# SYSOLUTION

Small Size Full Function Receiving Card D70-A8S

Specification
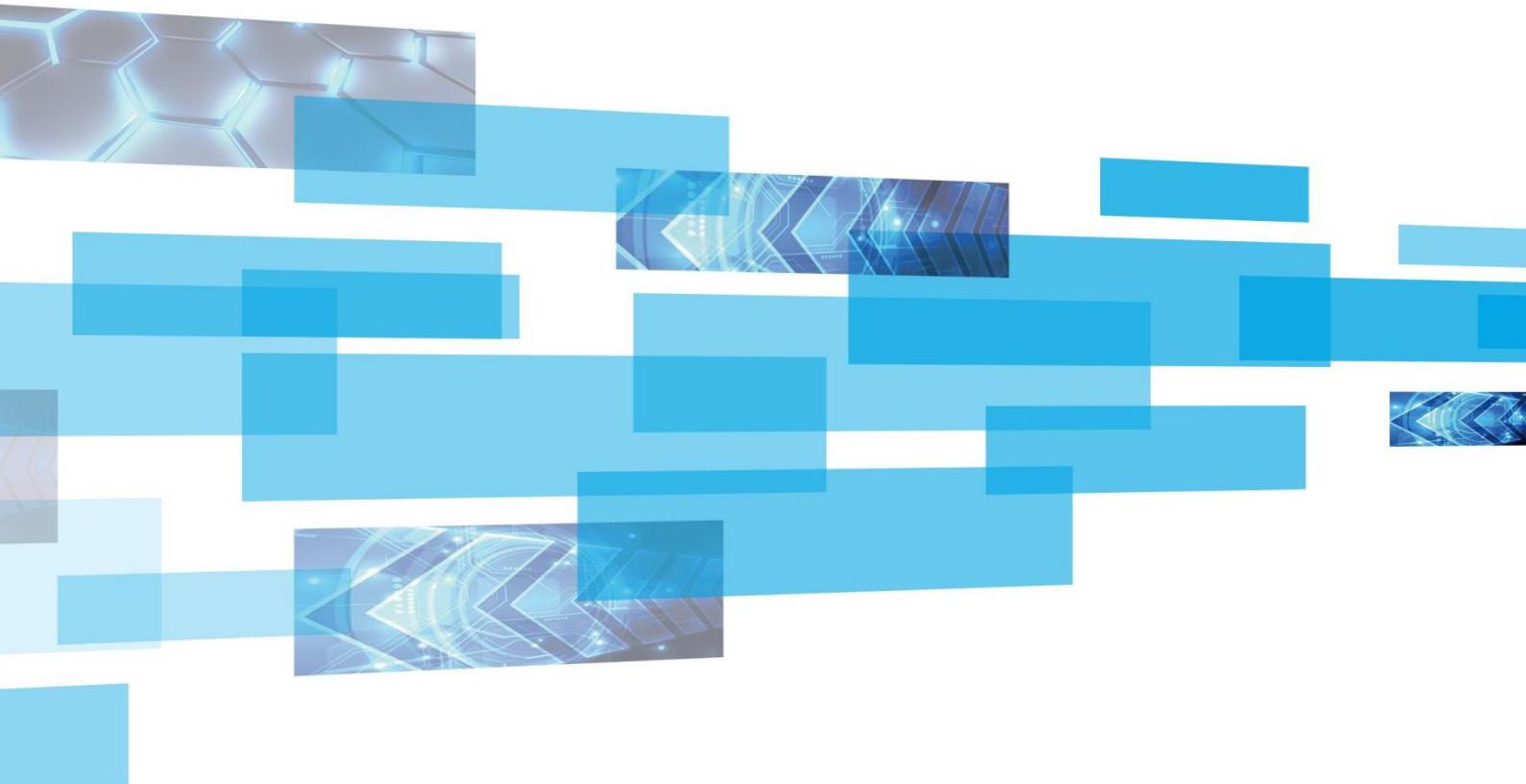
Version：Ver.1.2

Statement

Dear user friend，thanks for choosing SHENZHEN SYSOLUTION TECHNOLOGY CO.,LTD (hereinafter referred to as Xixun Technology) as your LED advertising equipment control system. The main purpose of this document is to help you quickly understand and use the product. We strive to be precise and reliable when writing the document，and the content may be modified or changed at any time without notice.

