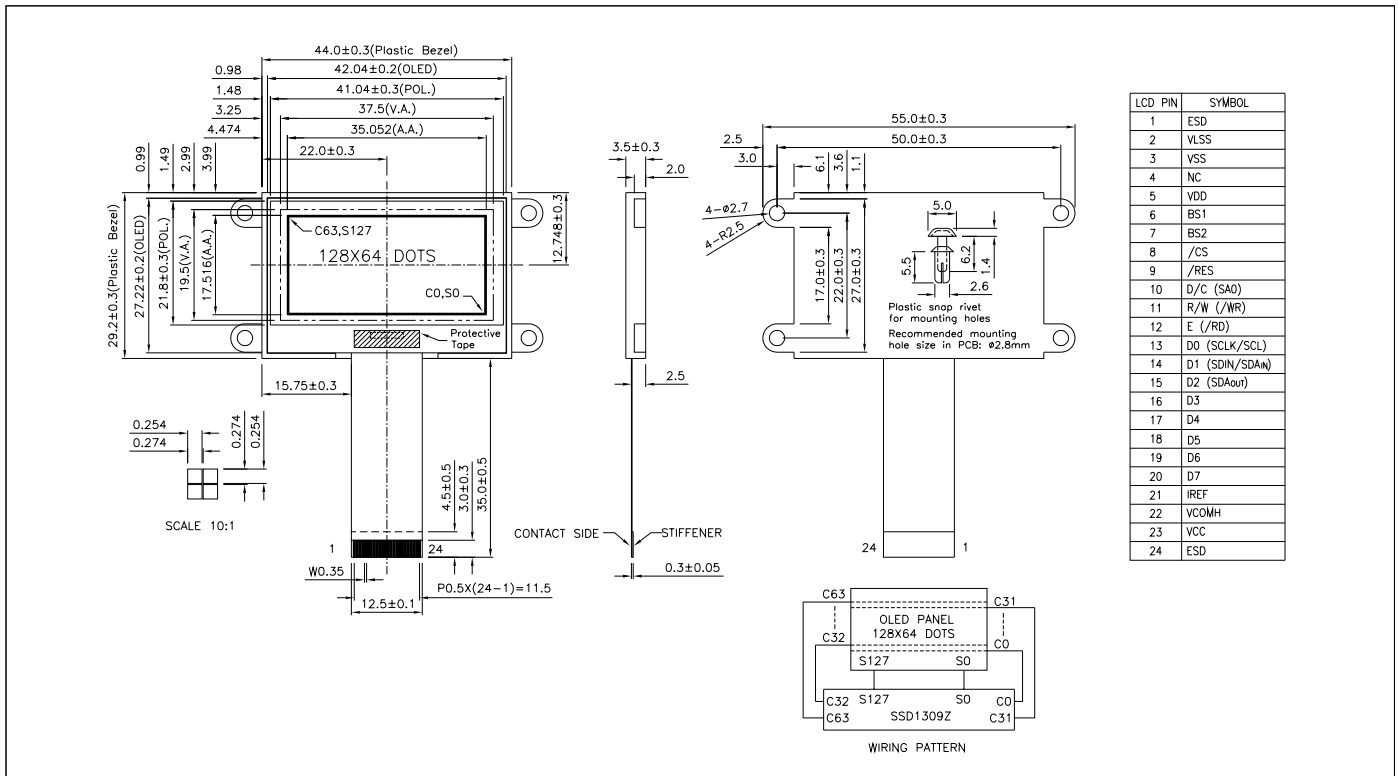


VSEG12864A

1.54" OLED 128 x 64 dots, 8-bit 6800/8080 parallel, SPI or I²C, 3.3V



ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min.	Max.	Unit
Supply Voltage (Logic)	V _{DD} - V _{SS}	-0.3	4.0	V
Supply Voltage (OLED)	V _{CC} - V _{SS}	-0.3	15.0	V
Input Voltage	V _I	-0.3	V _{DD} + 0.3	V
Operating Temp.	T _{opr}	-40	70	°C
Storage Temp.	T _{stg}	-40	80	°C

