



## PIN CONNECTIONS

Pin	Symbol	Level	Function
1	FG	-	Frame ground
2	V <sub>SS</sub>	0V	GND
3	V <sub>DD</sub>	+5V	Power supply for logic
4	V <sub>O</sub>	-	Operating voltage for LCD
5	/WR	L	Write signal
6	/RD	L	Read signal
7	/CE	L	Chip enable signal
8	C/D	H/L	"L" Data "H" Instruction code
9	/REST	L	Reset signal, active "L"
10   17	DB0   DB7	H/L	Data bus line
18	FS	H/L	Font selection: L:8X8,H:6X8
19	LEDK	0V	Power supply for LED Backlight
20	LEDA	+5V	

### NOTES:

1. Built-in controller (T6963C or Equivalent)
2. Temperature compensation optional
3. +5V/+3.3V power supply optional

## MECHANICAL DATA

Item	Nominal Dimensions	Unit
Module Size (W x H x T)	78.0X70.0X12.0	mm
Viewing Area (W x H)	62.0 X44.0	mm
Dot Pitch (W x H)	0.44X0.60	mm
Dot Size (W x H)	0.39X0.55	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	17.5	V
Input Voltage	V <sub>I</sub>	-0.3	V <sub>DD</sub> +0.3	V
Operating Temp	T <sub>OPR</sub>	-28	70	°C
Storage Temp	T <sub>STG</sub>	-35	80	°C

## ELECTRICAL CHARACTERISTICS (V<sub>DD</sub>=5.0V, T<sub>a</sub>=25°C)

Item	Symbol	Min.	Typ.	Max.	Unit
Input High Voltage	V <sub>IH</sub>	V <sub>DD</sub> -2.2	-	V <sub>DD</sub>	V
Input Low Voltage	V <sub>IL</sub>	0	-	0.8	V
Output High Voltage	V <sub>OH</sub>	V <sub>DD</sub> -0.3	-	V <sub>DD</sub>	V
Output Low Voltage	V <sub>OL</sub>	0	-	0.3	V
Supply Current	I <sub>DD</sub>	-	6	8	mA
LCD Driving Voltage	V <sub>DD</sub> -V <sub>O</sub>	-	11.5	-	V

## LED BACKLIGHT SPECIFICATION (T<sub>a</sub>=25°C)

Item	Forward Voltage	Forward Current
YELLOW-GREEN	4.1V	440mA
WHITE	3.1V	60mA