MIDAS Displays
design • manufacture • supply

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MCOT128064QV-YM	128 x 64	Yellow	OLED Module

Specification

Version: 5	Date: 07/06/2017

Revision

0	2015/04/17	First release
A	2015/05/21	Modify Life Time.
B	2015/12/08	Modify Life Time
C	2016/06/01	Modify Static electricity test
D	2016/11/02	Modify thickness.

Display Features	
Resolution	128 x 64
Appearance	Yellow on Black
Logic Voltage	3V
Interface	Parallel / SPI / I2C
Module Size	73.00 x 41.86 x 2.15 mm
Operating Temperature	-40°C ~ +80°C
Construction	TAB

RoHS compliant

Box Quantity	Weight / Display
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* - For full design functionality, please use this specification in conjunction with the SSD1309Z specification. (Provided Separately)

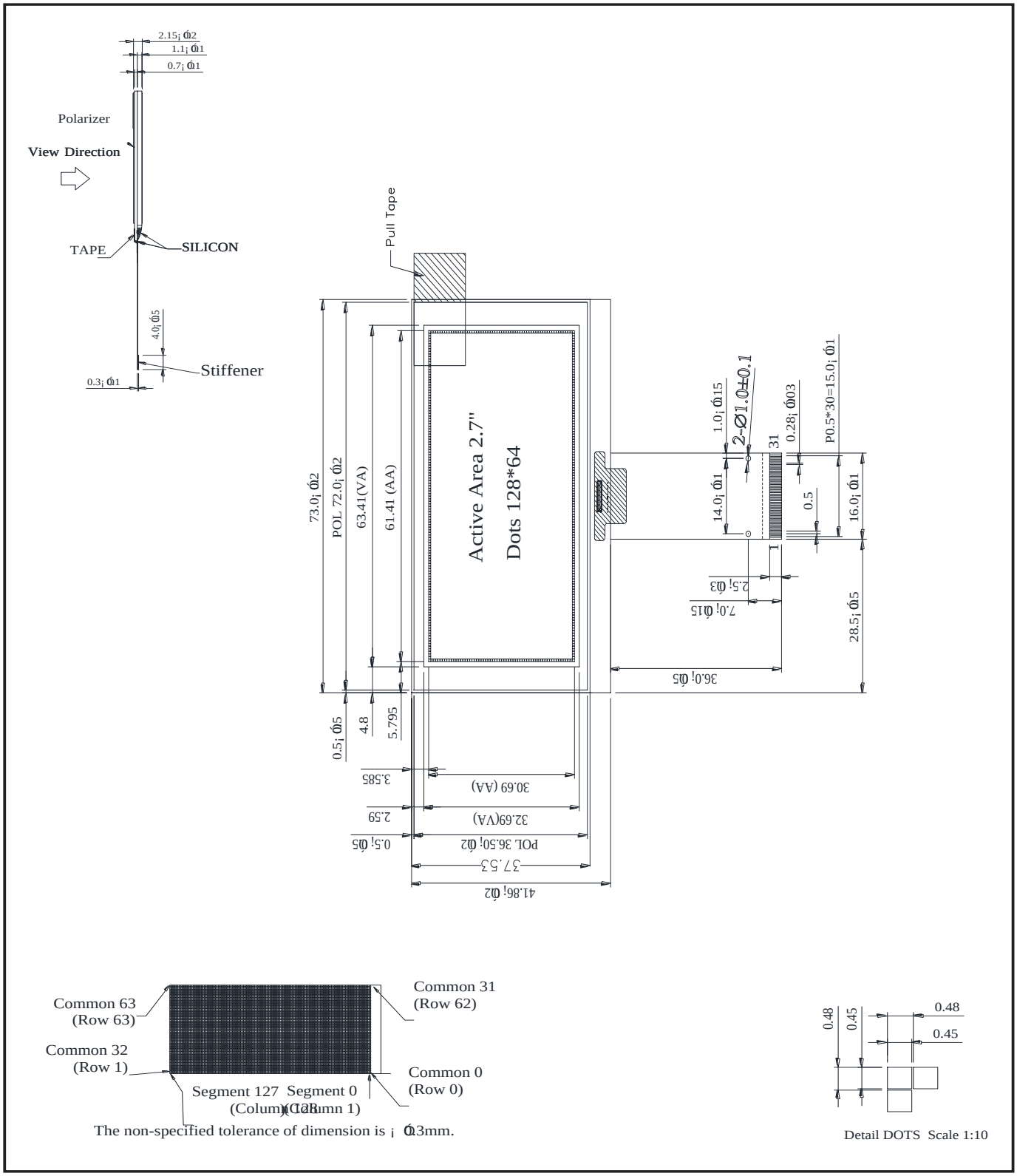
Display Accessories

Part Number	Description
MPBV6	FFC to cable. Supports up to 40 way. Any driver board that supports 1mm pitch SHDR-40V-S-B receptacle.
MCIB12	UC32 Breakout Board with SD card and LED back light driver. Used in conjunction with MPBV6.

