

# SG160160B (160 DOTS X160 DOTS)

## FEATURES

- ◆ BUILT-IN CONTROLLER (SED1335 OR EQUIVALENT)
- ◆ +5 V POWER SUPPLY
- ◆ 1/160 DUTY CYCLE
- ◆ EDGE LIGHTING TYPE LED BACKLIGHT

## MECHANICAL DATA

ITEM	DIMENSIONS	UNIT
Module Size (W x H x T)	88.8 x 88.8 x 9.4(13.8)	mm
Viewing Area (W x H)	62.0 x 62.0	mm
Active Area (W x H)	60.76 x 60.76	mm
Dot Size (W x H)	0.34 x 0.34	mm
Dot Pitch (W x H)	0.38 x 0.38	mm

## INTERFACE PIN CONNECTIONS

NO.	SYMBOL	LEVEL	FUNCTION
1	V <sub>SS</sub>	0V	Power Supply Ground
2	V <sub>DD</sub>	5V	Power Supply Voltage
3	V <sub>0</sub>	-	Contrast Adjustment Voltage
4	/RD	L	Read Signal
5	/WR	L	Write Signal
6	/CS	L	Chip Signal
7	A <sub>0</sub>	H/L	Data Type Select
8~15	DB0-DB7	H/L	Data Bus Line
16	/RES	L	Reset Signal
17	V <sub>EE</sub>	-	Power Supply Voltage For LCD
18	A	4.2V	LED Power (+)
19	K	0V	LED Power (-)
20	NC	-	No Connection

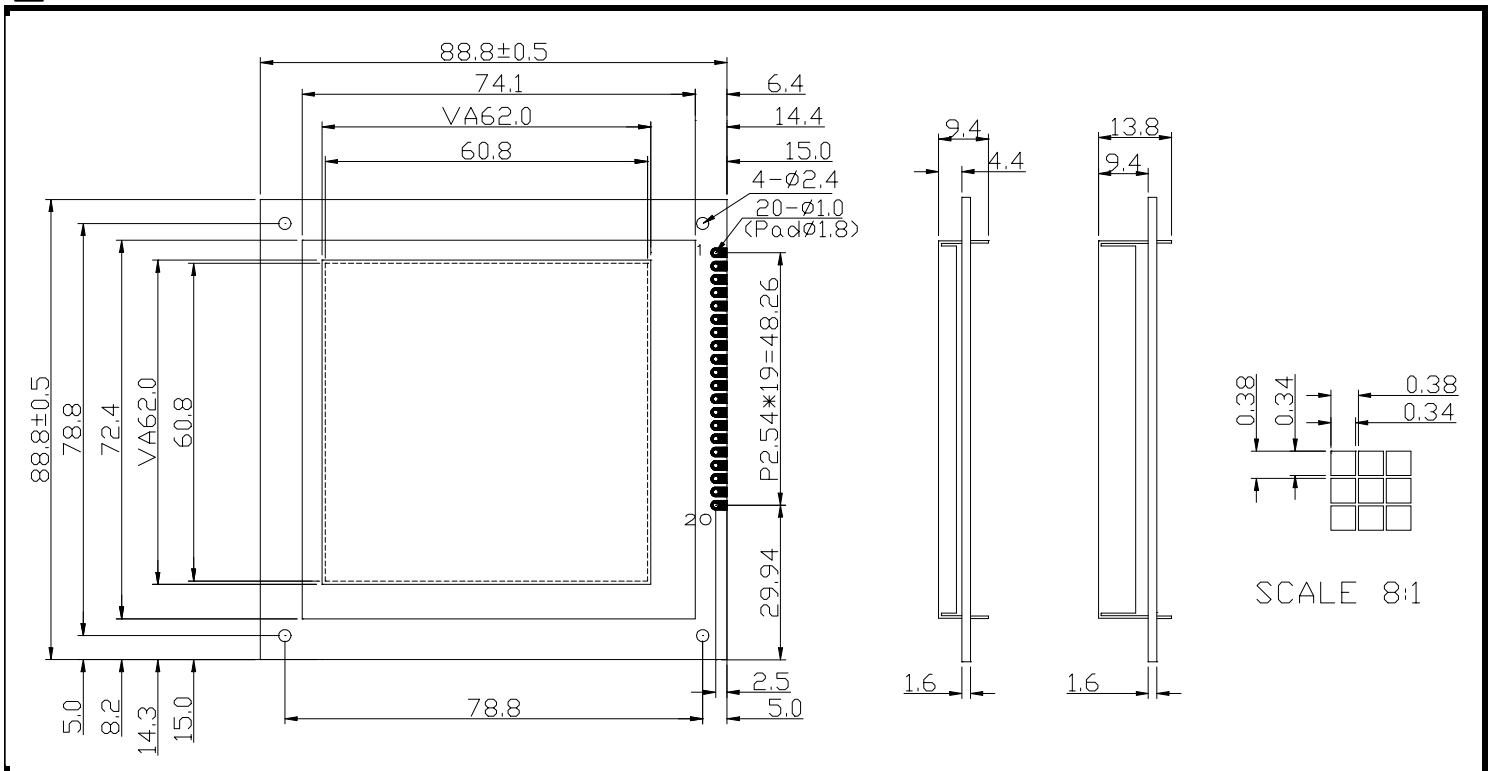
## ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage For Logic	V <sub>DD</sub> -V <sub>SS</sub>	0	-	7	V
Supply Voltage For LCD Drive	V <sub>DD</sub> -V <sub>0</sub>	0	-	21	V
Input Voltage	V <sub>I</sub>	V <sub>SS</sub>	-	V <sub>DD</sub>	V

