

# SG19232B ( 192 DOTS X 32 DOTS )

## FEATURES

- ◆ BUILT-IN CONTROLLER (SED1520 OR EQUIVALENT)
- ◆ +5 V POWER SUPPLY
- ◆ 1/32 DUTY CYCLE
- ◆ 8-BIT PARALLEL INTERFACE

## MECHANICAL DATA

ITEM	DIMENSIONS	UNIT
Module Size (W x H x T)	116.0 x 37.0 x 9.4 ( 10.8 LED )	mm
Viewing Area ( W x H )	88.0 x 19.0	mm
Active Area ( W x H )	80.6 x 16.28	mm
Dot Size ( W x H )	0.38 x 0.47	mm
Dot Pitch ( W x H )	0.42 x 0.51	mm

## INTERFACE PIN CONNECTIONS

NO.	SYMBOL	LEVEL	FUNCTION
1	Vss	0V	Power Supply Ground
2	VDD	5V	Power Supply Voltage
3	Vo	-	Contrast Adjustment Voltage
4	Ao	H/L	Data Type Select Signal
5	R/W	H/L	H : Read / L : Write
6	E	H→L	Enable Signal
7-14	DB0-DB7	H/L	Data Bus Line
15	A	4.2V	LED Power (+)
16	K	0V	LED Power (-)
17	CS1	H	Chip Select Signal For IC1
18	CS2	H	Chip Select Signal For IC2
19	CS3	H	Chip Select Signal For IC3
20	CL	H/L	Clock Input (2 KHz)

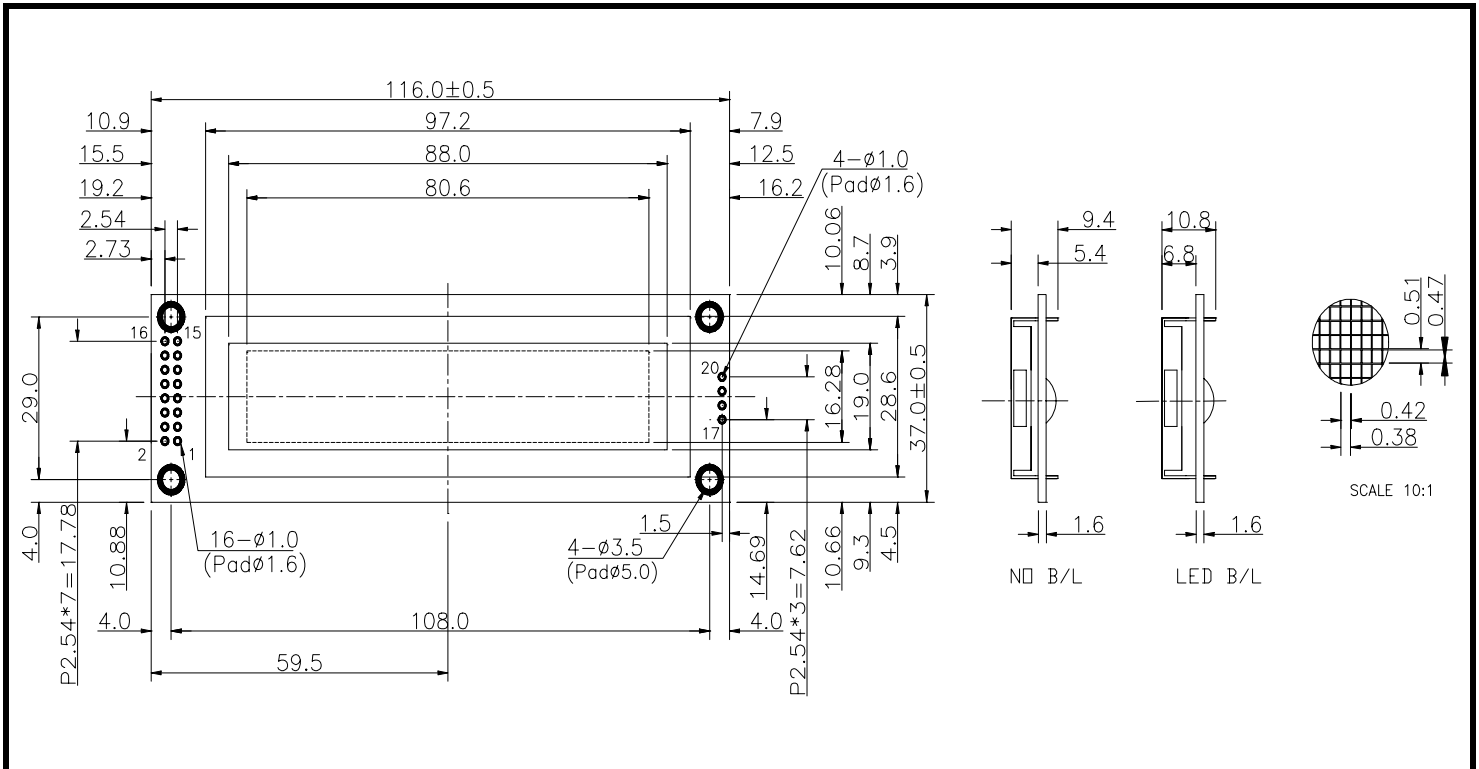
## ABSOLUTE MAXIMUM RATINGS

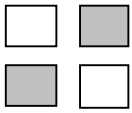
ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage For Logic	VDD-Vss	0	-	7	V
Supply Voltage For LCD Drive	VDD-Vo	0	-	12	V
Input Voltage	Vi	Vss	-	VDD	V

## ELECTRICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT	
Supply Voltage For Logic	VDD-Vss	-	4.5	5	5.5	V	
Supply Voltage For LCD	VDD-Vo	VDD=5V Ta=25°C	4.4	4.8	5.2	V	
Supply Current	IDD	VDD=5V	-	3	4.5	mA	
Input Voltage	"HIGH" Level	V <sub>IH</sub>	-	2.2	-	VDD	V
	"LOW" Level	V <sub>IL</sub>	-	-	-	0.6	V
Output Voltage	"HIGH" Level	V <sub>OH</sub>	-	2.4	-	V	V
	"LOW" Level	V <sub>OL</sub>	-	-	-	0.4	V

## EXTERNAL DIMENSIONS

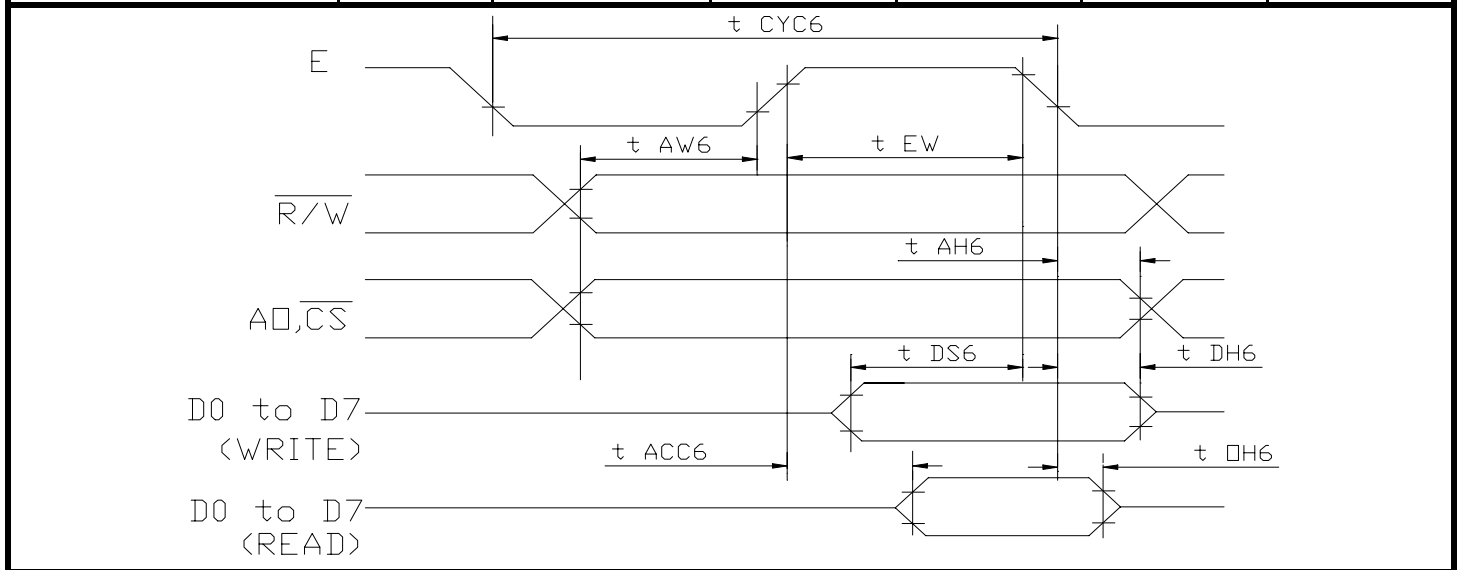




# SG19232B ( 192 DOTS X 32 DOTS )

## ■ TIMING CHARACTERISTICS

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT.
System Cycle Time	$t_{CYC6}$	1000	-	-	ns
Address Set-up Time	$t_{AW6}$	20	-	-	ns
Address Hold Time	$t_{AH6}$	10	-	-	ns
Data Set-up Time	$t_{DS6}$	80	-	-	ns
Data Hold Time	$t_{DH6}$	10	-	-	ns
Output Disable Time	$t_{OH6}$	10	-	60	ns
Access Time	$t_{ACC6}$	-	-	90	ns
Enable Pulse Width	Read	$t_{EW}$	-	-	ns
	Write				80



## ■ BLOCK DIAGRAM

