Product specifications

Product specifications：**LZE039**

Customer
Approved by the customer
Date of approval:

Drafting	Check	Slap tandard	
		Research and development	**Quality assurance**

1. Brief account

LZE039 It is a one with 1024*768 Point array0.39Inch full-color silicon-based display module. The display module is characterized by high brightness, high contrast, narrow bezel, wide viewing angle, wide temperature range and low power consumption. It is used for head-mounted displays,
AR.Glasses, etc.

2. Product features

- Display color: full color
- The highest resolution 1024*768
- Digital video interface
  -Hold out 24 Place RGB Digital video
  -Hold out 24 Place YCbCr Digital video
  -Hold out 16 Place 4:2:2 Format YCbCr Digital video

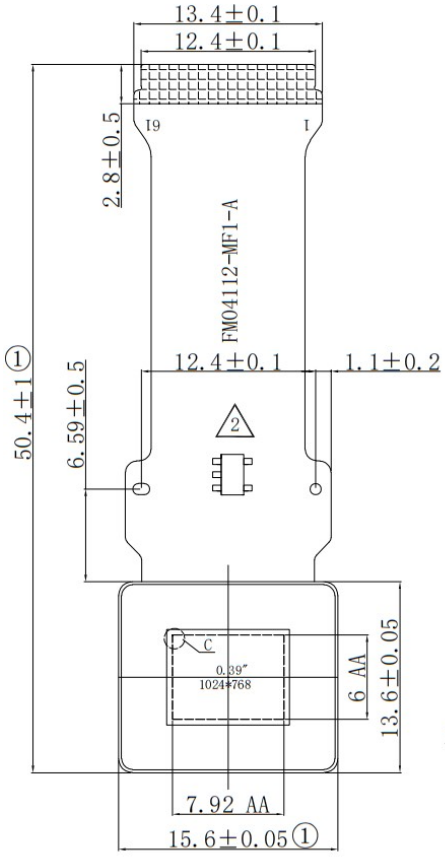
-Support progressive scanning

- Digital signal enhancement
  -Contrast adjustment
- Eight Bit input, 256 Grade grayscale display, Ten Place D/A Switch
- Level/Vertical image mirroring
- Two 线串行编码接口
- Can be in-40℃~65℃Work (In order to ensure the normal operation of the chip, it is necessary to configure the heat dissipation module, and the recommended working temperature≤
  60℃)

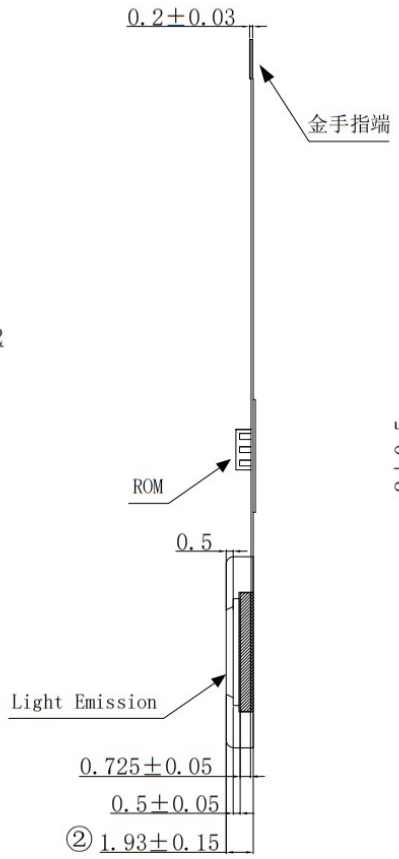
3. Structural parameters

Serial number	Project	Specifications	Unit
One	Resolution	1024 times 768	-
Two	Pixel size	7.5 times 7.5	Mm^{Two}
Three	Pixel spacing	7.5	Mm^{Two}
Four	Display the area area	7.92×6.00	$Millimeter^{Two}$
Five	屏体尺寸	11.72×8.41	$Millimeter^{Two}$
6	Module size (FPCA.)	50.4 x 15.6	$Millimeter^{Two}$
Seven	A/ADiagonal size of the area	0.39	Inch
Eight	Module weight	0.73±0.1	Gram

