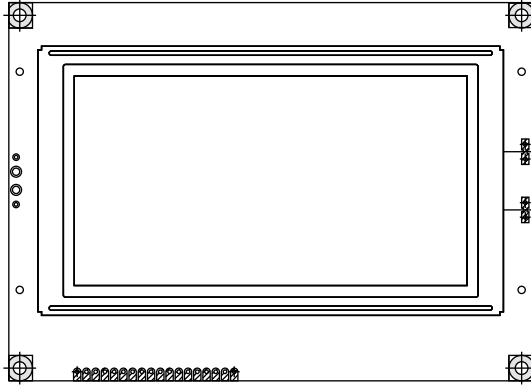


## 240 x 128 Graphic LCD



### FEATURES

- Type: graphic
- Display format: 240 x 128 dots
- Built-in controller: RA6963
- Duty cycle: 1/128
- +5 V power supply
- Built-in N.V.
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

MECHANICAL DATA		
ITEM	STANDARD VALUE	UNIT
Module dimension	144.0 x 104.0	mm
Viewing area	114.0 x 64.0	
Dot size	0.43 x 0.43	
Dot pitch	0.45 x 0.45	
Mounting hole	138.0 x 97.0	
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**

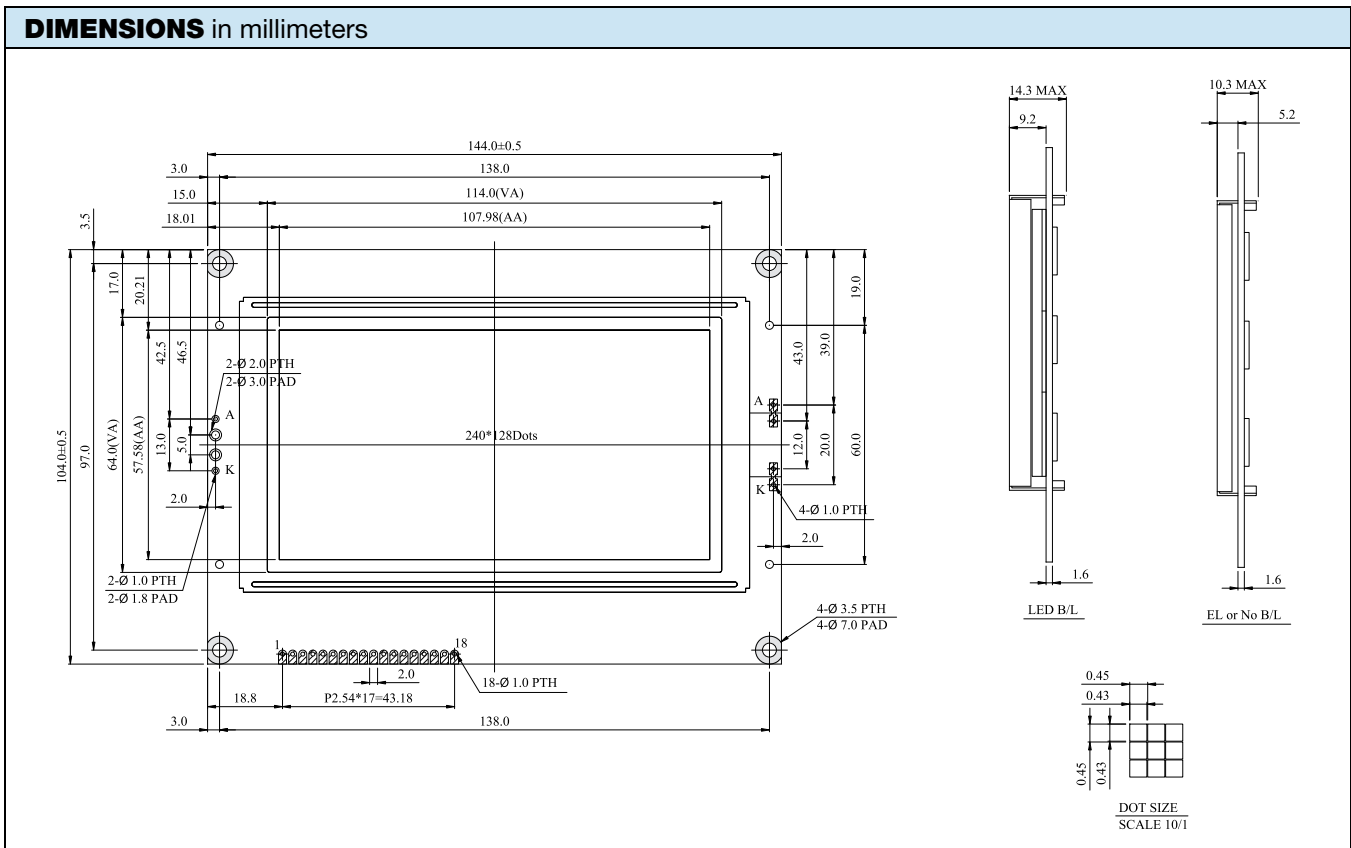
- $V_{SS} = 0$  V,  $V_{DD} = 5.0$  V

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	-	-	$0.3 V_{DD}$	
Supply current	$I_{DD}$	$V_{DD} = +5$ V	0	55	60	mA
Recommended LC driving voltage for normal temperature version module	$V_{DD}$ to $V_0$	-20 °C	-	-	-	V
		0 °C	20.3	21.4	22.5	
		25 °C	18.0	19.1	20.2	
		50 °C	17.8	18.9	20.0	
		70 °C	-	-	-	
LED forward voltage	$V_F$	25 °C	-	4.2	-	V
LED forward current	$I_F$	25 °C	-	900	1800	mA
CCFL forward voltage	$V_F$	25 °C	-	250	590	$V_{RMS}$
CCFL forward current	$I_F$	25 °C	-	-	5.5	$mA_{RMS}$
EL power supply current	$I_{EL}$	$V_{EL} = 110 V_{AC}, 400$ 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	FUNCTION
1	$V_{EE} / FG$	Negative voltage output / frame ground
2	$V_{SS}$	Ground
3	$V_{DD}$	+5 V power supply
4	$V_0$	Scan start-up signal
5	WR	Frame reverse signal (alternate signal)
6	$\overline{RD}$	Data latch pulse
7	$\overline{CE}$	Display enable signal
8	$C/\overline{D}$	Data shift pulse
9	RST	Display data signal
10	DB0	Data bus line
11	DB1	Data bus line
12	DB2	Data bus line
13	DB3	Data bus line
14	DB4	Data bus line
15	DB5	Data bus line
16	DB6	Data bus line
17	DB7	Data bus line
18	FS	Pins for selection of font; H: 6 x 8, L: 8 x 8





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