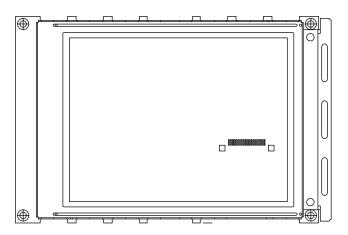
www.vishay.com

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COMPLIANT

# 320 x 240 Graphic LCD



#### **FEATURES**

• Type: graphic

• Display format: 320 x 240 dots

• Built-in controller: RA8835

• Duty cycle: 1/240

• Built-in N.V.

• Touch screen option (analog type)

• Temperature compensation option

 Material categorization: for definitions of compliance please see <a href="https://www.vishav.com/doc?99912">www.vishav.com/doc?99912</a>

MECHANICAL DATA					
ITEM	STANDARD VALUE	UNIT			
Module dimension	160.0 x 109.0				
Viewing area	122.0 x 92.0				
Dot size	0.34 x 0.34	mm			
Dot pitch	0.36 x 0.36	mm			
Mounting hole	152.0 x 101.0				
Character size	n/a				

ABSOLUTE MAXIMUM RATINGS						
ITEM	SYMBOL	STAN	UNIT			
I I EIVI	STIVIBUL	MIN.	TYP.	MAX.	UNIT	
Power supply	$V_{DD}$ to $V_{SS}$	4.75	5.0	5.25	V	
Input voltage	VI	-0.3	-	$V_{DD}$	]	

#### Note

•  $V_{SS} = 0 \text{ V}, V_{DD} = 5.0 \text{ V}$ 

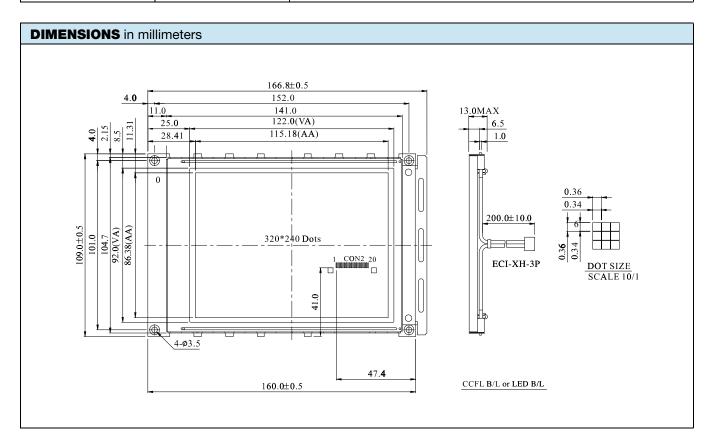
ELECTRICAL CHARACTERISTICS						
ITEM	SYMBOL	CONDITION	STANDARD VALUE			
		CONDITION	MIN.	TYP.	MAX.	UNIT
Input voltage	$V_{DD}$	L level	0.7 V <sub>DD</sub>	-	$V_{DD}$	V
	V <sub>IO</sub>	H level	0	-	0.3 V <sub>DD</sub>	V
Supply current	I <sub>DD</sub>	V <sub>DD</sub> = +5.0 V	-	100	105	mA
Recommended LC driving voltage for normal temperature version module	V <sub>0</sub> to V <sub>SS</sub>	-20 °C	-	-	26.1	
		25 °C	-	23.8	-	V
		70 °C	20.9	-	-	
CCFL starting voltage	V <sub>FLS</sub>	25 °C	-	600	-	$V_{RMS}$
CCFL driving voltage	$V_{FLD}$	25 °C	-	268		$V_{RMS}$
CCFL driving current	I <sub>FLD</sub>	$V_{FQ} = 450 V_{RMS}, 30 \text{ kHz}$ - 5.0 -		-	mA <sub>RMS</sub>	

OPTIONS	OPTIONS								
	PROCESS COLOR					BACKLIGHT			
TN	STN GRAY	STN YELLOW	STN BLUE	FSTN B&W	STN COLOR	NONE	LED	EL	CCFL
-	Х	×	Х	Х	-	Х	Х	х	х

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



INTERFACE PIN FUNCTION					
PIN NO.	SYMBOL	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>	Data type select			
5	WR	8080 family: write signal / 6800 family: R/W signal			
6	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	<u>CS</u>	Chip select, active L			
16	RES	Controller reset signal, active L			
17	V <sub>EE</sub>	Negative voltage output			
18	SEL	8088, 6800 interface selection (1:68, 0:80)			
19	F <sub>GND</sub>	Frame ground			
20	WAIT	Check busy			





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