Optional Variants

Appearance	Voltage
Green on Black Blue on Black White on Black	

Mechanical Specifications					
Module Size	73.00 x 41.86 x 2.15 (With Backlight)				W x H x D mm
Viewing Area	63.41 x 32.69	W x H mm	Hole-to-Hole	---	W x H mm
Dot Size	0.45 x 0.45	W x H mm	Dot Pitch	0.48 x 0.48	W x H mm



MCOT128064QV-YM	128 x 64	Yellow	OLED Module
Specification			
Version: 1		Date: 07/06/2017	
Revision			

Pin layout			
Pin	**Symbol**	**Description**	**Remarks**
1	NC(Ground)	No Connection (ground).	
2	VSS	Ground Pin. Connect to external ground.	
3~10	NC	No Connection.	
11	VDD	Power Supply Pin for core logic operation.	
12	BS1	MCU bus interface selection pins. Select appropriate logic settings: Note: “0” is connected to VSS and “1” is connected to VDD. I2C = BS1: 1 BS2: 0 4-Wire SPI = BS1: 0 BS2: 0 8-bit 6800 Parallel = BS1:0 BS2:1 8-bit 8080 Parallel = BS1: 1 BS2: 1	
13	BS2		
14	NC	No Connection.	
15	CS#	Chip Select Input, connecting to MCU. Chip is enabled for MCU communication when CS# is pulled Low.	
16	RES#	Reset Signal Input. Initialisation for chip is executed when pulled Low. Keep pulled High during normal operation.	
17	D/C#	Data / Command control pin connecting to the MCU. Pin pulled High= Data at D(7:0) will be interpreted as data. Pin pulled Low= Data at D(7:0) will be transferred to a command register. I2C Mode= Pin acts as SA0 for slave address selection. 3-wire SPI Serial= This pin must be connected to VSS.	
18	R/W#	Read / Write control input pin connecting to the MCU interface. 6800 Mode= This pin will be used as Read/Write (R/W#). Read will be carried out when pin pulled High and Write mode when pulled Low. 8080 Mode= This pin will be the Write (WR#) input. Data Write initiated when on pulled Low and chip selected. I2C or SPI= Must connect to VSS.	
19	E/RD#	MCU Interface Input. 6800 Mode= Pin will be used as E (E) signal. Read/Write operation initiated when pin is pulled High and chip selected. 8080 Mode= Pin receives Read (RD#) signal. Read operation initiated when pin pulled Low and chip selected. I2C or SPI= Must connect to VSS.	
20~27	D0~D7	Bi-directional data bus connecting to MCU data bus. Unused pints to tie Low. SPI Mode= D0 will be Serial Clock input (SCLK), D1 will be Serial Data input (DIN) and D2 to be kept NC. I2C Mode= D2 and D1 tied to be tied together and serve as SDAout , SDAin application and D0 is Serial Clock input (SCL).	
28	IREF	Segment Output Current Reference pin. IREF supplied externally. A Resistor to be connected between this pin and VSS to maintain 10μA current.	
29	VCOMH	COM Signal deselected voltage Level. Capacitor connected between this pin and VSS.	
30	VCC	Power Supply for Panel Driving Voltage.	
31	NC(Ground)	No Connection (ground).	

Absolute Maximums Ratings

Item	Symbol	Minimum	Typical	Maximum	Unit
Supply Voltage for Display	VI	0.00	---	15.00	V
Supply Voltage for Logic	V0	-0.30	---	4.00	V
Operating Temperature	Vopr	-40	---	80	°C
Storage Temperature	Vstg	-40	---	80	°C

Electronic Characteristics

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Input High Voltage	VIH	---	0.80	---	VDD	V
Input Low Voltage	VIL	---	GND	---	0.20	V
Output High Voltage	VOH	---	0.90	---	VDD	V
Output Low Voltage	VOL	---	GND	---	0.10	V
Supply Voltage for Logic	VDD	---	2.80	3.00	3.30	V
Supply Voltage for Display	VCC	---	12.00	13.00	14.00	V
50% Checkboard Operating Current.	IDD	VDD=13V	20	22	24	mA

OLED Characteristics

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Viewing Angle	(V)θ	---	160	---	---	Deg
	(H)φ	---	160	---	---	Deg
Contrast Ratio	CR	Dark	2000:1	---	---	---
Response Time	T Rise	---	---	10	---	μs
	T Fall	---	---	10	---	μs
Display with 50% Checkboard Brightness			60	80	---	cd/m^2
CIEx(Yellow)		(CIE1931)	0.45	0.47	0.49	---
CIEy(Yellow)		(CIE1931)	0.48	0.50	0.52	---

OLED Life Time

Item	Conditions	Typical	Remark
Operating Life Time	Ta=25°C. Initial checkboard brightness, 50%.	50,000 Hours	---