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Update

No.	Version	Update	Revise
1	Ver.1.0	Initial	2020.09.29
2	Ver.1.1	Parameter change	2020.11.12
3	Ver.1.2	Image change	2021.07.22

Note: This document is subject to change without prior notice.

www.ledok.cn

Product Introduction

D70-A8S   is a small spacing full function   receiving card introduced by Xixun,which uses   120 Pin high-precision   interfaces, and supports 32 groups of RGB parallel data at most. Carrying up to 256*512 pixels, with strong processing power, super stable performance and super cost- effective.

Product Feature

1. Small size and thickness are adopted to save space for the increasingly narrow box space and lamp spacing.

2. High-density connector interface, dustproof and shockproof, with high stability and reliability.

3. Integrated network transformer, simplify design, improve electromagnetic compatibility.

4. MCU design to improve the flexibility of product application.

5. Supports dual-card backup to improve stability and reliability.

6. Powerful LED driver chip compatibility.

Application Scenario

It can be widely used in the high-end display field with high requirements, and has significant advantages in the application scenarios of LED screen rental, TV broadcast, large-scale event LED screen, and high-end engineering channel projects.

Product Appearance
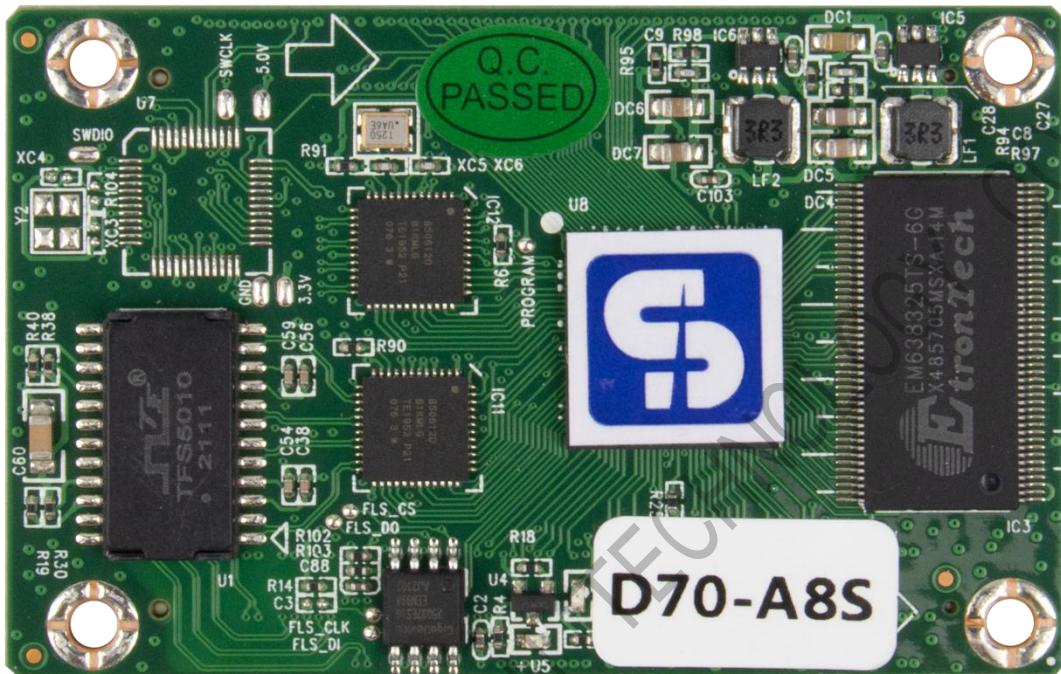
On Load Capacity

Three line in paralell（rgb）	Maxi load（pix）	Brightness correction load（pix）	Chroma correction load（pix）
32 group	256*512	256*512	256*352

