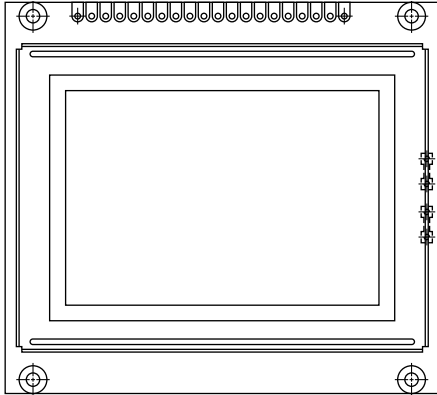


## 128 x 64 Graphic LCD



### FEATURES

- Type: graphic
- Display format: 128 x 64 dots
- Built-in controller: NT7107, NT7108
- Duty cycle: 1/64
- +5 V power supply
- N.V. built-in
- 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	78.0 x 70.0 x 14.3	mm
Viewing area	62.0 x 44.0	
Dot size	0.42 x 0.58	
Dot pitch	0.44 x 0.60	
Mounting hole	68.0 x 64.92	
Character size	n/a	

ABSOLUTE MAXIMUM RATINGS					
ITEM	SYMBOL	STANDARD VALUE			UNIT
		MIN.	TYP.	MAX.	
Power supply	$V_{DD}$ to $V_{SS}$	4.5	5.0	5.5	V
Input voltage	$V_I$	-0.3	-	$V_{DD}$	

**Note**

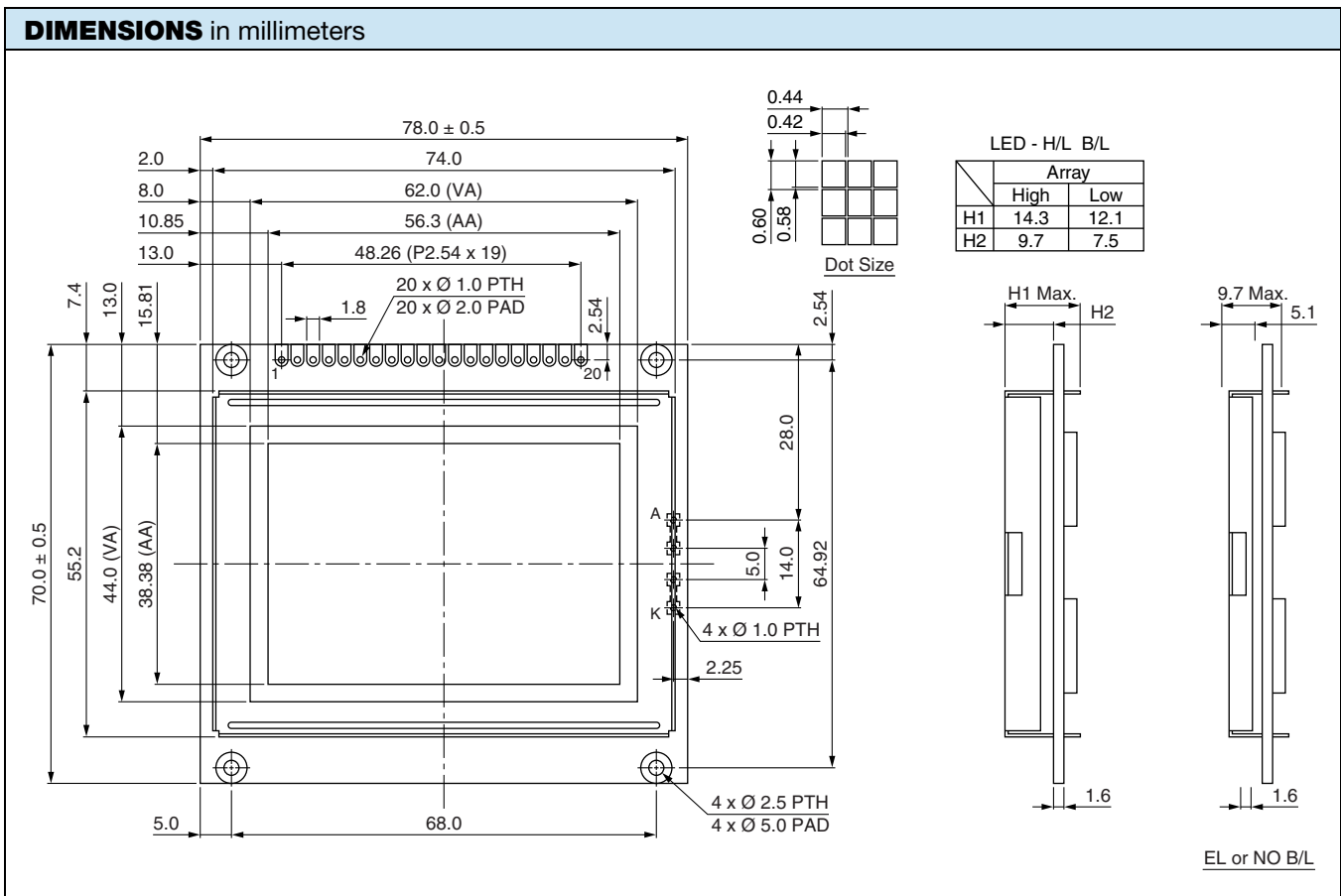
- $V_{SS} = 0$  V,  $V_{DD} = 5.0$  V

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	$I_{DD}$	$V_{DD} = +5$ V	-	3.5	-	mA
Recommended LC driving voltage for normal temperature version module	$V_{DD}$ to $V_0$	-20 °C	9.6	10.1	10.6	V
		0 °C	9.4	9.9	10.4	
		25 °C	9.4	9.6	10.4	
		50 °C	9.4	9.2	9.7	
		70 °C	9.2	9.0	9.5	
LED forward voltage	$V_F$	25 °C	-	4.2	4.6	V
LED forward current - array high	$I_F$	25 °C	-	480	960	mA
LED forward current - array low			-	140	280	
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	-

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

INTERFACE PIN FUNCTION		
PIN NO.	SYMBOL	FUNCTION
1	CS1	Chip select for IC1
2	CS2	Chip select for IC2
3	V <sub>SS</sub>	Ground
4	V <sub>DD</sub>	Power supply (+5 V)
5	V <sub>0</sub>	Contrast adjustment
6	D / I	Data / instruction
7	R / $\overline{W}$	Data read / write
8	E	H → L enable signal
9	DB0	Data bus line
10	DB1	Data bus line
11	DB2	Data bus line
12	DB3	Data bus line
13	DB4	Data bus line
14	DB5	Data bus line
15	DB6	Data bus line
16	DB7	Data bus line
17	$\overline{RST}$	Reset
18	V <sub>EE</sub>	Negative voltage output
19	A	Power supply for LED (+4.2 V), R <sub>A</sub> = 0 Ω
20	K	Power supply for LED (0 V)





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