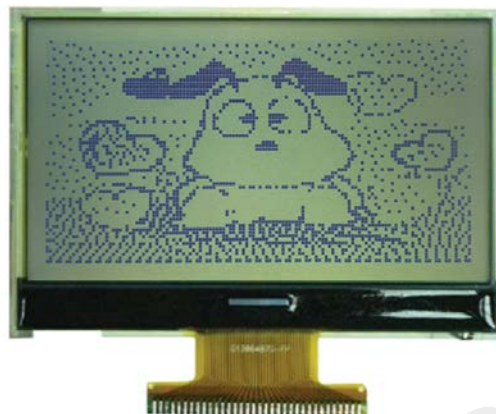# BO12864E3

🍃 Feature

1. COG package
2. Built-in controller ST7567S
3. +3.3 V power supply
4. 1/64 duty cycle
5. On chip LCD booster
6. Option LED B/L

🍃 Mechanical Data

Item	Standard Value	Unit
Module Dimension	80.0 x 54.0 x 9.7	mm
View Area	70.7 x 38.8	mm
Dot Size	0.48 x 0.48	mm
Dot Pitch	0.52 x 0.52	mm

🍃 Pin Assignment

Pin No.	Symbol	Level	Description
1	/CS1	I	This is the chip select signal
2	/RES	I	When /RES is set to "L," the settings are initialized. The reset operation is performed by the /RES signal level.
3	A0	I	It determines whether the access is related to data or command. A0="H" : Indicates that signals on D[7:0] are display data. A0="L" : Indicates that signals on D[7:0] are command.
4	/WR (R/W)	I	Read/Write execution control pin. When PSB is "H", (see table below) WR is used to decide slave address (SA1) in I2C serial interface. WR is not used in 3-line and 4-line SPI interface and should fix to "H" by VDD.
5	/RD(E)	I	Read/Write execution control pin. When PSB is "H", (see table below) RD(E) is used to decide slave address (SA0) in I2C serial interface. RD(E) is not used in 3-Line and 4-Line SPI interface and should fix to "H" by VDD.

Pin 4 detail:

C86	MPU Type	RWR	Description
H	6800 series	R/W	Read/Write control input pin. R/W="H": read. R/W="L": write.
L	8080 series	/WR	Write enable input pin. Signals on D[7:0] will be latched at the rising edge of /WR signal.

Pin 5 detail:

C86	MPU Type	ERD	Description
H	6800 series	E	Read/Write control input pin. R/W="H": When E is "H", D[7:0] are in output mode. R/W="L": Signals on D[7:0] are latched at the falling edge of E signal.
L	8080 series	/RD	Read enable input pin. When /RD is "L", D[7:0] are in output mode.

6~13	D0(SCL) D1(SDA) D2~D7	I/O	When using serial interface: 4-line SPI,3-line SPI or I2C serial interface D[0]=SCL: Serial clock input. D[1]=SDA_IN: Serial data input. D[2:3]=SDA_OUT: Serial data output. D[1:3] must be connected together as SDA. D[4:7]=(1,1,1,1): ID Pin. D[4:7] should fix to "H" or "L" by VDD or VSS. ID[0:3] can be read 4-bit ID only for serial interface from D[4:7].
14	VDD	3.3V	Power supply for logic
15	VSS	0V	Power supply for logic GND
16~18	NC	-	Not used.
19	V0	O	V0 is the LCD driving voltage for common circuits at negative frame.
20	XV0	O	XV0 is the LCD driving voltage for common circuits at positive frame.
21~24	NC	-	Not used.
25	VG	O	VG is the LCD driving voltage for segment circuits.
26~30	NC	-	Not used.
31	C86	I	C86 selects the microprocessor type in parallel interface mode.
32	PSB	I	PSB selects the interface type: Serial or Parallel.
33	SI2	I	SI2 selects the interface type: I2C serial interface or not (see table below) Please refer to "APPLICATION NOTES" and "Microprocessor Interface" (Section 6) for detailed connection of the selected interface.
34	NC	-	Not used.

Pin 33 detail:

SI2	PSB	C86	Selected Interface
"L"	"L"	"L"	Serial 3-Line SPI Interface
"L"	"L"	"H"	Serial 4-Line SPI Interface
"L"	"H"	"L"	Parallel 8080 Series MPU Interface
"L"	"H"	"H"	Parallel 6800 Series MPU Interface
"H"	"X"	"X"	I2C Serial Interface

🍃 Electronic Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	Vdd-Vss	–	3.0	3.3	3.6	V
Supply Voltage For LCD	V0-XV0	Ta=25℃	9.9	10.2	10.5	V
Supply Current	Idd	Vdd=3.3V	–	0.5	–	mA
LCM Surface Luminance Ta=25℃	L	I_{LED}=40mA Display all OFF	3	4	–	cd/m^2

🍃 Dimension