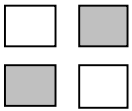
## ELECTRICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT	
Supply Voltage For Logic	V <sub>DD</sub> -V <sub>SS</sub>	-	4.5	5	5.5	V	
LCD Supply Voltage	V <sub>DD</sub> -V <sub>0</sub>	V <sub>DD</sub> =5V Ta=25°C	17.4	18	24.3	V	
Supply Current	I <sub>DD</sub>	V <sub>DD</sub> =5V	-	14	23	mA	
Input Voltage	"HIGH" Level	V <sub>IH</sub>	-	2.2	-	V <sub>DD</sub>	V
	"LOW" Level	V <sub>IL</sub>	-	-	-	0.6	V
Output Voltage	"HIGH" Level	V <sub>OH</sub>	-	2.4	-	-	V
	"LOW" Level	V <sub>OL</sub>	-	-	-	0.4	V

## EXTERNAL DIMENSIONS



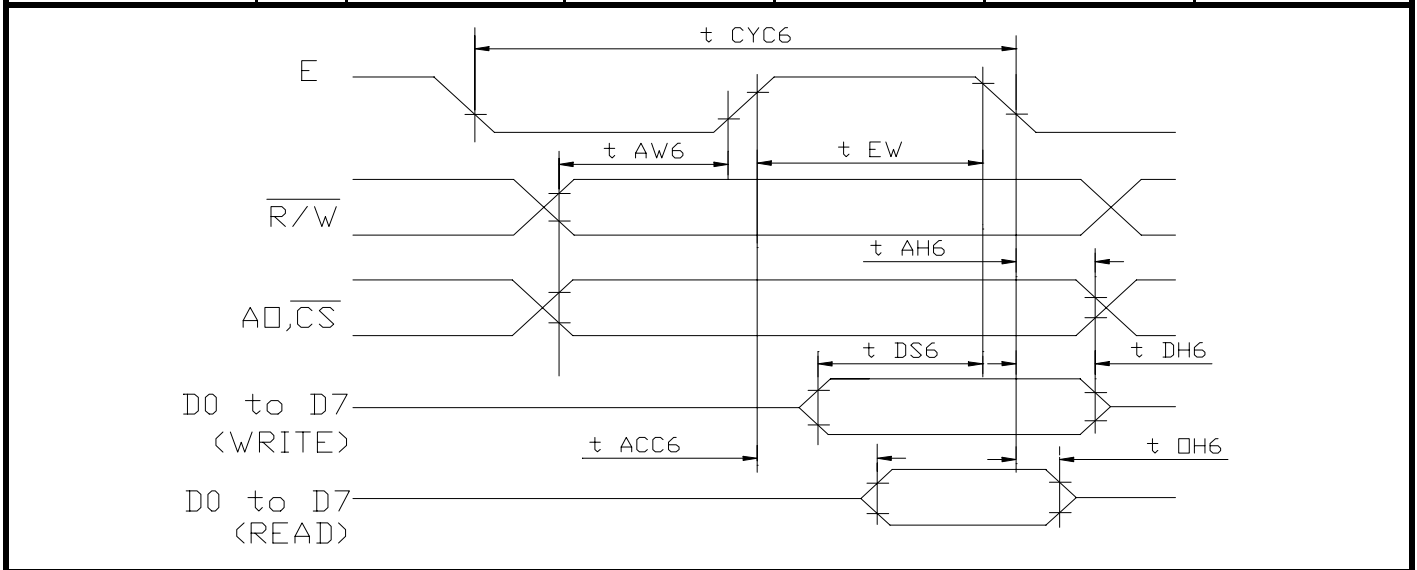
SCALE 8:1



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## ■ TIMING CHARACTERISTICS

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT.
System Cycle Time	$t_{CYC}$	425	-	-	ns
Address Set-up Time	$t_{AW}$	30	-	-	ns
Address Hold Time	$t_{AH}$	10	-	-	ns
Data Set-up Time	$t_{DS}$	120	-	-	ns
Data Hold Time	$t_{DH}$	10	-	-	ns
Output Disable Time	$t_{OH}$	10	-	50	ns
Access Time	$t_{ACC}$	-	-	120	ns
Enable Pulse Width	Read	$t_{EW}$	-	-	ns
	Write				ns



## ■ BLOCK DIAGRAM