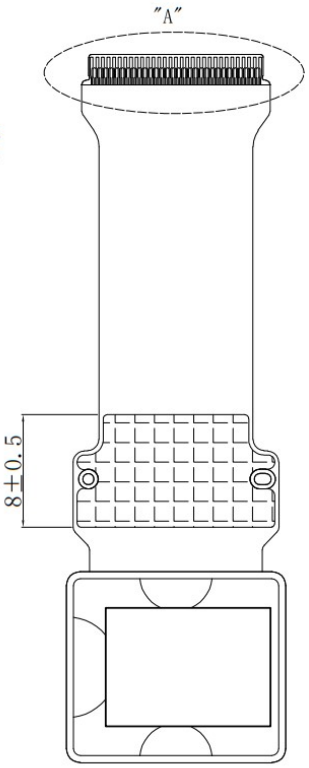
4. Structural diagram



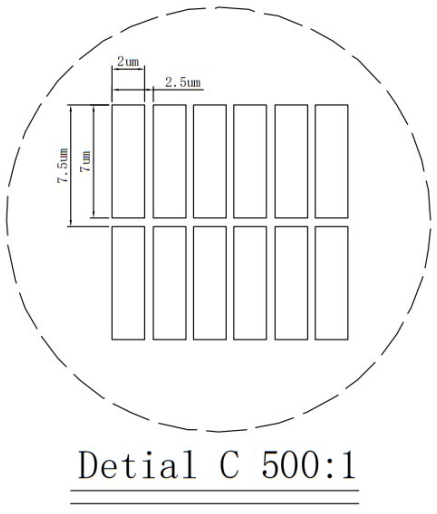
Main view



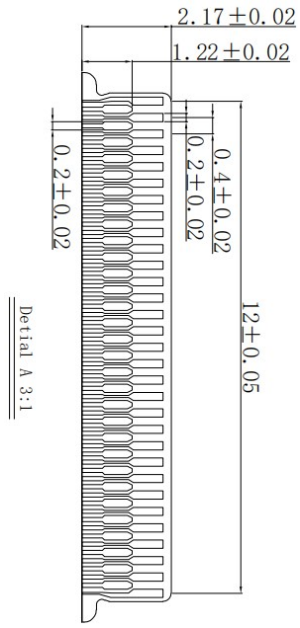
Side view



Back view



Local pixel magnification Enlarged Map



Golden Finger Area

5. Module interface

Personal identification numberOrder	Personal identification numberDefinition	Type	Describe
One	VSS.	VSS.	Ground connection
Two	VCOM.	Power supply	OLED Device common cathode ULZ 000711
Three	AVDD.	Power supply	Five V Power supply parallel capacitor22uF,0.1uFArrive at the ground
Four	VSS.	VSS.	Ground connection
Five	VSS.	VSS.	Ground connection
6	VSS.	VSS.	Ground connection
Seven	VSS.	VSS.	Ground connection
Eight	VDD1V8	Power supply	Digital power supply 1.8V Come into contact with0.1uFCapacitor to the ground
Nine	PCLK.	Input	Pixel clock
Ten	HS	Input	Line synchronization signal
11	Versus	Input	Field synchronization signal
12	OLED RST	Input	Reset signal
13	R7	Input	Red ULZ 000367 [1]Seven sevenDigital video input
14	R6	Input	Red ULZ 000367 [1]SixDigital video input
15	R5	Input	Red ULZ 000367 [1]Five [5]Digital video input
16	R4	Input	Red ULZ 000367 [1][4]Digital video input
17	R3	Input	Red ULZ 000367 [1]Three or threeDigital video input
18	R2	Input	Red ULZ 000367 [1]Two [2]Digital video input
19	R1	Input	Red ULZ 000367 [1][1]Digital video input
20	R0	Input	Red ULZ 000367 [1][0]Digital video input

