/
/	RFU12	91	92	RFU11	/
/	RFU14	93	94	RFU13	/
	GND	95	96	GND	
/	RFU16	97	98	RFU15	/
/	RFU18	99	100	RFU17	/
	NC	101	102	NC	
	NC	103	104	NC	
	NC	105	106	NC	
	NC	107	108	NC	
	GND	109	110	GND	
	GND	111	112	GND	
	NC	113	114	NC	
	VCC	115	116	VCC	
	VCC	117	118	VCC	
	VCC	119	120	VCC	

JH2					
Chassis ground	Eth_Sheild	1	2	Eth_Sheild	Chassis ground
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	NC	13	14	NC	
	Port1_T1+	15	16	Port2_T1+	
	Port1_T1-	17	18	Port2_T1-	
	NC	19	20	NC	
	Port1_T2+	21	22	Port2_T2+	
	Port1_T2-	23	24	Port2_T2-	
	NC	25	26	NC	
	Port1_T3+	27	28	Port2_T3+	
Port1_T3-	29	30	Port2_T3-		
	NC	31	32	NC	
	NC	33	34	NC	
Test button	TEST_INPUT_KEY	35	36	STA_LED-	Running indicator (active low)

JH2					
	GND	37	38	GND	
Line decoding signal	A	39	40	DCLK	Shift clock output 1
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Line decoding signal	C	43	44	LAT	Latch signal output
Line decoding signal	D	45	46	CTRL	Afterglow control signal
Line decoding signal	E	47	48	OE_RED	Display enable
Display enable	OE_BLUE	49	50	OE_GREEN	Display enable
	GND	51	52	GND	
/	Data2	53	54	Data1	/
/	Data4	55	56	Data3	/
/	Data6	57	58	Data5	/
/	Data8	59	60	Data7	/
/	Data10	61	62	Data9	/
/	Data12	63	64	Data11	/
	GND	65	66	GND	
/	Data14	67	68	Data13	/
/	Data16	69	70	Data15	/
/	Data18	71	72	Data17	/
/	Data20	73	74	Data19	/
/	Data22	75	76	Data21	/
/	Data24	77	78	Data23	/
	GND	79	80	GND	
/	Data26	81	82	Data25	/
/	Data28	83	84	Data27	/
/	Data30	85	86	Data29	/
/	Data32	87	88	Data31	/
/	Data34	89	90	Data33	/
/	Data36	91	92	Data35	/
	GND	93	94	GND	
/	Data38	95	96	Data37	/
/	Data40	97	98	Data39	/
/	Data42	99	100	Data41	/
/	Data44	101	102	Data43	/
/	Data46	103	104	Data45	/
/	Data48	105	106	Data47	/
	GND	107	108	GND	
	NC	109	110	NC	
	NC	111	112	NC	
	NC	113	114	NC	
	NC	115	116	NC	
	GND	117	118	GND	
	GND	119	120	GND	

Note

The recommended VCC power input is 5.0 V.

OE_RED, OE_GREEN and OE_BLUE are display enable signals. When RGB are not controlled separately, use OE_RED. When the PWM chip is used, they are used as GCLK signals.

In the mode of 128 groups of serial data, Data65–Data128 are multiplexed into Data1–Data64.

Reference Design for Extended Functions

Pins for Extended Functions			
Pin	Recommended Module Flash Pin	Recommended Smart Module Pin	Description
RFU4	HUB_SPI_CLK	Reserved	Clock signal of serial pin
RFU6	HUB_SPI_CS	Reserved	CS signal of serial pin
RFU8	HUB_SPI_MOSI	/	Module Flash data storage input
	/	HUB_UART_TX	Smart module TX signal
RFU10	HUB_SPI_MISO	/	Module Flash data storage output
	/	HUB_UART_RX	Smart module RX signal
RFU3	HUB_CODE0		Module Flash BUS control pin
RFU5	HUB_CODE1		

Pins for Extended Functions		
RFU7	HUB_CODE2	
RFU9	HUB_CODE3	
RFU18	HUB_CODE4	
RFU11	HUB_H164_CSD	
RFU13	HUB_H164_CLK	74HC164 data signal
RFU14	POWER_STA1	Dual power supply detection signal
RFU16	POWER_STA2	
RFU15	MS_DATA	Dual card backup connection signal
RFU17	MS_ID	Dual card backup identifier signal

Note

The RFU8 and RFU10 are signal multiplex extension pins. Only one pin from either the Recommended Smart Module Pin or the Recommended Module Flash Pin can be selected at the same time.

Specifications

Maximum Loading Capacity	512x512 pixels	
Electrical Parameters	Input voltage	DC 3.3 V to 5.5 V
	Rated current	0.6 A
	Rated power consumption	3.0 W
Operating Environment	Temperature	-20°C to +70°C
	Humidity	10% RH to 90% RH, non-condensing
Storage Environment	Temperature	-25°C to +125°C
	Humidity	0% RH to 95% RH, non-condensing
Physical Specifications	Dimensions	70.0 mm × 45.0 mm × 7.9 mm
	Net weight	17.4 g Note: It is the weight of a single receiving card only.
	Gross weight	1.2 kg Note: It is the total weight of the products, printed materials and packing materials packed according to the packing specifications.
Packing Information	Packing specifications	Each receiving card is packaged in a blister pack. Each packing box contains 80 receiving cards.
	Packing box dimensions	378.0 mm × 190.0 mm × 120.0 mm
Certifications	RoHS, EMC Class B Note: If the product does not have the relevant certifications required by the countries or regions where it is to be sold, please apply for the certifications yourself or contact NovaStar to apply for them.	

The amount of current and power consumption may vary depending on many factors such as product settings, usage, and environment.

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