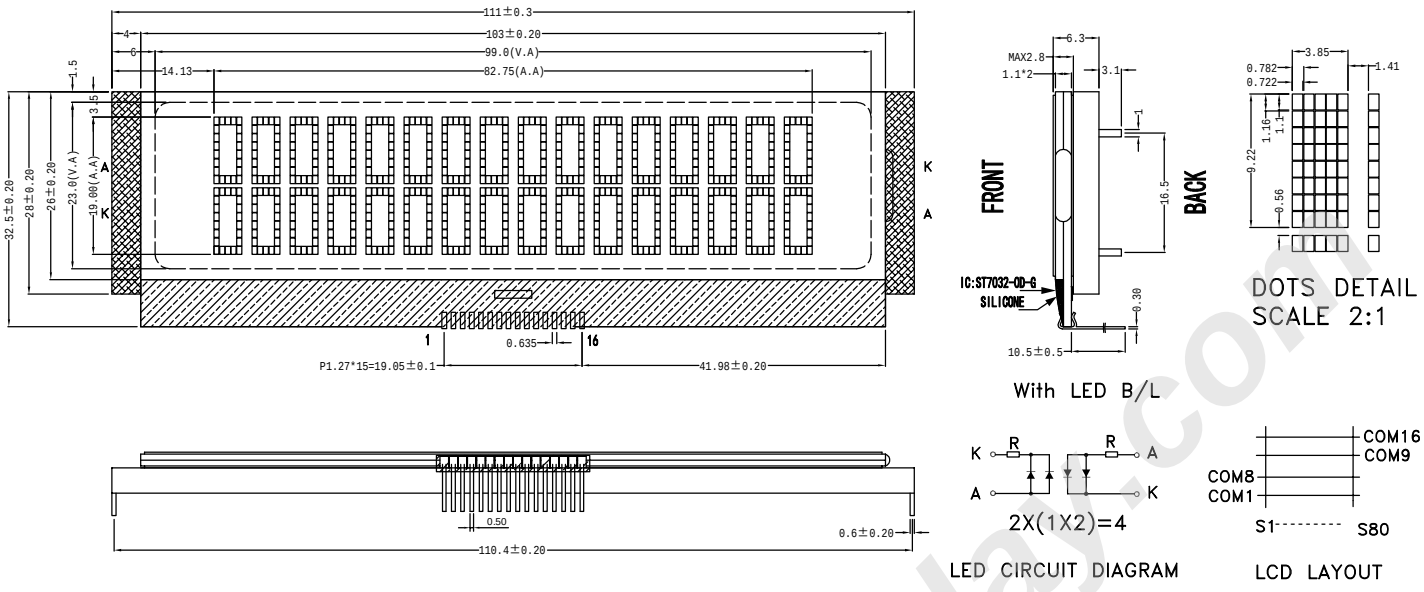
E-SHINE DISPLAY CO., LTD. EX1602S9

Dimension Drawing



TOLERANCES UNLESS OTHERWISE STATED
X.X ±0.20 X.XX ±0.10 UNIT: mm

Feature:

1. 2-line x16 characters display; 5x8 dots with cursor
2. Built-in controller ST7032
3. +5V power supply
4. 1/16 Duty cycle
5. STN or FSTN Mode
6. Match all kind colors of LED back light
7. ROHS compliant

Interface Pin Connections

PIN NO.	Symbol	Function
1	XRESET	External reset pin.
2	RS	H/L Register select signal
3	CSB	Chip select in parallel mode and serial interface
4	R/W	H/L Read/Write signal
5	E	H/L Enable signal
6	DB0	H/L Data bus line
7	DB1	H/L Data bus line
8	DB2	H/L Data bus line
9	DB3	H/L Data bus line
10	DB4	H/L Data bus line
11	DB5	H/L Data bus line
12	DB6	H/L Data bus line
13	DB7	H/L Data bus line
14	VSS	GND
15	VDD	+5V or +3.3V
16	V0	Contrast adjustment

Mechanical Data

Item	Standard	Unit
Module dimension	111.0 x 32.5	mm
Viewing area	99.0 x 23.0	mm
Character size	3.85 x 9.22	mm
Dots size	0.722 x 1.1	mm

Absolute Maximum Rating

Item	Symbol	Standard			Unit
		Min	Typ	Max	
Power supply	VDD-VSS	-0.3	---	7.0	V
Input voltage	VI	-0.3	---	VDD+0.3	

Electronical Characteristics

Item	Symbol	Condition		Standard			Unit
				Min	Typ	Max	
Input voltage	VDD	+5.0V		4.5	5.0	5.5	V
		+3.3V		2.7	3.3	4.5	
Supply current	I_{DD}	VDD=5V		----	160	230	uA
Recommended LCD driving voltage for normal temp version module	VDD-V0 (VDD=5V)	-20°C		4.9	5.2	5.5	V
		0°C		4.5	4.8	5.1	
		25°C		4.1	4.5	4.8	
		50°C		3.8	5.0	4.4	
		70°C		3.5	4.2	5.5	
LED forward voltage	VF	25°C		----	3.0	3.3	V
LED forward current	IF	25°C	Edge	----	60	80	mA

Display Character Address Code:

Display position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DDRAM address	00	01	02	--	--	--	--	--	--	--	--	--	--	--	--	0FH
DDRAM address	40	41	42	--	--	--	--	--	--	--	--	--	--	--	--	4FH

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