

0.96 inch OLED module



PROFILE

- Type: Passive graphic
- Display Color: Monochrome (White/Yellow/Blue)
- Display format: 128 x 64 dots
- Duty cycle: 1/64
- +2.8V power supply
- Controller IC: SSD1306
- Interface: 8-bit 68XX/80XX Parallel, 3-/4-wire SPI, I²C

FEATURES

NO.	ITEM	SPECIFICATION	UNIT
1	Panel Size	0.96	inch
2	Outline Dimension	26.70(W) x 19.26(H) x 1.4(T)	mm
3	Viewing Area	23.744 x 12.864	mm
4	Active Area	21.744 x 10.864	mm
5	Number of Dots	128 × 64	pixels
6	Dot Size	0.154(W) × 0.154(H)	mm
7	Dot Pitch	0.17(W) × 0.17(H)	mm
8	Display Mode	Passive graphic	-
9	Viewing Direction	All	
10	Display Color	White	-
11	Luminance(cd/m ²)	120(TYP.) (Internal DC/DC Enable)	cd/m ²
12	Contrast Ratio	2000(TYP. In Dark Room)	-
14	Interface	8-bit 68XX/80XX Parallel, 3/4-wire SPI, I ² C	-
16	Drive IC	SSD1306	-
18	Operation Temperature	-40~85	°C
19	Storage Temperature	-40~85	°C

ABSOLUTE MAXIMUM RATINGS				
ITEM	SYMBOL	MIN	MAX	UNIT
Supply Voltage for Logic	V _{DD}	-0.3	4	V
Supply Voltage for Display	V _{CC}	0	16	V
Supply Voltage for DC/DC (Internal DC/DC Enable)	V _{BAT}	-0.3	5	V
Operating Temperature	T _{OP}	-40	85	°C
Storage Temperature	T _{STG}	-40	85	°C
Life Time (120 cd/m ²)		10,000	-	hour
Life Time (80 cd/m ²)		30,000	-	hour
Life Time (60 cd/m ²)		50,000	-	hour

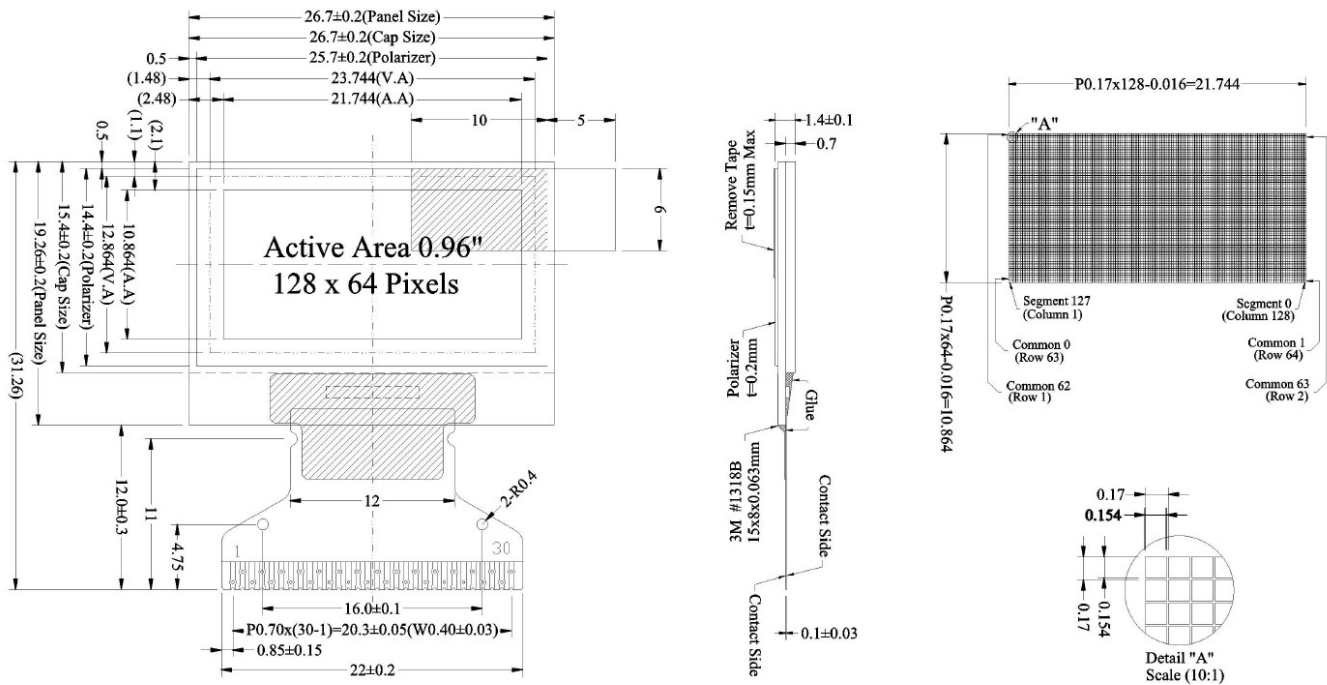
ELECTRICAL CHARACTERISTICS						
ITEM	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage for Logic	V _{DD}		1.65	2.8	3.3	V
Supply Voltage for Display (Supplied Externally)	V _{CC}	Internal DC/DC Disable	8.5	9.0	9.5	V
Supply Voltage for DC/DC	V _{BAT}	Internal DC/DC Enable	3.5	-	4.2	V
Supply Voltage for Display (Generated by Internal DC/DC)	V _{CC}	Internal DC/DC Enable	7	-	7.5	V
High Level Input	V _{IH}	I _{OUT} =100μA, 3.3MHz	0.8xV _{DD}	-	V _{DD}	V
Low Level Input	V _{IL}	I _{OUT} =100μA, 3.3MHz	0	-	0.2xV _{DD}	V
High Level Output	V _{OH}	I _{OUT} =100μA, 3.3MHz	0.9xV _{DD}	-	V _{DD}	V
Low Level Output	V _{OL}	I _{OUT} =100μA, 3.3MHz	0	-	0.1xV _{DD}	V
Operating Current for V _{DD}	I _{DD}		-	180	300	μA
Operating Current for V _{CC} (V _{CC} Supplied Externally)	I _{CC}		-	9	15	mA
Operating Current for V _{BAT} (V _{CC} Generated by Internal DC/DC)	I _{BAT}		-	25.6	32.0	mA
Sleep Mode Current for V _{DD}	I _{DD, SLEEP}		-	1	5	μA
Sleep Mode Current for V _{PP}	I _{CC, SLEEP}		-	2	10	μA

