



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

SPECIFICATION

MODULE NO.: WH1602LR

General Specification

Item	Dimension	Unit
Number of Characters	16 Characters x 2 Lines	—
Module dimension	122.0 x 44.0 x 13.6(MAX)	mm
View area	99.0 x 24.0	mm
Active area	94.2 x 20.0	mm
Dot size	0.92 x 1.1	mm
Dot pitch	0.97 x 1.16	mm
Character size	4.8 x 8.06	mm
Character pitch	5.96 x 9.66	mm
Duty	1/16	
Backlight Type	LED	
Controller IC	ST7066	
Interface	UART	

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	—	V _{SS} -0.3	—	6.0	V
EEPROM Cell Endurance	—	100K	—	—	E/W
Input Voltage	—	V _{SS} -0.3	—	V _{DD} +0.3	V

Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	V _{DD} -V _{SS}	—	4.5	5.0	5.5	V
Supply Voltage For LCD	V _{DD} -V _O	T _a =25°C	4.1	4.2	4.3	V
Input High Voltage	V _{IH}	—	3.5	—	5.0	V
Input Low Voltage	V _{IL}	—	0	—	1.5	V
Supply Current (Module + Backlight)	I _{DD}	V _{DD} =5.0V	—	—	65	mA

Interface Pin Function

CON1

Pin No.	Symbol	Description
1	RX	UART: serial data input (full duplex communication)
2	VSS	Ground
3	VDD	Supply Voltage
4	TX	UART: serial data output
5	CS	SPI: chip select
6	SDO	SPI: serial data output
7	SCK/SCL	SPI: serial clock I2C: serial clock
8	SDI/SDA	SPI: serial data input I2C: serial data input/output
9	VSS	Ground
10	VDD	Supply Voltage

Contour Drawing