Number of expansion cards	Support scan line		
< 200	1-64 Scan		

Function Definition

Function	Note
Improvde display effect	a. Support a variety of display effect scheme: with LedSet3.0 software to achieve refresh priority and gray priority effect. b. Support 90° multiple rotation of the screen: with LedSet3.0 software, it can rotate the screen of the receiving card by 90° multiple. c. Supporting screen zooming function: With LedSet3.0 software, it can zoom in and out the pixels on the receiving card to realize the zooming in and out of the display screen.
Improved operability	a. Support Receiving card serial number detection: With the network port debugging function in LedSet3.0 software, the receiving card number and network port information will be displayed on the target box, so that the user can know the position number and connection line of the receiving card.

	b. Support data interface customization: with LedSet3.0 software, the output data of the receiving card can be detected and edited.
	c. Support complex box structure: In the advanced layout of LedSet3.0 software, the box module can be quickly arranged and constructed arbitrarily.
	d. Support to construct complex large screen: in LedSet3.0 software complex display connection, can quickly to the box arbitrary arrangement, structure.
Hardware Stability	a. Supports hot backup: Network port hot backup: Network ports are connected through the active and standby network cables in a loop to increase the reliability of receiving cards in series. In the active and standby series lines, when one of them fails, the other one can ensure the normal display of the screen. Receiving card hot backup (customized) : The devices connected to receiving cards work in active/standby mode to improve device reliability. At any given time, only the active

	device is running. When the active device is faulty, the standby device works to ensure the normal display of the screen.
	b. Dual power supply backup: Two power supplies can be connected at the same time to check whether the working status of both power supplies is normal. When a power failure is detected, the system can intelligently reduce the brightness of the large screen to ensure the normal display of the large screen.
	c. Voltage detection: Detecting the operating voltage of the receiving card.
	d. Temperature detection: Detects the operating temperature of the receiving card.
	e. Power supply detection: Supports power supply detection.
	f. Reset: After the online hardware upgrade is complete, the receiving card can restart the online hardware.
Software Intelligence	a. Support to read back the configuration parameters of the receiving card: LedSet3.0 can read back the configuration parameters of the

	current receiving card.
	b. Support network cable bit error rate detection: in LedSet3.0 can monitor the network cable communication signal quality connected by the hardware of the system in real time, in order to quickly judge the quality of the network cable, troubleshoot.
	c. Communication monitoring function: real-time monitoring of the receiving card on LedSet3.0.

