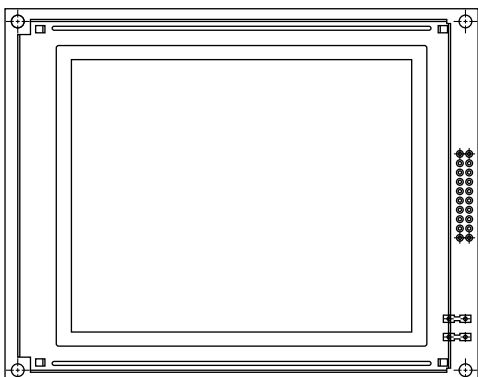


# 160 x 128 Graphic LCD



## FEATURES

- Type: Graphic
- Display format: 160 x 128 dots
- Built-in controller: RA6963
- Duty cycle: 1/128
- + 5 V power supply
- Optional 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	129.0 x 102.0	mm
Viewing Area	101.0 x 82.0	
Dot Size	0.56 x 0.56	
Dot Pitch	0.60 x 0.60	
Mounting Hole	122.0 x 95.0	
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	-	0.3 $V_{DD}$	V
Supply Current	$I_{DD}$	$V_{DD} = +5$ V	-	45	50	mA
Recommended LC Driving Voltage for Normal Temperature Version Module	$V_{DD}$ to $V_0$	- 20 °C	19.9	21.0	22.1	V
		0 °C	19.0	-	21.2	
		25 °C	18.6	19.1	19.6	
		50 °C	16.2	16.5	16.8	
		70 °C	11.6	9.1	12.8	
CCFL Forward Voltage	$V_F$	25 °C	-	256	560	$V_{RMS}$
CCFL Forward Current	$I_F$	25 °C	-	-	5.0	mA
LED Forward Voltage	$V_F$	25 °C	-	4.6	4.6	V
LED Forward Current	$I_F$	25 °C	-	-	500	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.





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