



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

SPECIFICATION

MODULE NO.: WG14432A3 / WG14432A5

General Specification

Item	Dimension	Unit
Number of dots	144 x 32	—
Module dimension	85.0 x 36.0 x 13.2 (MAX)	mm
View area	66.0 x 16.0	mm
Active area	60.44 x 13.4	mm
Dot size	0.38 x 0.38	mm
Dot pitch	0.42 x 0.42	mm
Duty	1/32	
Backlight Type	LED	
IC	ST7920	

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_{IN}	-0.3	—	$V_{DD}+0.3$	V
Supply Voltage For Logic	$V_{DD}-V_{SS}$	-0.3	—	5.5	V
Supply Voltage For LCD	V_O-V_{SS}	0	—	7.0	V

Electrical Characteristics

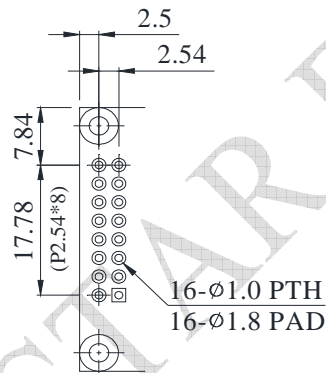
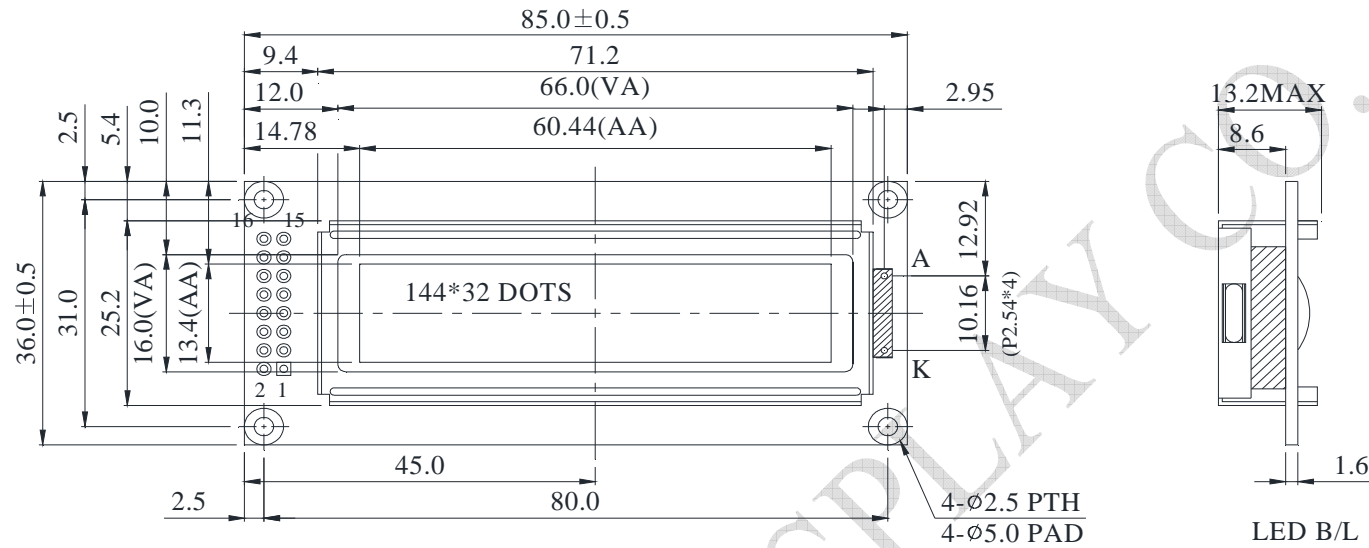
Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	$V_{DD}-V_{SS}$	—	3.0	3.3	3.6	V
Supply Voltage For LCD *Note	V_O-V_{SS}	$T_a=-20^{\circ}C$	—	—	—	V
		$T_a=25^{\circ}C$	—	—	—	V
		$T_a=+70^{\circ}C$	—	—	—	V
Input High Volt.	V_{IH}	—	$0.7V_{DD}$	—	V_{DD}	V
Input Low Volt.	V_{IL}	—	-0.3	—	0.6	V
Output High Volt.	V_{OH}	—	$0.8 V_{DD}$	—	V_{DD}	V
Output Low Volt.	V_{OL}	—	0	—	0.1	V
Supply Current	I_{DD}	$V_{DD}=3.3V$	1.6	2.2	3.5	mA

* Note: The VOP of best contrast adjust via VR resistor

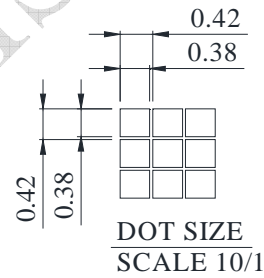
Interface Pin Function

Pin No.	Symbol	Level	Description
1	VSS	0V	GND
2	VDD	3.3V	Power Supply
3	NC	—	No connection
4	RS	H/L	H: Data , L : Instruction
5	R/W	H/L	H: Read (MPU←Module) , L: Write (MPU→Module)
6	E	H/L	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	A	—	Power supply for B/L +
16	K	—	Power supply for B/L -

Contour Drawing & Block Diagram



PIN DETAIL



The non-specified tolerance of dimension is ±0.3 mm .

PIN NO.	SYMBOL
1	V _{SS}
2	V _{DD}
3	NC
4	RS
5	R/W
6	E
7	DB0
8	DB1
9	DB2
10	DB3
11	DB4
12	DB5
13	DB6
14	DB7
15	A
16	K