Output Port Definition

32 sets of parallel data interface definitions

JH3 HEADER60X2/SMD

JH4 HEADER60X2/SMD

Receptacle

Receptacle
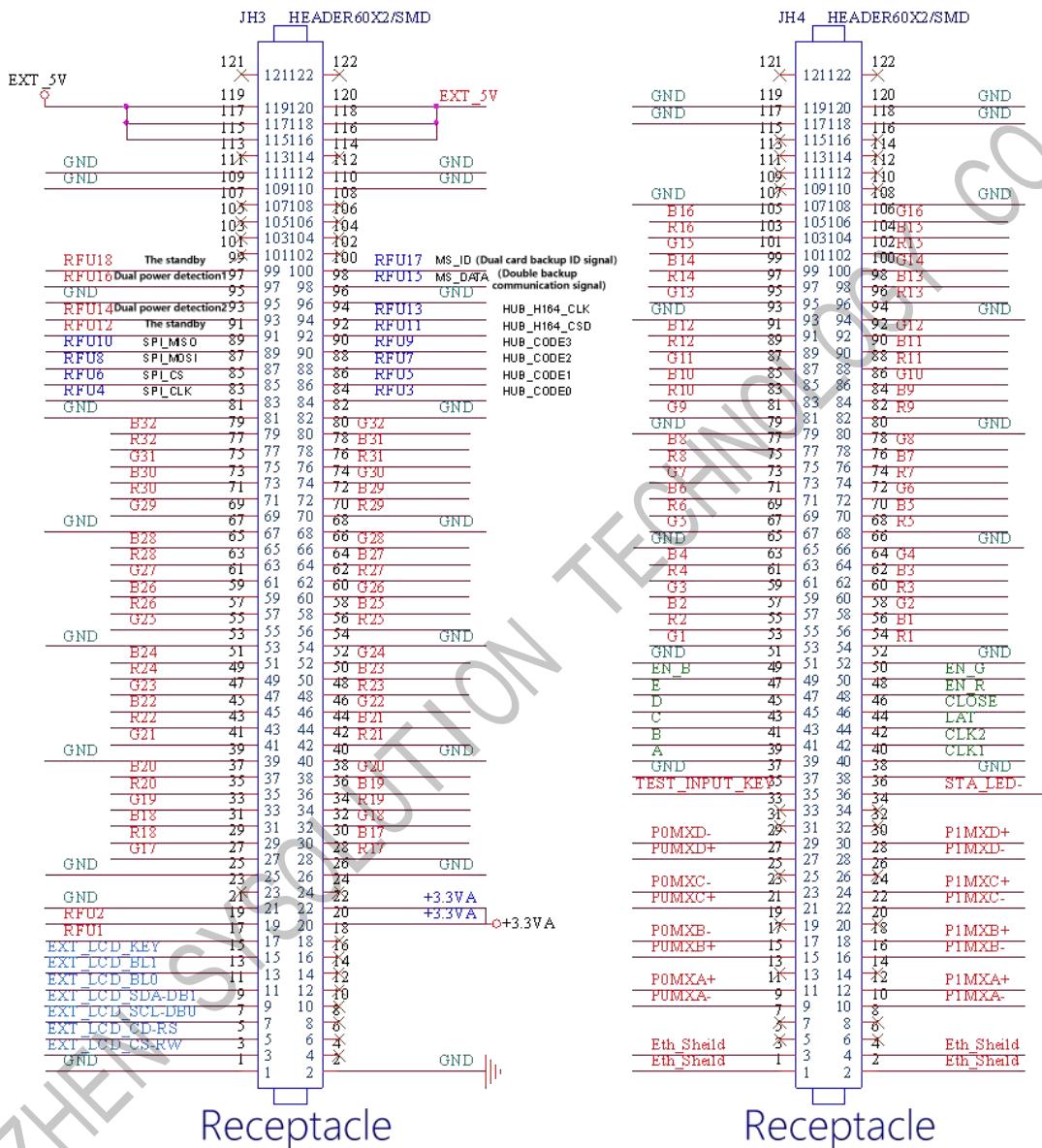
JH1 Definition

Directions For Use	Definition	Pin	Pin	Definition	Directions For Use
	GND	1	2	GND	

LCD data signal	EXT_LCD_SDA	9	10	NC	
LCD back light signal 1	EXT_LCD_BL0	11	12	NC	
LCD back light signal 2	EXT_LCD_BL1	13	14	NC	
Liquid crystal control button	EXT_LCD_KEY	15	16	NC	
Extension interface	RFU1	17	18	NC	
	RFU2	19	20	3.3V_LED	3.3V Aux output
	GND	21	22		
	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	
	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	
	NC	121	122	NC	

JH2 Definition:

Directions For Use	Definiton	Pin	Pin	Definiton	Directions For Use
	NC	1	2	NC	
	NC	3	4	NC	
	NC	5	6	NC	
	NC	7	8	NC	
Gigabit	P0 MXA+	9	10	P1 MXA+	Gigabit

	P0 MXA-	11	12	P1 MXA-	
	NC	13	14	NC	
	P0 MXB+	15	16	P1 MXB+	
	P0 MXB-	17	18	Port2_B-	
	NC	19	20	NC	
	P0 MXC+	21	22	P1 MXC+	
	P0 MXC-	23	24	P1 MXC-	
	NC	25	26	NC	
	P0 MXD+	27	28	P1 MXD+	
	P0 MXD-	29	30	P1 MXD-	
	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	OUTA	39	40	OUTCLK_1	The first shift clock output
Line decoding signal	OUTB	41	42	OUTCLK_2	Second shift clock output
Line decoding signal	OUTC	43	44	OUTLAT	Latch signal output