Twenty-one	G7	Input	GreenSeven sevenDigital video input
22	G6	Input	GreenSixDigital video input
23	G5	Input	GreenFive [5]Digital video input
24	G4	Input	Green[4]Digital video input
Twenty-five	G3	Input	GreenThree or threeDigital video input
26	G2	Input	GreenTwo [2]Digital video input
27	G1	Input	Green[1]Digital video input
28	G0	Input	Green[0]Digital video input
29	VDD1V8	Power supply	Digital power supply 1.8V Come into contact with0.1uFCapacitor to the ground
30	VSS.	VSS.	Ground connection
31	B7	Input	BlueSeven sevenDigital video input
Thirty-two	B6	Input	BlueSixDigital video input
33	B5	Input	BlueFive [5]Digital video input
34	B4	Input	Blue[4]Digital video input
Thirty-five	B3	Input	BlueThree or threeDigital video input
Thirty-six ULZ 000499 B2	B2	Input	BlueTwo [2]Digital video input
37	B1	Input	Blue[1]Digital video input
Thirty-eight	B0	Input	Blue[0]Digital video input
39	ADDR0	Input	Inside I²C Slave Address control
40	NC.	NC.	Suspend in mid-air
41	REF IN	Input	Refer to the voltage control port, connect0.1uFCapacitor to the ground
42	NC.	NC.	Suspend in mid-air
43	I²C SCL	Input	I²C Serial communication clock line
44	NC.	NC.	Suspend in mid-air
45	I²C SDA	Input/Send out	I²C Serial communication data cable

46	DE	Input	Effective signals of data
47	VSS.	VSS.	Ground connection
48	VSS.	VSS.	Ground connection
49	VDD1V8	Power supply	Digital power supply 1.8V Come into contact with0.1uFCapacitor to the ground
Fifty	FSA R	Send out	R Channel brightness adjustment, connect 12K Resistance to the ground
51	FSA G	Send out	Generation Channel brightness adjustment, connect 12K Resistance to the ground
52	FSA B	Send out	B. Channel brightness adjustment, connect 12K Resistance to the ground
53	BW R	Input	R Passageway DAC. Performance control port, Come into contact with 0.1uF Capacitance to 1.8V
54	BW G	Input	Generation Passageway DAC. Performance control port, Come into contact with 0.1uF Capacitance to 1.8V
55	BW B	Input	B. Passageway DAC. Performance control port, Come into contact with 0.1uF Capacitance to 1.8V
56	VSS.	VSS.	Ground connection
57	VSS.	VSS.	Ground connection
Fifty-eight	VSS.	VSS.	Ground connection
59	AVDD.	Power supply	Five V Power supply parallel capacitor22uF, 0.1uFArrive at the ground
60	VCOM.	Power supply	OLED Device common cathode ULZ 000711
61	VSS.	VSS.	Ground connection

6. Extreme operating range

Project	Logo	Minimum value	Maximum value	Unit	Remarks
1.8VPower supply	VDD1V8	-0.3	Two	V	IC.Maximum range value
Five VPower supply	AVDD.	-0.3	6	V	IC.Maximum range value
Negative power supply	VCOM.	-5.5	Zero	V	IC.Maximum range value
Working temperature	Top	-40	+65	℃	-
Storage temperature	Tpnl	-55	+80 ULZ 000789 ℃	℃	-

Note: The maximum range value is the limit value that cannot be exceeded at an instant. Conditions for using or exceeding these rated values may affect the product. Service life and reliability, but the product may also be damaged. It is recommended to work under the typical operating conditions of the product.

7. Rated operating range

Project	Logo	Test conditions	Minimum value	Typical value	Maximum value	Unit
Working voltage	VDD1V8	-	1.62	1.8	1.98	V
	AVDD.	-	4.5	Five	Five point five	V
	VCOM.	-	-	Zero	-	V
High-level input voltage	VIH	-	0.7 VDD	-	VDD.	V
Low-level input voltage	VIL	-	Zero	-	0.3 VDD	V
High-level input voltage	Vt+	SchmittInput	0.7 VDD	-	VDD.	

Low-level input voltage	Vt+	SchmittInput	Zero	-	0.3 VDD	
Vt+ - Vt+	Vhys	SchmittInput	-	0.50	-	
Logical high-level output voltage	VOH	-	VDD-0.4	-	-	V
Logical low-level output voltage	VOL.	-	-	-	0.4	V

8. Photoelectric characteristics

Project	Symbol	Test conditions	Minimum value	Typical value	Maximum value	Unit
Normal mode brightness	Lbr	Full pixel light (white light)	-	300	-	Cd/m2
Normal mode power consumption	Particular transfer	Full pixel light (white light)	-	85	-	Medium wave
Color coordinates (white)	(X)	X,y (CIE1931)	0.28	0.31	0.34	-
	(Y)		0.30	0.33	0.36	-
Color coordinates (red)	(X)		0.57	0.60	0.63	-
	(Y)		0.30	0.33	0.36	-
Color coordinates (green)	(X)		0.20	0.23	0.26	-
	(Y)		0.60	0.63	0.66	-
Color coordinates (blue)	(X)		0.11	0.14	0.17	-
	(Y)		0.04	0.07	0.10	-