For detailed information, please refer to the “Product Numbering System” document.

PIN DESCRIPTION FOR OLED MODULE			
NO.	SYMBOL	I/O	FUNCTION
1	N.C. (GND)	-	Reserved Pin (Supporting Pin)
2	C2P	I	Positive Terminal of the Flying Inverting Capacitor
3	C2N	I	Negative Terminal of the Flying Boost Capacitor
4	C1P	I	Positive Terminal of the Flying Inverting Capacitor
5	C1N	I	Negative Terminal of the Flying Boost Capacitor
6	V _{BAT}	P	Power Supply for DC/DC Converter Circuit

7	N.C.	-	Reserved Pin			
8	VSS	P	Ground of Logic Circuit			
9	VDD	P	Power Supply for Logic			
10 11 12	BS0 BS1 BS2	I	Communicating Protocol Select These pins are MCU interface selection input. See the following table:			
				BS0	BS1	BS2
			I ² C	0	1	0
			3-wire SPI	1	0	0
			4-wire SPI	0	0	0
			8-bit 68XX Parallel	0	0	1
			8-bit 80XX Parallel	0	1	1
13	CS	I	Chip Select			
14	RES	I	Power Reset for Controller and Driver			
15	D/C	I	Data/Command Control			
16	R/W	I	Read/Write Select or Write			
17	E/RD	I	Read/Write Enable or Read			
18	D0	I/O	Host Data Input/Output Bus			
19	D1	I/O	Host Data Input/Output Bus			
20	D2	I/O	Host Data Input/Output Bus			
21	D3	I/O	Host Data Input/Output Bus			
22	D4	I/O	Host Data Input/Output Bus			
23	D5	I/O	Host Data Input/Output Bus			
24	D6	I/O	Host Data Input/Output Bus			
25	D7	I/O	Host Data Input/Output Bus			
26	IREF	I	Current Reference for Brightness Adjustment			
27	VCOMH	O	Voltage Output High Level for COM Signal			
28	Vcc	P	Power Supply for OEL Panel			
29	VLSS	P	Ground of Analog Circuit			
30	N.C. (GND)	-	Reserved Pin (Supporting Pin)			

I/O: I: input, O: output, P: power

DIMENSIONS in millimeters

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