

***ME* DISPLAYS**

SPECIFICATIONS

FOR

LCD MODULE

SG12232S

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• FEATURES

Number of Dots	122 x 32
Built-in Controller IC	SED1520 or equivalent
Duty Cycle	1/32 Duty
LED Forward Voltage	4.2V
Options	EL/LED Backlight, STN

• MECHANICAL PARAMETERS

Module Size	66.2W x 27.2H x 8.8T mm
Viewing Area Size	60.5W x 18.5H mm
Active Area Size	53.64W x 15.64H mm
Dot Size	0.40 x 0.45 mm
Dot Pitch	0.44 x 0.49 mm

• ABSOLUTE MAXIMUM

Item	Symbol	Min.	Max	Unit
Supply Voltage for Logic	$V_{DD} - V_{SS}$	0	7.0	V
Supply Voltage for LCD Drive	$V_{DD} - V_O$	0	12	V
Input Voltage	V_i	V_{SS}	V_{DD}	V
Operating Temperature	T_a	0	+50	C
Storage Temperature	T_{stg}	-10	+60	C

• ELECTRICAL CHARACTERISTICS

Item	Symbol	Condition	Min	Typ	Max	U
Power Supply Voltage for Logic	$V_{DD} - V_{SS}$	--	4.5	5.0	5.5	V
Power Supply Voltage for LCD	$V_{DD} - V_O$	$V_{DD}=5V$ $T_a=25C$	4.4	4.8	5.2	V
Input "High" Voltage(1)	V_{ih}	--	2.2	--	V_{DD}	V
Input "Low" Voltage(1)	V_{il}	--	--	--	0.6	V
Output "High" Voltage(1)	V_{oh}	--	2.4	--	--	V
Output "Low" Voltage(1)	V_{ol}	--	--	--	0.4	V
Power Supply Current	I_{DD}	$V_{DD} = 5.0V$	--	2.5	4.5	mA

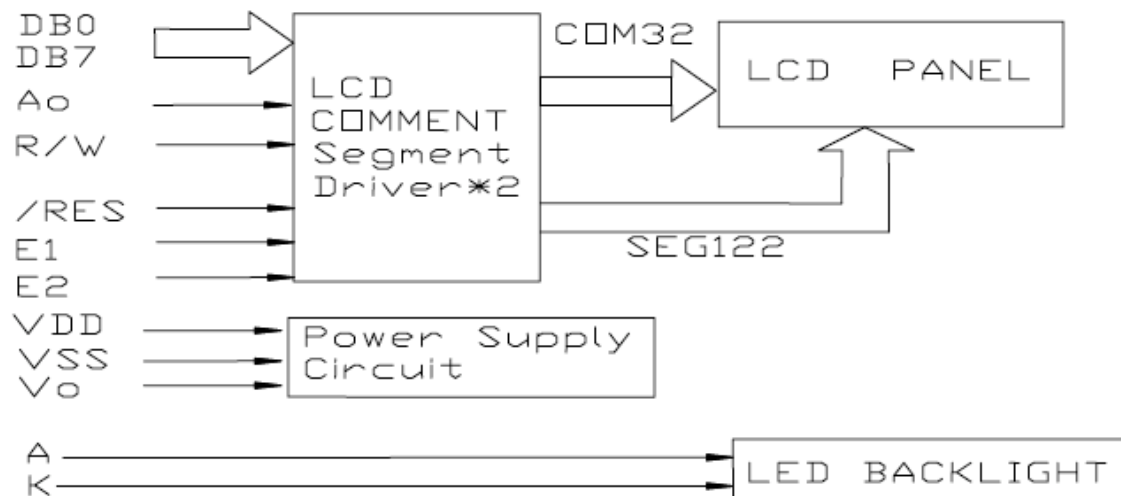
(1) Applied to terminals CS1, CS2, DB0~DB7, R/W, D/I, E RST

• PIN ASSIGNMENT

No.	Symbol
1	A ₀
2	E1
3	E2
4	NC
5	NC
6	R/W
7	V _{SS}
8	DB0
9	DB1
10	DB2

No.	Symbol
11	DB3
12	DB4
13	DB5
14	DB6
15	DB7
16	V _{DD}
17	/RES
18	V _O
19	A
20	K

• BLOCK DIAGRAM



Technical drawing of a cable assembly showing three views: a top view, a side view, and a cross-section view.

Top View: Shows a rectangular cable with overall dimensions of 27.2 x 27.2 ± 0.5. The inner rectangular area is 15.64 x 15.64. The cable is labeled "VA60.5" and "VA18.5".

Side View: Shows a cross-section of the cable with dimensions 23.6 x 21.0. The cable is labeled "Conductor".

Cross-section View: Shows a circular cable with a grid pattern. The dimensions are 0.45 x 0.04 x 0.04 x 0.4.

• TIMING CHARACTERISTICS

Item	Symbol	Min	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_{AAC6}	--	90	ns
Enable Pulse Width (Read)	t_{EW}	100	--	ns
Enable Pulse Width (Write)	t_{EW}	80	--	ns

• TIMING DIAGRAMS