Contrast	CR.	-	⩾ 10000:1	-	-	-
Can be perspectived	-	-	-	TBD.	-	Degree

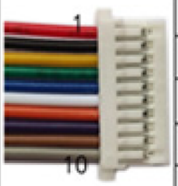
.Reliability

Serial number	Test items	Test conditions	Sample size	Criteria for judgment	Remarks
One	High-temperature storage	Non-working condition of the product test conditions:85℃, time24 hours After the test is completed, the produc is taken out and returned to roo temperature to confirm the situation	Two pieces	Outward appearanceOK, display functionOK, the color coordinates are within the control of our company.	
Two	High-temperature work	Product working status, tes conditions:65℃, time24 hours After the test is completed, the product is not removed, and the photoelectric parameters of the	Two pieces	Outward appearanceOK, display functionOK, the color coordinates are within the control of our company.	

		product are confirmed under this condition. Check the display function and appearance of the product after taking it out and restoring room temperature.			
Three	Low-temperature storage	Non-working condition of the product, test conditions:-55℃, time 24 hours. After the test is completed, the product is taken out and returned to room temperature to confirm the situation.	Two pieces	Outward appearanceOK, display functionOK, the color coordinates are within the control of our company.	
Four	Low-temperature work	Product working status, test conditions:-40℃, time 24 hours. After the test is completed, the product is not removed, and the photoelectric parameters of the product are confirmed under this condition. Check the display function and appearance of the product after taking it out and restoring room temperature.	Two pieces	Outward appearanceOK, display functionOK, the color coordinates are within the control of our company.	
Five	Cold and hot shock	Test conditions:-55/85℃Maintain high and low temperatures 30 minutes For aCycles, high and low temperature conversion time <5 minutes, carry out together10 cycles. After the test is completed, the product is taken out and returned to room temperature to confirm the situation.	Two pieces	Outward appearanceOK, display functionOK, the color coordinates are within the control of our company.	
6	High temperature and high humidity circulation	In the following way, oneCycle(24 hours.) Carry out the test, a total ofTenSelfCycle. 1、The experimental box is initially placed in30℃ /90% RH. 2、The humidity remains unchanged,Two hoursThe time temperature rises uniformly to60℃. 3、 60℃/90%RH, Maintain 6 hours. 4、The humidity remains unchanged.,8HThe time temperature drops uniformly to30℃. 5、30℃/90%RH, keep 8 hours. In the process, in theFiveA circular30℃/90%RHThe end of the stage Four A performance check will be carried out within an hour. After the test is completed, the product will be removed and returned to room	Two pieces	Outward appearanceOK, display functionOK, the color coordinates are within the control of our company.	

		temperature to confirm the situation again.			

对应供电和视频信号即可点亮屏幕

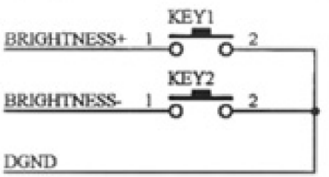


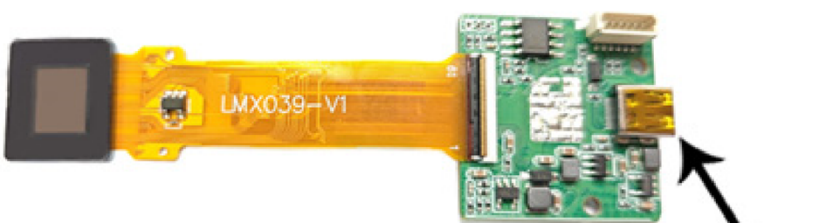
CVBS /AV 接线定义		
PIN	Function功能	Remarks备注
1	CVBS +	AV +
2	NC	
3	NC	
4	NC	
5	NC	
6	CVBS-/AV-	GND
7	Brightness -	亮度-
8	VCC 电源正	DC 3.5—5V
9	GND 电源负	
10	Brightness +	亮度+

亮度接线图：

Brightness
wiring diagram

（不需要调可不接）





micro HDMI
视频输入接口

插入HDMI即可点亮屏幕
电是从HDMI里获取的。