MECHANICAL DATA

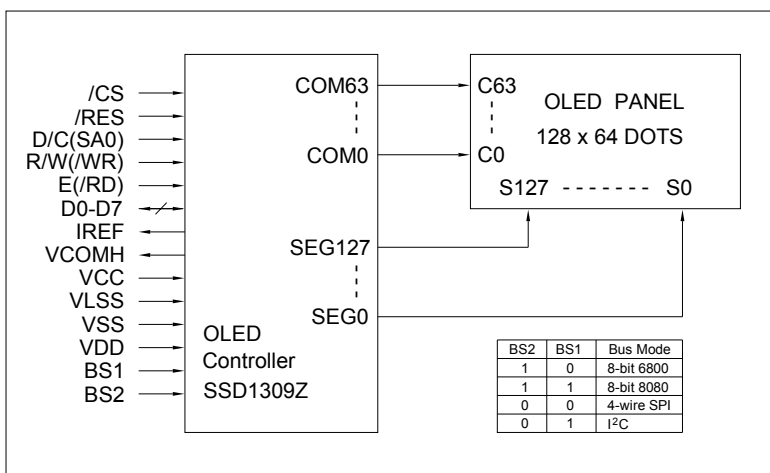
Item	Nominal Dimensions	Unit
Module Size (W x H x T)	55.0 x 29.2 x 3.5	mm
Viewing Area (W x H)	37.5 x 19.5	mm
Dot Pitch (W x H)	0.274 x 0.274	mm
Dot Size (W x H)	0.254 x 0.254	mm
Weight	Approx. 6	g

ELECTRICAL CHARACTERISTICS (V_{DD}=2.8V to 3.3V)

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input High Voltage	V _{IH}	--	0.8V _{DD}	--	V _{DD}	V
Input Low Voltage	V _{IL}	--	0	--	0.2V _{DD}	V
Output High Voltage	V _{OH}	I _{OH} = -0.1mA	0.9V _{DD}	--	V _{DD}	V
Output Low Voltage	V _{OL}	I _{OL} = 0.1mA	0	--	0.1V _{DD}	V
OLED Driving Voltage	V _{CC}	--	12.0	12.5	13.0	V
Supply Current	I _{DD}	V _{DD} = 3.3V	--	180	300	µA
	I _{CC} Note 1	V _{CC} = 12.5V	--	21.0	26.0	mA
	I _{CC} Note 2	V _{CC} = 12.5V	--	36.0	45.0	mA

Note 1: White color, 50% display area turned on, contrast register is set to CFH
 Note 2: White color, 100% display area turned on, contrast register is set to CFH

BLOCK DIAGRAM



PIN CONNECTIONS

Pin	Symbol	Level	Function
1	ESD	0V	ESD protection pin. Connect it to Vss
2	VLSS	0V	Analog ground. Connect it to Vss.
3	V _{SS}	0V	Logic ground
4	NC	-	No connection
5	V _{DD}	2.8V to 3.3V	Power supply for logic
6	BS1	H/L	Bus interface selection
7	BS2	H/L	Bus interface selection
8	/CS	L	Chip selection signal. Active "L".
9	/RES	L	Reset signal. Active "L".
10	D/C (SA0)	H/L	Data/Command selection for parallel or SPI mode "H": Display data; "L": Instruction code Slave address SA0 for I2C mode
11	R/W(/WR)	H/L	R/W for 68 MPU, /WR for 80 MPU
12	E(/RD)	H/L	E for 68 MPU, /RD for 80 MPU
13	D0	H/L	For 6800/8080 parallel mode: D0 to D7 are 8-bit bi-directional data bus
14	D1	H/L	For 4-wire SPI mode: D0 is serial clock input SCLK D1 is serial data input SDIN
15	D2	H/L	For I2C mode: D0 is serial clock SCL D1 is serial data input SDA _{IN} D2 is serial data output SDA _{OUT} Connect D1 and D2 together to serve as SDA
16	D3	H/L	
17	D4	H/L	
18	D5	H/L	
19	D6	H/L	
20	D7	H/L	
21	IREF	-	Segment current reference pin
22	VCOMH	-	Common signal deselected voltage
23	VCC	12.5V	Power supply for OLED driving. It must be supplied externally.
24	ESD	0V	ESD protection pin. Connect it to Vss