



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

SPECIFICATION

MODULE NO.: WG12864EP2

General Specification

Item	Dimension	Unit
Number of dots	128 x 64	—
Module dimension	55.0 x 60.0 x 10.3(MAX)	mm
View area	43.5 x 29.0	mm
Active area	38.892 x 23.906	mm
Dot size	0.284 x 0.344	mm
Dot pitch	0.304 x 0.374	mm
Duty	1/64	
Backlight Type	LED	
IC	NT7107, NT7108	

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	—	7.0	V
Driver Supply Voltage	V_{LCD}	$V_{EE}-0.3$	—	$V_{DD}+0.3$	V

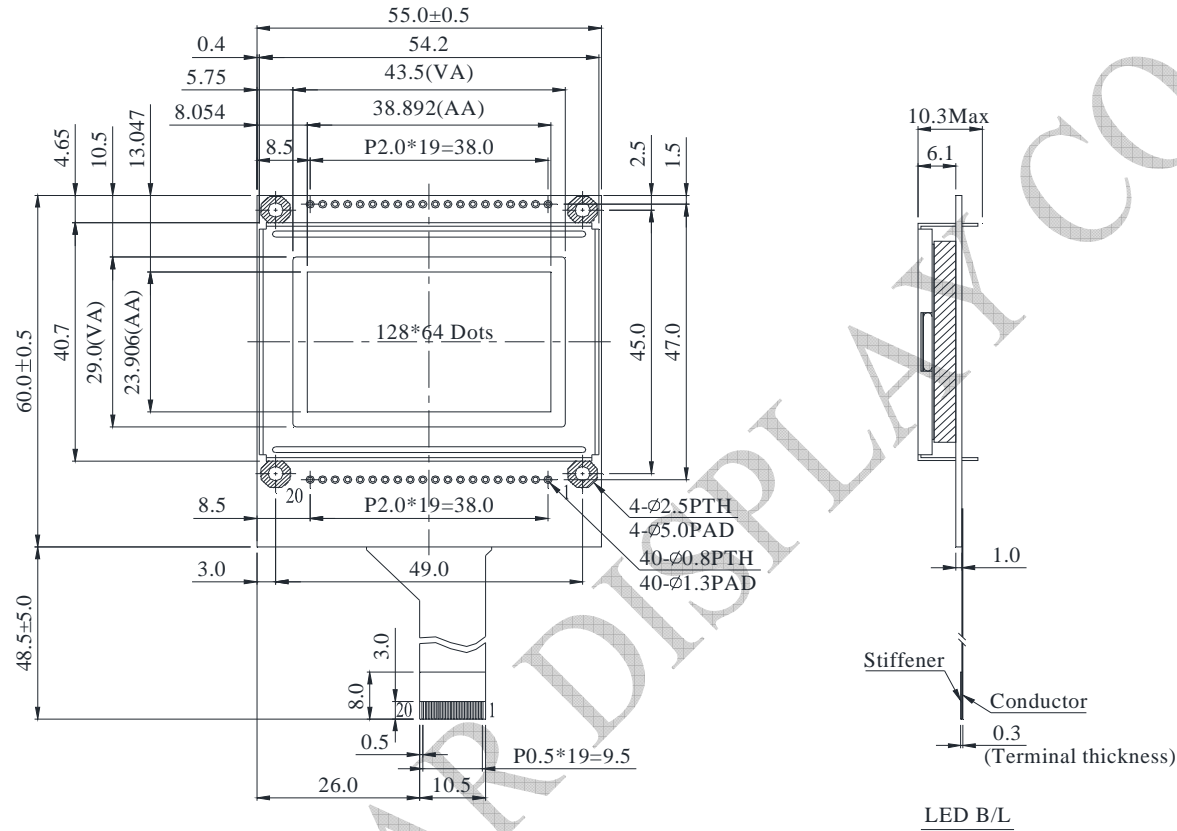
Electrical Characteristics

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	$V_{DD}-V_O$	$T_a=-20^{\circ}C$	—		9.7	V
		$T_a=25^{\circ}C$	8.8	9.1	9.4	V
*Note		$T_a=70^{\circ}C$	8.3		—	V
Input High Volt.	V_{IH}	—	2.0	—	V_{DD}	V
Input Low Volt.	V_{IL}	—	0	—	0.8	V
Output High Volt.	V_{OH}	—	2.4	—	—	V
Output Low Volt.	V_{OL}	—	—	—	0.4	V
Supply Current	I_{DD}	$V_{DD}=5.0V$	1.0	1.2	1.5	mA

Interface Pin Function

Pin No.	Symbol	Level	Description
1	V _{SS}	0V	Ground
2	V _{DD}	5.0V	Supply voltage for logic
3	V _O	(Variable)	Operating voltage for LCD
4	D/I	H/L	H: Data , L: Instruction
5	R/ W	H/L	H: Read(MPU←Module) , L :Write(MPU→Module)
6	E	H	Enable signal
7	DB0	H/L	Data bus line
8	DB1	H/L	Data bus line
9	DB2	H/L	Data bus line
10	DB3	H/L	Data bus line
11	DB4	H/L	Data bus line
12	DB5	H/L	Data bus line
13	DB6	H/L	Data bus line
14	DB7	H/L	Data bus line
15	CS1	H	Chip Enable (Select Column 1 ~ Column 64)
16	CS2	H	Chip Enable (Select Column 65 ~ Column 128)
17	/RES	L	Reset signal
18	V _{EE}		Negative Voltage output
19	A	—	Power supply for B/L(+)
20	K	—	Power supply for B/L(-)

Contour Drawing



PIN NO.	SYMBOL
1	Vss
2	Vdd
3	Vo
4	D/I
5	R/W
6	E
7	DB0
8	DB1
9	DB2
10	DB3
11	DB4
12	DB5
13	DB6
14	DB7
15	CS1
16	CS2
17	RES
18	Vee
19	A
20	K

The non-specified tolerance of dimension is $\pm 0.3\text{mm}$.

