



### PIN CONNECTIONS

Pin	Symbol	Level	Function
1	V <sub>SS</sub>	0V	GND
2	V <sub>DD</sub>	+5V	Power supply for logic
3	V <sub>O</sub>	-	Operating voltage for lcd
4	RS	H/L	“H” Data, “L” Instruction code
5	R/W	H/L	“H” Read, “L” Write
6	E	H-L	Enable signal
7	DB0	H/L	Data bus line
8	DB1	H/L	
9	DB2	H/L	
10	DB3	H/L	
11	DB4	H/L	
12	DB5	H/L	
13	DB6	H/L	
14	DB7	H/L	
15	LEDA	+5V	Power supply for LED backlight
16	LEDK	0V	

### MECHANICAL DATA

Item	Nominal Dimensions	Unit
Module Size ( W x H x T )	80.0X36.0X13.0	mm
Viewing Area ( W x H )	64.5X13.8	mm
Character Size ( W x H )	3.00X5.55	mm
Dot Size ( W x H )	0.55X0.65	mm

### ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min.	Max.	Unit
Supply Voltage (Logic)	V <sub>DD</sub> -V <sub>SS</sub>	-0.3	7.0	V
Supply Voltage (LCD)	V <sub>DD</sub> -V <sub>O</sub>	-0.3	13.0	V
Input Voltage	V <sub>I</sub>	-0.3	V <sub>DD</sub> +0.3	V
Operating Temp.	T <sub>OPR</sub>	-20	70	
Storage Temp.	T <sub>STG</sub>	-30	80	

### ELECTRICAL CHARACTERISTICS ( V<sub>DD</sub>=5.0V, Ta=25 )

Item	Symbol	Min.	Typ.	Max.	Unit
Input High Voltage	V <sub>IH</sub>	2.2	-	V <sub>DD</sub>	V
Input Low Voltage	V <sub>IL</sub>	-0.3	-	0.6	V
Output High Voltage	V <sub>OH</sub>	2.4	-	V <sub>DD</sub>	V
Output Low Voltage	V <sub>OL</sub>	0	-	0.4	V
Supply Current	I <sub>DD</sub>	-	1.1	-	mA
LCD Driving Voltage	V <sub>DD</sub> -V <sub>O</sub>	-	5	-	V

### LED BACKLIGHT SPECIFICATIONS ( Ta=25 )

Item	Forward Voltage	Forward Current
YELLOW-GREEN	4.1V	120mA

### NOTES:

1. Built-in controller (KS0066 or Equivalent)
2. LED can be driven by pin15, pin16 or A and K
3. 5V/3.3V power supply optional