Line decoding signal	OUTD	45	46	OUTCLOSE	Blanking control signal
Line decoding signal	OUTE	47	48	OUTEN_R	According to enable (OE_R、G、B Use when not controlled separately OE_R)
According to enable (OE_R、G、B Use when not controlled separately OE_R)	OUTEN_B	49	50	OUTEN_G	
	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	

NC	121	122	NC	

96 Groups of serial data interfaces

JH1 HEADER60X2/SMD   JH2 HEADER60X2/SMD

Receptacle   Receptacle
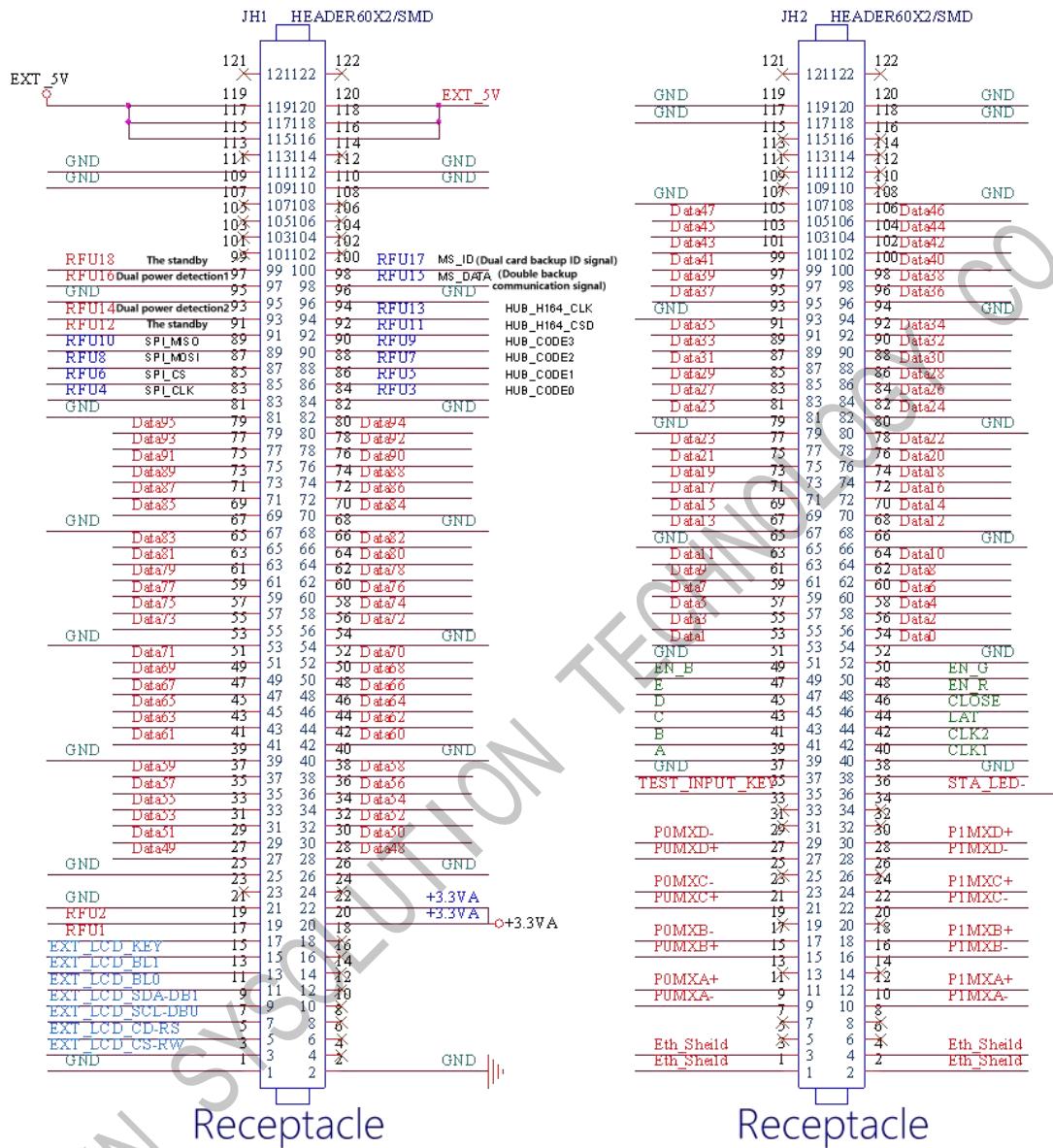
JH1 Definition:

Direction For Use	Definition	Pin	Pin	Definition	Direction For Use
	GND	1	2	GND	
CS signal of the	EXT_LCD_CS	3	4	NC	

LCD					
RS signal of the LCD	EXT_LCD_RS	5	6	NC	
LCD clock signal	EXT_LCD_SCL	7	8	NC	
LCD data singal	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	
Liquid crystal control button	EXT_KEY	15	16	NC	
Extended function interface	RFU1	17	18	NC	
	RFU2	19	20	3.3V_LED	3.3V Output
	GND	21	22		
	NC	23	24	NC	
	GND	25	26	GND	
	Data49	27	28	Data48	
	Data51	29	30	Data50	
	Data53	31	32	Data52	
	Data55	33	34	Data54	
	Data57	35	36	Data56	
	Data59	37	38	Data58	

	GND	39	40	GND	
	Data61	41	42	Data60	
	Data63	43	44	Data62	
	Data65	45	46	Data64	
	Data67	47	48	Data66	
	Data69	49	50	Data68	
	Data71	51	52	Data70	
	GND	53	54	GND	
	Data73	55	56	Data72	
	Data75	57	58	Data74	
	Data78	59	60	Data76	
	Data77	61	62	Data78	
	Data79	63	64	Data80	
	Data81	65	66	Data82	
	GND	67	68	GND	
	Data85	69	70	Data84	
	Data87	71	72	Data86	
	Data89	73	74	Data88	
	Data91	75	76	Data90	
	Data93	77	78	Data92	
	Data95	79	80	Data94	
	GND	81	82	GND	

	RFU4	83	84	RFU3	
	RFU6	85	86	RFU5	
Extended function interface	RFU8	87	88	RFU7	Extended function interface
	RFU10	89	90	RFU9	
	RFU12	91	92	RFU11	
	RFU14	93	94	RFU13	
	GND	95	96	GND	
Extended function interface	RFU16	97	98	RFU15	Extended function interface
	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	
3.3V to 5.5V power supply VCC is recommended	VCC	115	116	VCC	3.3V to 5.5V power supply VCC is recommended
	VCC	117	118	VCC	
	VCC	119	120	VCC	

JH2 Definition：

Directions For Use	Definition	Pin	Pin	Definition	Directions For Use
Enclosure grounding	Eth_Sheid	1	2	Eth_Sheild	Enclosure grounding
Enclosure grounding	Eth_Sheid	3	4	Eth_Sheild	Enclosure grounding
	NC	5	6	NC	
	NC	7	8	NC	
Gigabit	P0 MXA-	9	10	P1 MXA-	Gigabit
	P0 MXA+	11	12	P1 MXA+	
	NC	13	14	NC	
	P0 MXB+	15	16	P1 MXB+	
	P0 MXB-	17	18	Port2_B-	
	NC	19	20	NC	
	P0 MXC+	21	22	P1 MXC-	
	P0 MXC-	23	24	P1 MXC+	
	NC	25	26	NC	
	P0 MXD+	27	28	P1 MXD+	
	P0 MXD-	29	30	P1 MXD-	
	NC	31	32	NC	
	NC	33	34	NC	
Test buttion	TEST_INPUT_KEY	35	36	STA_LED-	Running

					indicator (active low)
	GND	37	38	GND	
Line decoding signal	A	39	40	CLK_1	The first shift clock output
Line decoding signal	B	41	42	CLK_2	Second shift clock output
Line decoding signal	C	43	44	LAT	Latch signal output
Line decoding signal	D	45	46	CTRL	Blanking control signal
Line decoding signal	E	47	48	OE_R	According to enable（If OE_R, G, and B are not controlled separately, use OE_R）
According to enable（G, and B are not controlled separately, use OE_R）	OE_B	49	50	OE_G	

