



## PIN CONNECTIONS

Pin	Symbol	Level	Function
1	V <sub>SS</sub>	0V	GND
2	FLM	H/L	Frame start signal
3	CL1	H/L	Data latch
4	CL2	H/L	Data shift
5	M	H/L	AC signal input for LCD
6	V <sub>DD</sub>	3~5V	Logic power supply
7	NC	-	No connection
8	V <sub>0</sub>	-	LCD driver supply voltage
9	D3	H/L	Data bus
10	D2	H/L	
11	D1	H/L	
12	D0	H/L	
13	NC	-	No connection
14	NC	-	No connection
15	NC	-	No connection
16	NC	-	No connection
17	A	3.3V	Power supply for LED
18	K	0V	backlight

## NOTES:

1. No controller
2. FSTN, TAB
3. Temperature compensation optional

## MECHANICAL DATA

Item	Nominal Dimensions	Unit
Module Size ( W x H x T )	81.44X81.44X10.5	mm
Viewing Area ( W x H )	60.58X60.58	mm
Dot Pitch ( W x H )	0.35X0.35	mm
Dot Size ( W x H )	0.33X0.33	mm

## ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min.	Max.	Unit
Supply Voltage (Logic)	V <sub>DD</sub> -V <sub>SS</sub>	-0.3	5.5	V
Supply Voltage (LCD)	V <sub>0</sub>	-0.3	25.0	V
Input Voltage	V <sub>I</sub>	-0.3	V <sub>DD</sub> +0.3	V
Operating Temp.	T <sub>OPR</sub>	-25	75	
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>	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>	-	1.3	-	mA
LCD Driving Voltage	V <sub>0</sub>	19.3	19.5	19.7	V

## LED BACKLIGHT SPECIFICATIONS ( Ta=25 )

Item	Forward Voltage	Forward Current
White	3.1V	45mA