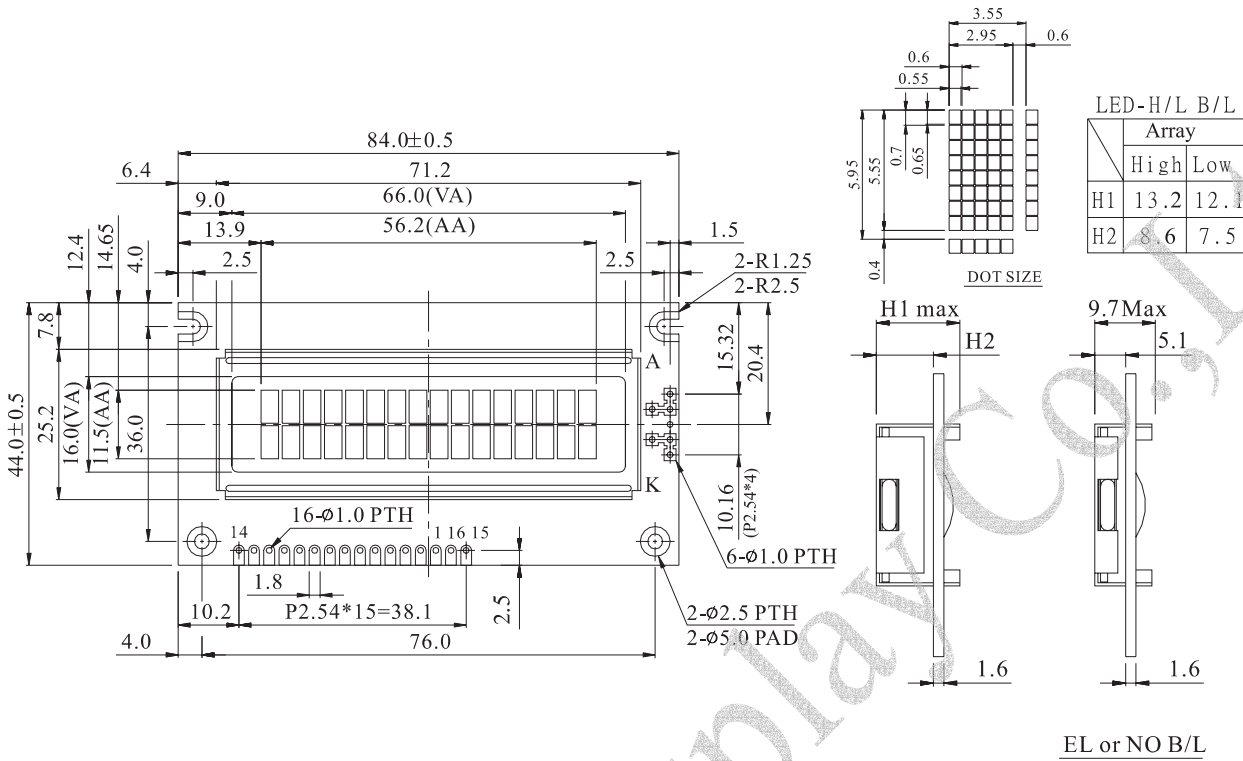




WH1602A Character 16x2

Dimension drawing



Feature

- 5x8 dots includes cursor
- Built-in controller (KS 0066 or Equivalent)
- +5V power supply (Also available for +3V)
- 1/16 duty cycle
- LED can be driven by pin1, pin2, pin15, pin16 or A and K
- N.V. optional for +3V power supply
- Optional: smaller character size (2.95x4.35mm)

Pin NO.	Symbol	Function
1	Vss	GND
2	Vdd	+3V or +5V
3	Vo	Contrast Adjustment
4	RS	H/L Register select signal
5	R/W	H/L Read / write signal
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/Vee	+4.2V for LED(RA=0Ω)/Negative Voltage output
16	K	Power supply for B/L (0V)

Mechanical Data

Item	Standard Value	Unit
Module Dimension	84.0x44.0	mm
Viewing Area	66.0x16.0	mm
Mounting hole	76.0x36.0	mm
Character Size	2.95x5.55	mm

Absolute Maximum Rating

Item	Symbol	Standard Value			Unit
		min.	typ.	max.	
Power Supply for Logic	VDD-VSS	-0.3	---	7.0	V
Input Voltage	VI	-0.3	---	VDD	V

Note : VSS=0 Volt, VDD=5.0 Volt.

Electrical Characteristics

Item	Symbol	Condition	Standard Value			Unit
			min.	typ.	max.	
Input Voltage	VDD	VDD=+5V	4.7	5.0	5.3	V
Supply Current	IDD	VDD=5V	---	1.2	1.5	mA
Recommended LC Driving Voltage for Normal Temp. Version module	VDD-V0	-20°C	---	---	5.2	V
		0°C	---	---	4.2	
		25°C	---	3.8	---	
		50°C	3.5	---	---	
LED Forward Voltage	VF	25°C	---	4.2	4.6	V
LED Forward Current	IF	25°C	Array	---	100	mA
			Edge	---	20	
EL Power Supply Current	IEL	Vel=110VAC;400Hz	---	---	5.0	mA

Display Character Address Code :

Display position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DD RAM Address	00	01														0F
DD RAM Address	40	41														4F

Character type

	2	4	6	8	10						
W	H	16	02	B	—	Y	G	B	—	JP	**
1		3		5		7				9	

NO	Code value	Description	Remark							
1	W	WINSTAR products	Winstar Display							
2	H,G,X,O	H:Character ; G: Graphic ; X:TAB;O:COG	LCM type							
3	08,16,20,24...	Words per line	Character							
	122,128,240...	Row dots	Graphic							
4	01,02,04,...	Lines	Character							
	32,64,128...	Column dots	Graphic							
5	A~Z	Serials number	Model name							
6	N	Without backlight	Backlight type							
	B	EL backlight , Blue								
	D	EL backlight , Green								
	W	EL backlight , White								
	Y	LED backlight , Yellow-Green								
	A	LED backlight , Amber								
	R	LED backlight , Red								
	G	LED backlight , Green								
	T	LED backlight , White								
	P	LED backlight , Blue								
	F	CCFL backlight , White								
7	B	STN positive , Gray	LCD type							
	N	TN negative , Black								
	G	STN positive , Gray								
	Y	STN positive Yellow-Green								
	M	STN negative , Blue								
	F	FSTN positive White								
	T	FSTN negative , Black								
	E	ISTN negative								
8	Temperature	Normal temp,				Wide temp,				Polarizer type/ Temperature range/ View direction
	View angle	6:00	12:00	3:00	9:00	6:00	12:00	3:00	9:00	
	Reflective	A	D	M	P	G	J	S	V	
	Transflective	B	E	N	Q	H	K	T	W	
	Transmissive	C	F	O	R	I	L	U	X	
9	Character						Graphic			
	English/ Japanese European	English/ Japanese	English/ Europe	English/ Europe	English/ Cyrillic	English/ Hebrew	Negative Voltage	Without Negative Voltage	Temperature Compensation	
	JW	JP, JT	EP,ET	EC,ES	CP,CT	H2	V	N	T	
10	**	Special Code							Touch panel, Backlight	