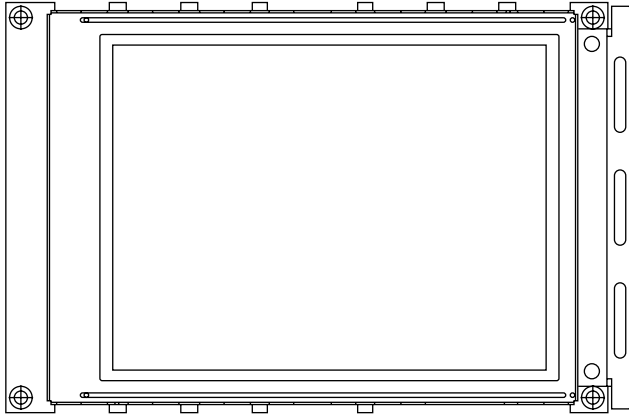


## 320 x 240 Graphic LCD



### FEATURES

- Type: Graphic
- Display format: 320 x 240 dots
- Built-in controller: Epson S1D13700
- Duty cycle: 1/240
- Touch screen option
- Temperature compensation option
- BP2: DIP connection
- BP3: Touch panel driver
- Compliant to RoHS directive 2002/95/EC



**RoHS**  
COMPLIANT

### MECHANICAL DATA

ITEM	STANDARD VALUE	UNIT
Module Dimension	166.8 x 109.0	mm
Viewing Area	122.0 x 92.0	
Dot Size	0.34 x 0.34	
Dot Pitch	0.36 x 0.36	
Mounting Hole	152.0 x 101.0	
Character Size	N/a	

### ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	STANDARD VALUE			UNIT
		MIN.	TYP.	MAX.	
Power Supply	$V_{DD}$ to $V_{SS}$	4.5	5.0	5.5	V
Input Voltage	$V_I$	0	-	$V_{DD}$	

