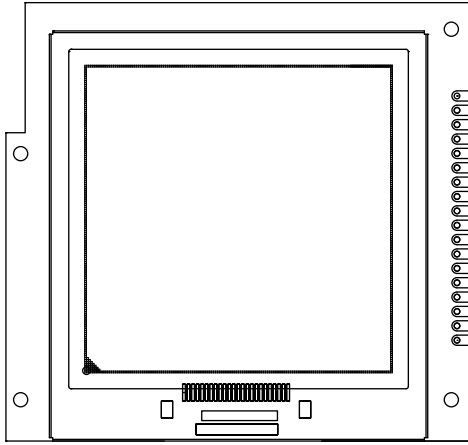


## 160 x 160 Graphic LCD



### FEATURES

- Type: Graphic
- Display format: 160 x 160 dots includes cursor
- Built-in controller: UC1698U
- Duty cycle: 1/160
- + 3.3 V power supply
- 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	82.2 x 77.5	mm
Viewing Area	60.0 x 60.0	
Dot Size	0.32 x 0.32	
Dot Pitch	0.34 x 0.34	
Mounting Hole	76.1 x 65.5	
Character Size	n/a	

ABSOLUTE MAXIMUM RATINGS					
ITEM	SYMBOL	STANDARD VALUE			UNIT
		MIN.	TYP.	MAX.	
Power Supply	$V_{DD}$ to $V_{SS}$	3.0	3.3	3.6	V
Input Voltage	$V_I$	0	-	$V_{DD}$	

**Note**

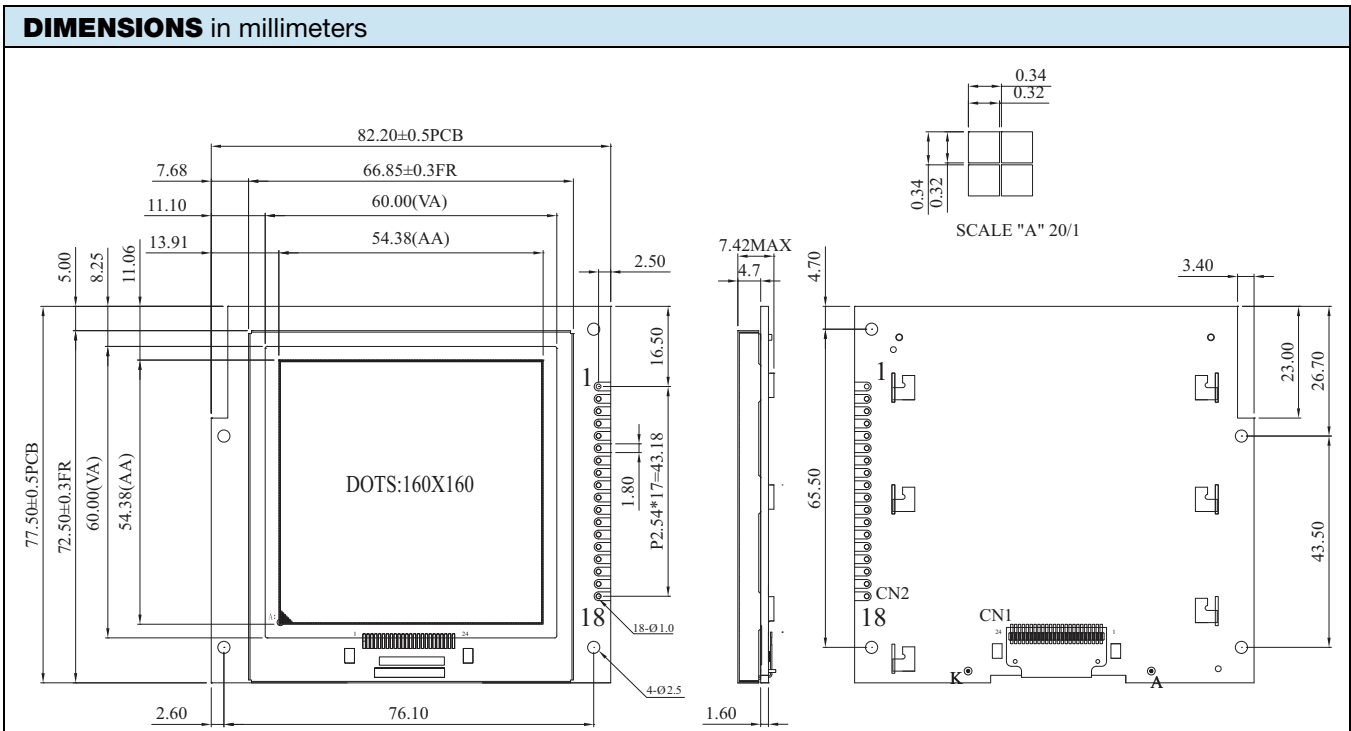
- $V_{SS} = 0\text{ V}$ ,  $V_{DD} = 3.3\text{ V}$

ELECTRICAL CHARACTERISTICS						
ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
Input Voltage	$V_{DD}$ to $V_{SS}$	-	3.0	3.3	3.6	V
Supply Current	$I_{DD}$	$V_{DD} = +3.3\text{ V}$	0.15	0.2	0.4	mA
Recommended LC Driving Voltage for Normal Temperature Version Module	$V_{out}$ to $V_{SS}$	-20 °C	-	-	-	V
		0 °C	-	-	-	
		25 °C	-	16.5	-	
		50 °C	-	-	-	
		70 °C	-	-	-	
LED Forward Voltage	$V_F$	25 °C	-	3.3	3.4	V
LED Forward Current	$I_F$	25 °C	-	64	-	mA

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

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

INTERFACE PIN FUNCTIONS		
PIN NO.	SYMBOL	FUNCTION
1	V <sub>SS</sub>	Ground
2	A <sub>0</sub>	H: Data, L: Instruction
3	WR	WR [1:0] control the read/write operation of the host interface. See section "Host Interface" for more detail. In parallel mode, the meaning of WR [1:0] depends on whether the interface is in the 6800 mode or the 8080 mode. In serial interface modes, these two pins are not used, connect them to V <sub>SS</sub> .
4	RD	8080 family: Read signal, 6800 family: R/W signal
5	XCS	
6	RST	When RST = "L", all control registers are re-initialized by their default states. Since UC1698U has built-in power-on reset and software reset commands, RST pin is not required for proper chip operation. An RC filter has been included on-chip. There is no need for external RC noise filter. When RST is not used, connect the pin to V <sub>DD</sub> .
7	V <sub>DD</sub>	Auxiliary V <sub>DD</sub> . These pins are connected to the main V <sub>DD</sub> bus within the IC. These pads are provided to facilitate chip configurations in COG application. These pins should <b>NOT</b> be used to provide V <sub>DD</sub> power to the chip. It is not necessary to connect V <sub>DDX</sub> to main V <sub>DD</sub> externally.
8	DB0	Data bus line
9	DB1	Data bus line
10	DB2	Data bus line
11	DB3	Data bus line
12	DB4	Data bus line
13	DB5	Data bus line
14	DB6	Data bus line
15	DB7	Data bus line
16	LED -	LED -
17	NC	No connection
18	LED +	LED +





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