		GND	51	52	GND	
		Data1	53	54	Data0	
		Data3	55	56	Data2	
		Data5	57	58	Data4	
		Data7	59	60	Data6	
		Data9	61	62	Data8	
		Data11	63	64	Data10	
		GND	65	66	GND	
		Data13	67	68	Data12	
		Data15	69	70	Data14	
		Data17	71	72	Data16	
		Data19	73	74	Data18	
		Data21	75	76	Data20	
		Data23	77	78	Data22	
		GND	79	80	GND	
		Data25	81	82	Data24	
		Data27	83	84	Data26	
		Data29	85	86	Data28	
		Data31	87	88	Data30	
		Data33	89	90	Data32	
		Data35	91	92	Data34	
		GND	93	94	GND	

	Data37	95	96	Data36	
	Data39	97	98	Data38	
	Data41	99	100	Data40	
	Data43	101	102	Data42	
	Data45	103	104	Data44	
	Data47	105	106	Data46	
	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	
	NC	121	122	NC	

Extended function reference design

| Extension interface	The smart module interface is recommended	Flash interface of the indicator board is recommended	Note
RFU1	Reserved	Reserved	A reserved pin connected to the MCU
RFU2	Reserved	Reserved	A reserved pin

			connected to the MCU
RFU3	HUB_CODE0	HUB_CODE0	Flash control interface 1
RFU4	HUB_SPI_CLK	HUB_SPI_CLK	Clock signal of the serial interface
RFU5	HUB_CODE1	HUB_CODE1	Flash control interface 2
RFU6	HUB_SPI_CS	HUB_SPI_CS	The CS signal of the serial interface
RFU7	HUB_CODE2	HUB_CODE2	Flash control interface 3
RFU8	/	HUB_SPI_MOSI	Indicator board Flash stores data input
	HUB_UART_TX	/	Intelligent module TX signal
RFU9	HUB_CODE3	HUB_CODE3	Flash control interface 4
RFU10	/	HUB_SPI_MISO	Flash on the indicator board stores data output

	HUB_UART_RX	/	Intelligent module RX signal
RFU11	HUB_H164_CSD	HUB_H164_CSD	74HC164 data signal
RFU12	/	/	/
RFU13	HUB_H164_CLK	HUB_H164_CLK	74HC164 clock signal
RFU14	POWER_STA1	POWER_STA1	Dual power supply detection signal 1
RFU15	MS_DATA	MS_DATA	Dual card backup connection signal
RFU16	POWER_STA2	POWER_STA2	Dual power supply detection signal 2
RFU17	MS_ID	MS_ID	Dual card backup ID signal
RFU18	HUB_CODE4	HUB_CODE4	Flash control interface 5

Indicator

Indicator	Position	Status	Note
Indicator light (green)	U6	Even slow flash	the receiving card works properly, the network cable is connected properly, and there is no DVI signal input
		Even flash	The receiving card works normally, the network cable is connected normally, and DVI signal is input
		Often off	No gigabit network signal
		Blink for three	The receiving card works normally, the network cable is connected, and DVI signal is input
Status indicator (red)	U5	Normally on	The power supply is normal

