



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

SPECIFICATION

MODULE NO.: WG16032E

General Specification

Item	Dimension	Unit
Number of dots	160 x 32	—
Module dimension	85.2 x 55.0 x 12.0 (MAX)	mm
View area	74.0 x 22.0	mm
Active area	70.36 x 19.47	mm
Dot size	0.40 x 0.56	mm
Dot pitch	0.44 x 0.61	mm
Duty	1/32	
Backlight Type	LED	
IC	SBN1661G	
Interface	6800/8080	

Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_{OP}	-20	—	+70	°C
Storage Temperature	T_{ST}	-30	—	+80	°C
Input Voltage	V_I	-0.3	—	$V_{DD}+0.3$	V
Supply Voltage For Logic	$V_{DD}-V_{SS}$	-0.3	—	+6.0	V
LCD bias voltage	V_{LCD}	3.5	—	13	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	$V_{DD}-V_0$	$T_a=-20^{\circ}\text{C}$	—	—	—	V
		$T_a=25^{\circ}\text{C}$	3.5	3.7	3.9	V
		$T_a=+70^{\circ}\text{C}$	—	—	—	V
Input High Volt.	V_{IH}	$V_{DD}=5.0\text{V}$	3.0	5.0	$V_{DD}+0.5$	V
Input Low Volt.	V_{IL}	—	0	0.7	1.1	V
Output High Volt.	V_{OH}	—	$V_{DD}-0.3$	—	V_{DD}	V
Output Low Volt.	V_{OL}	—	0	—	0.3	V
Supply Current	I_{DD}	$V_{DD}=5.0\text{V}$	1.8	2.0	2.2	mA

Interface Pin Function

Pin No.	Symbol	Level	Description
1	V _{SS}	0V	Ground
2	V _{DD}	5.0V	Power supply for logic
3	V _o	(Variable)	Operating voltage for LCD
4	A0	H/L	H : Data L : Instruction
5	CS1	H/L	Cs1=0 cs2=0 chip select signal for s1~s61
6	CS2	H/L	Cs1=0 cs2=1 chip select signal for s62~s141
			Cs1=1 cs2=0 chip select signal for s142~s168
7	CL	-	Clock 2KHz
8	E	H,H→L	Chip Enable signal
9	R/W	H/L	H : Read ; L : Write
10	DB0	H/L	Data bus line
11	DB1	H/L	Data bus line
12	DB2	H/L	Data bus line
13	DB3	H/L	Data bus line
14	DB4	H/L	Data bus line
15	DB5	H/L	Data bus line
16	DB6	H/L	Data bus line
17	DB7	H/L	Data bus line
18	RST	H/L	H -> L: The LCM be reset
19	A	-	Power supply for B/L +
20	K	-	Power supply for B/L -
21~40	NC	-	No connection

