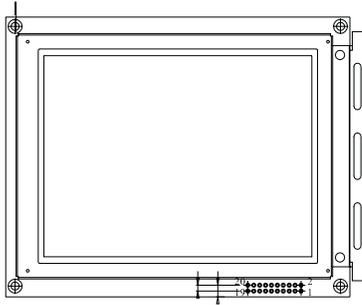# 320 x 24 Dots Graphic LCD

FEATURES

• Built-in SED 1335 controller and SRAM

• Built-in negative voltage generator

• 1/240 duty cycle

• Touch screen option (analog type)

• Temperature compensation option

MECHANICAL DATA

ITEM	STANDARD VALUE	UNIT
Module Dimension	148.0 x 120.24	mm
Viewing Area	120.14 x 92.14	mm
Dot Size	0.34 x 0.34	mm
Dot Pitch	0.36 x 0.36	mm

ABSOLUTE MAXIMUM RATING

ITEM	SYMBOL	STANDARD VALUE			UNIT
		MIN.	TYP.	MAX.	
Power Supply	VDD-VSS	4.75	5.0	5.25	V
Input Voltage	VI	- 0.3	–	VDD	V

NOTE: VSS = 0 Volt, VDD = 5.0 Volt

ELECTRICAL SPECIFICATIONS

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
Input Voltage	VDD	L level	$0.7V_{DD}$	–	V_{DD}	V
	VIO	H level	0	–	$0.3V_{DD}$	V
Supply Current	IDD	VDD = 5V	–	100	105	mA
Recommended LC Driving	VDD - V0	0°C	22.0	23.0	24.0	V
Voltage for Normal Temp.		25°C	21.3	22.2	23.0	
Version Module		50°C	19.5	20.8	22.1	
CCFL Starting Voltage	VFLS	25°C	–	600	–	Vrms
CCFL Driving Voltage	VFLD	25°C	–	268	–	Vrms
CCFL Driving Current	IFLD	VFQ = 450Vrms 30KHz	–	5.0	–	mArms
LED Forward Voltage	VF	25°C	–	4.2	4.6	V
LED Forward Current	IF	25°C	–	180	360	mA
EL	IEL	Vel = 110VAC; 400Hz	–	–	5.0	mA

320 x 240 Dots Graphic LCD

VISHAY

PIN NUMBER	SYMBOL	FUNCTION
1	Vss	Ground
2	Vdd	Power Supply for Logic
3	Vo	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	Ao	Data Select Type RD = L WR = H, A0 = L: Data Read AO = H: Status Read RD = H WR = L, A0 = L: Data Read AO = H: Command Write For 80 Family R/W = L A0 = H: Command Write A0 = L: Data Write R/W = H A0 = H: Status Read AO = L: Data Read For 68 Family
7	DB0	Data Bus Line
8	DB1	Data Bus Line
9	DB2	Data Bus Line
10	DB3	Data Bus Line
11	$\overline{DB4}$	Data Bus Line
12	$\overline{DB5}$	Data Bus Line
13	DB6	Data Bus Line
14	DB7	Data Bus Line
15	CS	Chip Select, Active L
16	RES	Controller Rest Signal Active L
17	Vee	Negative Voltage Output (Optional)
18	FGND	Frame Ground
19	NC	No Connection
20	NC	No Connection

DIMENSIONS in millimeters
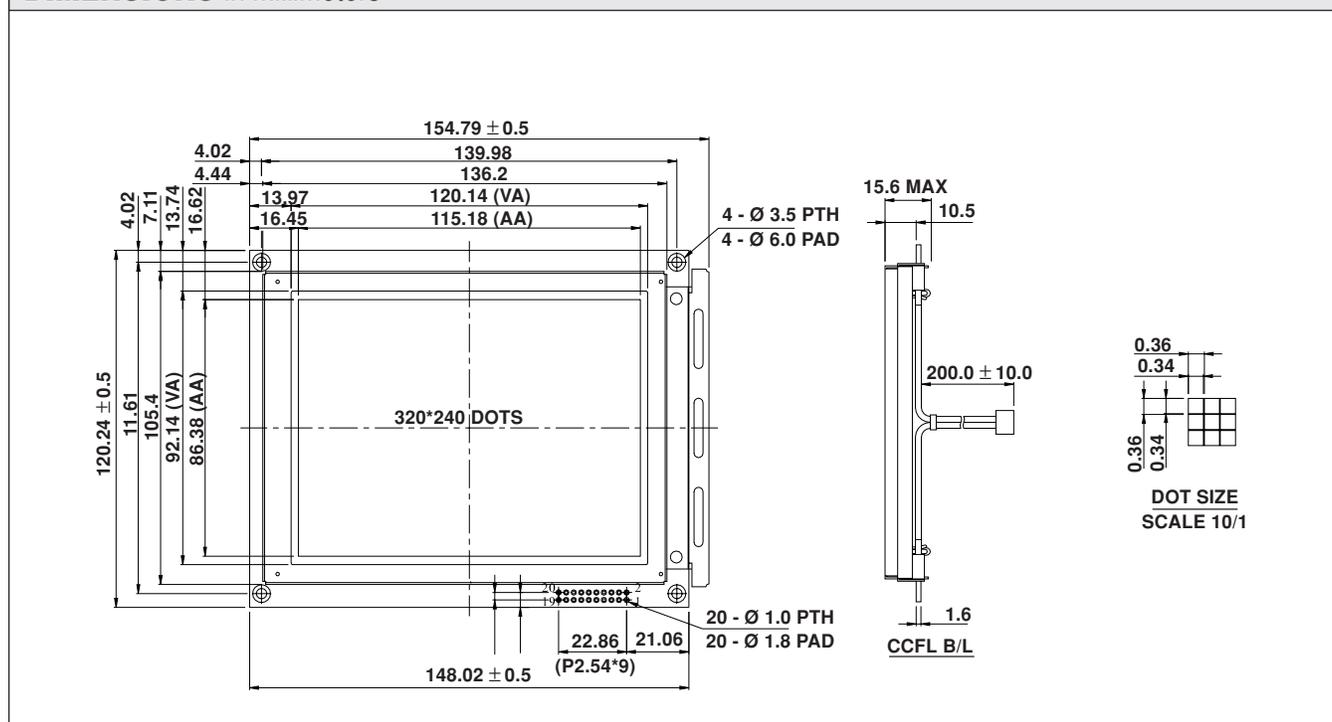
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