Size Dimension
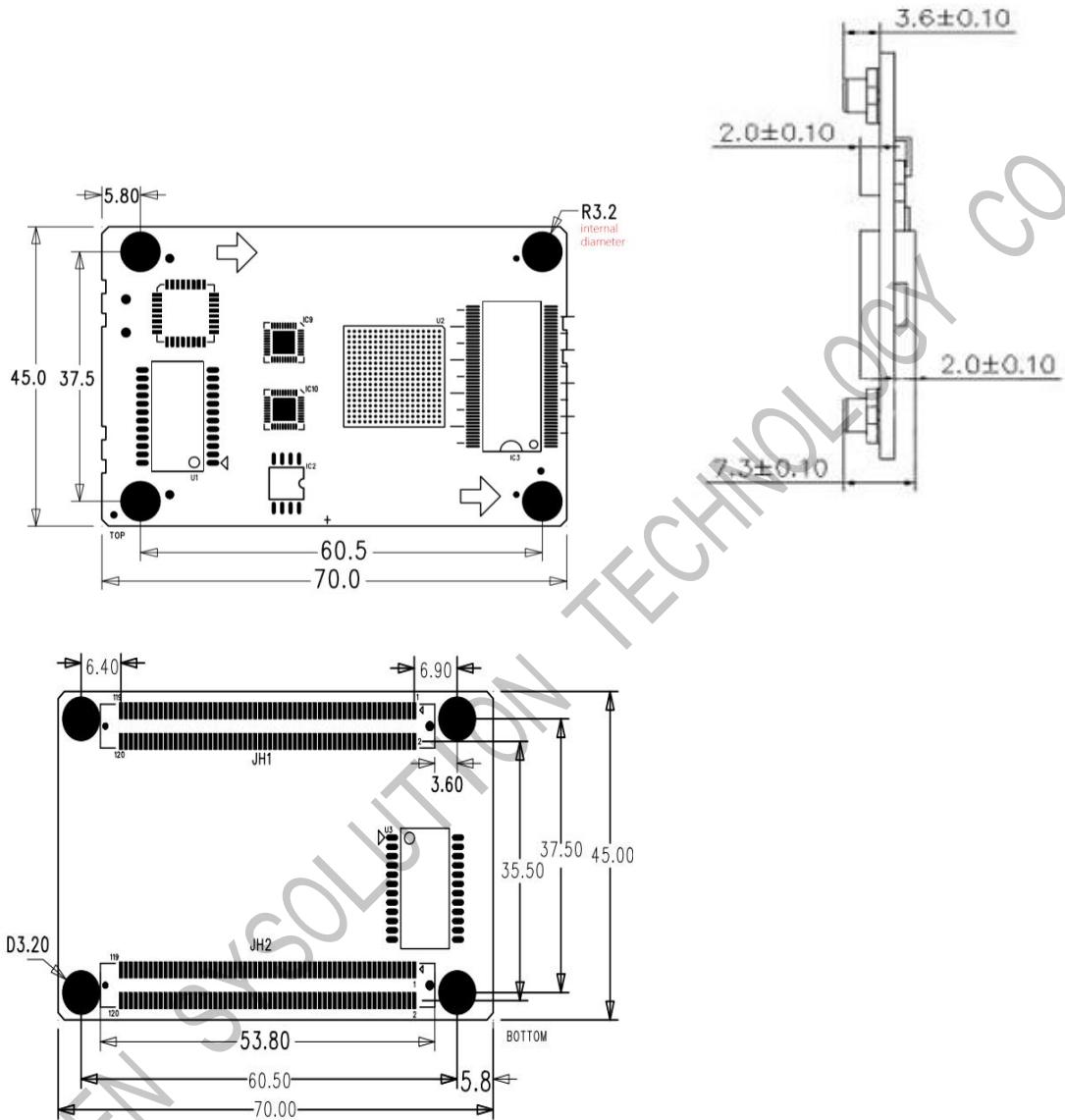
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Work parameter

Electrical parameters	Input voltage	DC3.5-5.5V
	Rated current	0.6A
	Rated power	3W
Work environment	Work temperature	-20℃ - 75℃
	Work humidity	10%RH-90%RH
Storage environment	Temperature	-25℃ ~ 125℃
Board size	70mmX45mm	
Net weight	18.3g	
Authentication information	Complies with RoHS standards and CE-EMC standards	

Note

1．Installation must be done by a professional.

2．Must be esd preventive.

3．Waterproof and dust removal.