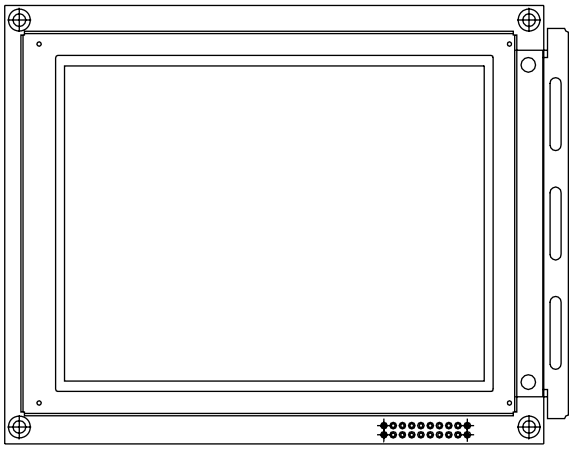
320 x 240 Graphic LCD



FEATURES

- Type: Graphic
- Display format: 320 x 240 dots
- Built-in controller: RA8835 and SRAM
- Duty cycle: 1/240
- Built-in N.V.
- Touch screen option (analog type)
- Temperature compensation option
- Compliant to RoHS directive 2002/95/EC

Pb-free
RoHS COMPLIANT

MECHANICAL DATA

ITEM	STANDARD VALUE	UNIT
Module Dimension	148.02 x 120.24	mm
Viewing Area	120.14 x 92.14	
Dot Size	0.34 x 0.34	
Dot Pitch	0.36 x 0.36	
Mounting Hole	139.98 x 116.61	
Character Size	N/a	

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	STANDARD VALUE			UNIT
		MIN.	TYP.	MAX.	
Power Supply	V_{DD} to V_{SS}	4.75	5.0	5.25	V
Input Voltage	V_I	- 0.3	-	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}	L level	0.7 V_{DD}	-	V_{DD}	V
	V_{IO}	H level	0	-	0.3 V_{DD}	
Supply Current	I_{DD}	V_{DD} = + 5.0 V	-	100	105	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	20.9	-	-	
CCFL Starting Voltage	V_{FLS}	25 °C	-	600	-	V_{RMS}
CCFL Driving Voltage	V_{FLD}	25 °C	-	268	-	V_{RMS}
CCFL Driving Current	I_{FLD}	V_{FQ} = 450 V_{RMS}, 30 kHz	-	5.0	-	mA_{RMS}
LED Forward Voltage	V_F	25 °C	-	4.2	4.6	V
LED Forward Current	I_F	25 °C	-	180	360	mA
EL Power Supply Current	I_{EF}	V_{EL} = 110 V_{AC}, 400 Hz	-	-	5.0	mA

OPTIONS

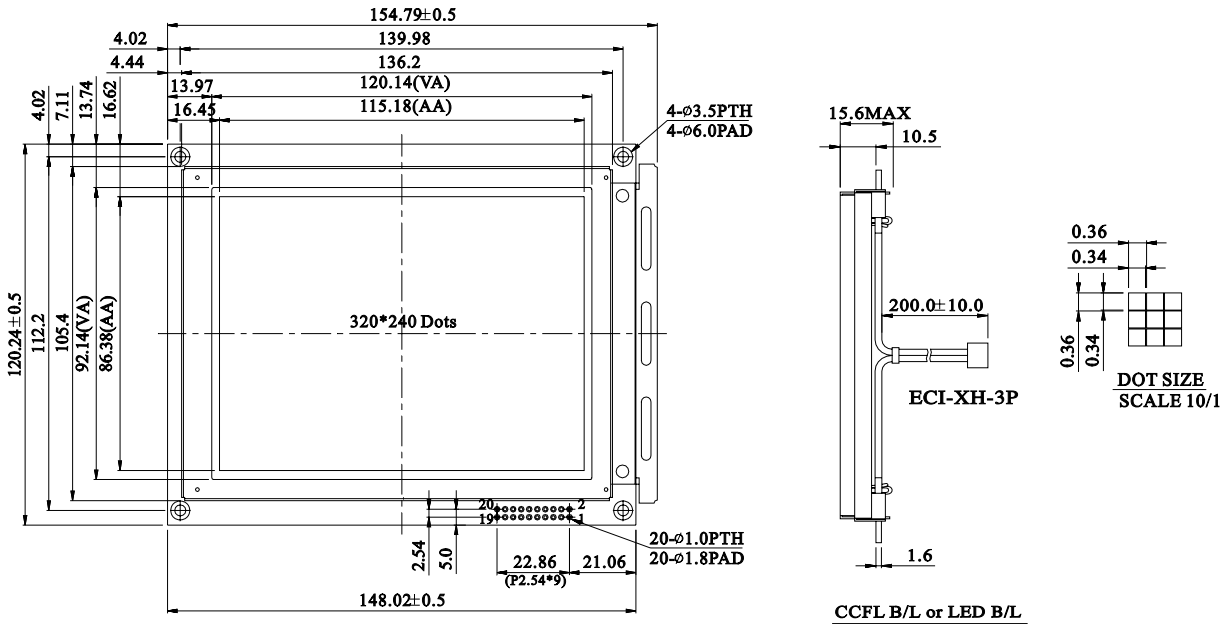
PROCESS COLOR						BACKLIGHT			
TN	STN Gray	STN Yellow	STN Blue	FSTN B&W	STN Color	None	LED	EL	CCFL

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

INTERFACE PIN FUNCTION

PIN NO.	SYMBOL	FUNCTION
1	V_{SS}	Ground
2	V_{DD}	Power supply for logic
3	V_0	Driving voltage for LCD
4	$\overline{RD}$	8080 family: Read signal/6800 family: Enable clock
5	$\overline{WR}$	8080 family: Write signal/6800 family: R/W signal
6	A_0	Data type select For 80 family: RD = L, WR = H; AO = L: Data read, AO = H: Status read RD = H, WR = L; AO = L: Data write, AO = H: Command write For 68 family: R/W = L; AO = H: Command write, AO = L: Data write R/W = H; AO = H: Status read, AO = L: Data read
7	DB0	Date bus line
8	DB1	Date bus line
9	DB2	Date bus line
10	DB3	Date bus line
11	$\overline{DB4}$	Date bus line
12	$\overline{DB5}$	Date bus line
13	DB6	Date bus line
14	DB7	Date bus line
15	CS	Chip select, active L
16	RES	Controller reset signal, active L
17	V_{EE}	Negative voltage output (optional)
18	F_{GND}	Frame ground
19	NC	No connection
20	NC	No connection

DIMENSIONS in millimeters



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