



■ FEATURES

- ◆ 5 x 7 DOTS WITH CURSOR
- ◆ BUILT-IN CONTROLLER (KS0066 OR EQUIVALENT)
- ◆ 5 V POWER SUPPLY
- ◆ 1/16 DUTY CYCLE
- ◆ 4.2 V LED FORWARD VOLTAGE

ITEM	DIMENSIONS	UNIT
Module Size (W x H x T)	118.0 x 36.0 x 8.8 (12.7 LED)	mm
Viewing Area (W x H)	93.5 x 16.0	mm
Character Size (W x H)	3.20 x 5.55	mm
Character Pitch (W x H)	3.70 x 5.95	mm
Dot Size (W x H)	0.60 x 0.65	mm
Dot Pitch (W x H)	0.65 x 0.70	mm

NO.	SYMBOL	FUNCTION	NO.	SYMBOL	FUNCTION
1	V _{SS}	Supply Ground	9	DB2	Data Bit 2
2	V _{DD}	Supply Voltage	10	DB3	Data Bit 3
3	V _O	Contrast Adj.	11	DB4	Data Bit 4
4	RS	Register Select	12	DB5	Data Bit 5
5	R/W	Read/Write	13	DB6	Data Bit 6
6	E	Enable Signal	14	DB7	Data Bit 7
7	DB0	Data Bit 0	15	A	LED Power
8	DB1	Data Bit 1	16	K	LED Power

ITEM		SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
LCD Operating Voltage		V _{DD-V0}	T=0°C	-	4.8	-	V
			T=25°C	-	4.5	-	V
			T=50°C	-	4.2	-	V
Supply Voltage		V _{DD-VSS}	-	4.7	5	5.3	V
Supply Current		I _{DD}	-	-	2	4	mA
Input	"HIGH" Level	V _{IH}	-	2.2	-	V _{DD}	V
Voltage	"LOW" Level	V _{IL}	-	0	-	0.6	V
Output	"HIGH" Level	V _{OH}	-	2.4	-	-	V
Voltage	"LOW" Level	V _{OL}	-	-	-	0.4	V

The block diagram illustrates the internal components and connections of the LCD module. The central component is the **LCD CONTROLLER**, which interfaces with several external and internal blocks:

- External Inputs:** On the left, the controller receives signals **DB7** and **DB0** (data bus), **E** (enable), **R/W** (read/write), **RS** (register select), **V_o** (contrast), **V_{DD}** (power), and **V_{SS}** (ground).
- LCD PANEL:** The controller sends **COM16** signals to the panel. It also receives **SEG40** signals from the LCD SEGMENT DRIVER.
- LCD SEGMENT DRIVER:** This block receives a **4**-bit signal from the controller and provides **SEG80** signals to the LCD PANEL.
- LED BACKLIGHT:** The controller provides **A** and **K** signals to the backlight.

118.0±0.5

36.0±0.5

11.5

17.78 (P2.54*7)

2.54

2.5

113.0

100.8

94.8

VA93.5

88.3

1.5

16-Ø1.0 (PadØ1.8)

61.75

5-Ø1.0

4-Ø2.5 (PADØ5.0)

10.16 (P2.54*4)

VA16.0

23.7

26.7

31.0

8.8

4.8

12.7

8.7

0.60

0.05

5.95

5.55

0.65

0.05

3.70

3.2

SCALE 4/1