



**WINSTAR Display Co.,Ltd.**  
**華凌光電股份有限公司**

## SPECIFICATION

**MODULE NO.: WO160160A**

### General Specification

Item	Dimension	Unit
Display Format	160 x 160 dots	—
Module dimension	83.8 x 76.5 x 8.365 (Max)	mm
View area	60.0 x 60.0	mm
Active area	54.380 x 54.380	mm
Dot size	0.32 x 0.32	mm
Dot pitch	0.34 x 0.34	mm
Duty	1/160 Duty	
Backlight Type	LED	
IC	UC1698U	
Interface	8080	

## Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	$T_{OP}$	-20	—	+70	°C
Storage Temperature	$T_{ST}$	-30	—	+80	°C
Supply voltage for Logic	$V_{DD}-V_{SS}$	-0.3	—	4.0	V
LCD Driver Voltage	$V_{LCD}$	-0.3	—	+19.8	V
Input signal voltage	$V_{IN}$	-0.4	—	$V_{DD}+0.5$	V

## Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	$V_{DD}-V_{SS}$	—	3.0	3.3	3.6	V
Supply Voltage For LCM	$V_{O}-V_{SS}$	$T_a=-20^{\circ}\text{C}$	—	—	—	V
		$T_a=25^{\circ}\text{C}$	16.2	16.5	16.8	V
		$T_a=70^{\circ}\text{C}$	—	—	—	V
Input High Volt.	$V_{IH}$	—	$0.8V_{DD}$	—	$V_{DD}$	V
Input Low Volt.	$V_{IL}$	—	—	—	$0.2V_{DD}$	V
Output High Volt.	$V_{OH}$	—	$0.8V_{DD}$	—	$V_{DD}$	V
Output Low Volt.	$V_{OL}$	—	—	—	$0.2V_{DD}$	V
Supply Current(No include LED Backlight)	$I_{DD}$	$V_{DD}=3.3\text{V}$	—	3.3	—	mA

# Interface Pin Function

Pin No.	Symbol	Level	Description
1	VSS	—	Ground
2	AO	H/L	Date type select H:Data L:Instruction
3	WR	L	Write Operation of the host interface
4	RD	L	Read Operation of the host interface
5	XCS	L	Chip select PIN
6	RST	L	Reset signal
7	VDD	—	Power supply for Logic
8	DB0	H/L	Data bus line
9	DB1	H/L	Data bus line
10	DB2	H/L	Data bus line
11	DB3	H/L	Data bus line
12	DB4	H/L	Data bus line
13	DB5	H/L	Data bus line
14	DB6	H/L	Data bus line
15	DB7	H/L	Data bus line
16	LED-	—	Power supply for backlight negative
17	NC	—	No connection
18	LED+	—	Power supply for backlight position

# Contour Drawing