#### Note

- $V_{SS} = 0$  V,  $V_{DD} = 5.0$  V

### ELECTRICAL CHARACTERISTICS

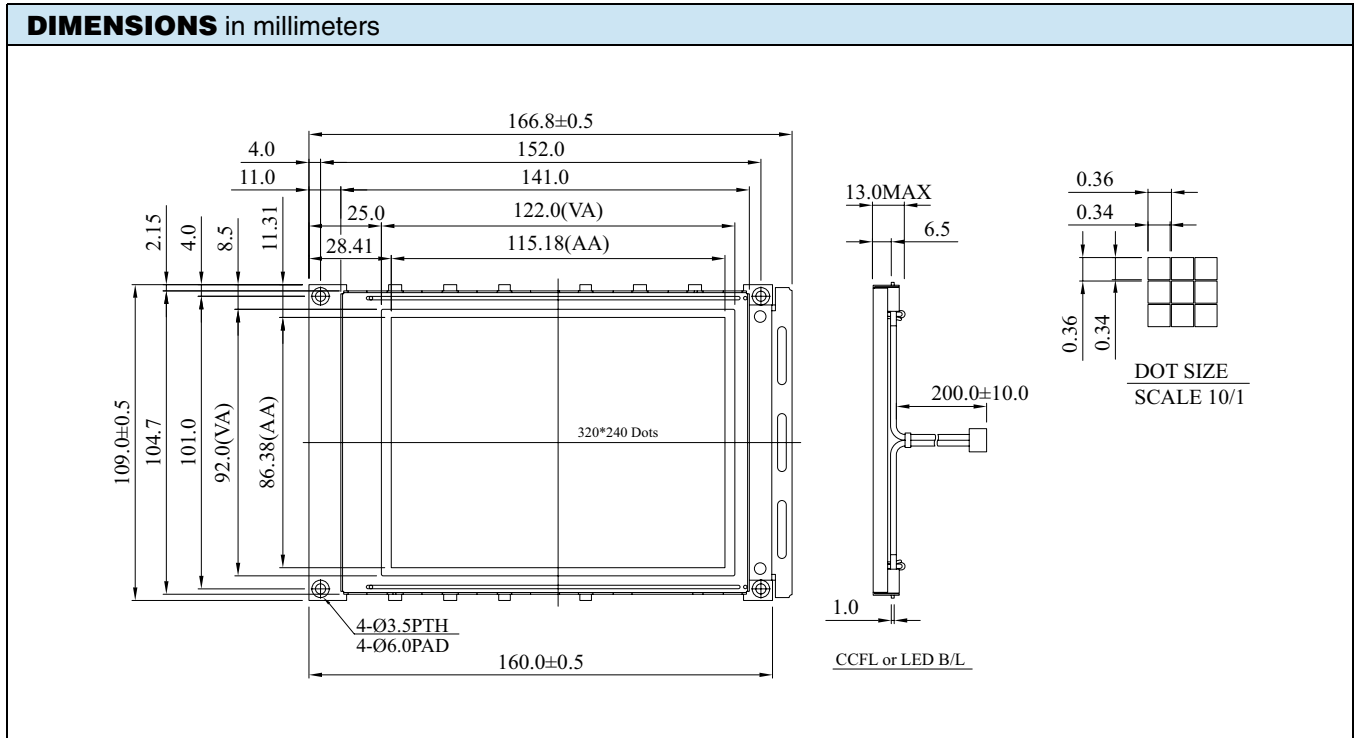
ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
Input Voltage	$V_{DD}$	-	4.75	5.0	5.25	V
Supply Current	$I_{DD}$	$V_{DD} = +5.0$ V	65.0	75.0	85.0	mA
Recommended LC Driving Voltage for Normal Temperature Version Module	$V_0$ to $V_{SS}$	-20 °C	-	-	26.1	V
		25 °C	-	23.8	-	
		70 °C	22.2	-	-	
CCFL Starting Voltage	$V_{FLS}$	25 °C	-	600	-	$V_{RMS}$
CCFL Driving Voltage	$V_{FLD}$	25 °C	-	270	-	$V_{RMS}$
CCFL Driving Current	$I_{FLD}$	$V_{FQ} = 450 V_{RMS}, 30$ kHz	4.8	5.3	5.5	$mA_{RMS}$
LED Forward Voltage	$V_F$	25 °C	3.4	3.5	3.6	V
LED Forward Current	$I_F$	25 °C	140	160	180	mA
EL Power Supply Current	$I_{EF}$	$V_{EL} = 110 V_{AC}, 400$ Hz	-	-	5.0	mA

### OPTIONS

PROCESS COLOR						BACKLIGHT			
TN	STN Gray	STN Yellow	STN Blue	FSTN B&W	STN Color	None	LED	EL	CCFL
	x	x	x	x		x	x	x	x

For detailed information, please see the "Product Numbering System" document.

INTERFACE PIN FUNCTION			
PIN NO.	SYMBOL	PIN NO.	FUNCTION
1	V <sub>SS</sub>		Ground
2	V <sub>DD</sub>		Power supply for logic
3	V <sub>0</sub>		Driving voltage for LCD
4	A <sub>0</sub>		RD = L, WR = H; AO = L: Data read; AO = H: Status read RD = H, WR = L; AO = L: Data write; AO = H: Command write
5	$\overline{WR}$		8080 family: Write signal/6800 family: R/W signal
6	$\overline{RD}$		8080 family: Read signal/6800 family: Enable clock
7	DB0		Date bus line
8	DB1		Date bus line
9	DB2		Date bus line
10	DB3		Date bus line
11	DB4		Date bus line
12	DB5		Date bus line
13	DB6		Date bus line
14	DB7		Date bus line
15	$\overline{CS}$		Chip select, active L
16	$\overline{RES}$		Controller reset signal, active L
17	V <sub>EE</sub>		Negative voltage output
18	SEL		8088 or 6800 interface selection (1:68, 0:80)
19	F <sub>GND</sub>		Frame ground
20	WAIT		Check busy





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