



## ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min.	Max.	Unit
Supply Voltage(Logic)	V <sub>DD</sub> - V <sub>SS</sub>	-0.3	4.0	V
Supply Voltage(LED)	V <sub>LED</sub> - V <sub>SS</sub>	-0.3	9.0	V
Input Voltage	V <sub>I</sub>	-0.3	V <sub>DD</sub> + 0.3	V
Operating Temp.	T <sub>opr</sub>	-20	70	°C
Storage Temp.	T <sub>stg</sub>	-30	80	°C

## MECHANICAL DATA

Item	Nominal Dimensions	Unit
Module Size ( W x H x T )	190.0 x 105.0 x 12.5	mm
Viewing Area ( W x H )	156.4 x 89.0	mm
Active Area ( W x H )	154.08 x 85.92	mm
Dot Pitch ( W x H )	0.0642 x 0.179	mm
Weight	Approx. 230	g

## ELECTRICAL CHARACTERISTICS ( V<sub>DD</sub>=3.3V±0.3V )

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input High Voltage	V <sub>IH</sub>	--	2.0	--	V <sub>DD</sub>	V
Input Low Voltage	V <sub>IL</sub>	--	-0.3	--	0.8	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 (Logic)	I <sub>DD</sub>	V <sub>DD</sub> = 3.3V	--	160	200	mA
Supply Current (LED)	I <sub>LED</sub>	V <sub>LED</sub> = 5.0V	--	300	360	mA
		V <sub>LED</sub> = 9.0V	--	160	190	mA

## PIN CONNECTIONS (CN1/CN2)

Pin	Symbol	Level	Function
1	V <sub>SS</sub>	0V	GND
2	V <sub>SS</sub>	0V	GND
3	V <sub>DD</sub>	3.3V	Power supply for logic
4	V <sub>LED</sub>	4.5V to 9V	Power supply for LED B/L driver
5	/RST	L	Reset signal. Active "L".
6	/WAIT	L	Wait signal output. Active "L".
7	/INT	L	Interrupt signal output. Active "L".
8	NC	--	No connection
9	DB7	H/L	For parallel mode: DB0[7:0] are 8-bit data bus
10	DB6	H/L	For SPI or I2C mode: DB7 is serial clock input (SCLK).
11	DB5	H/L	DB6 is serial data input (SDI) for 4-wire SPI DB5 is bi-directional data (SDA) for I2C
12	DB4	H/L	DB5 is serial data output (SDO) for 4-wire SPI
13	DB3	H/L	DB5 is device address bit[5] for I2C
14	DB2	H/L	DB4 is chip selection (/SCS) for 3/4-wire SPI
15	DB1	H/L	DB4 is device address bit[4] for I2C
16	DB0	H/L	DB[3:0] are device address bit[3:0] for I2C
17	A0	H/L	Data or command selection H: Command L: Display data
18	/WR (R/W)	H/L	Write signal for 8080 MCU. R/W signal for 6800 MCU.
19	/RD (E)	H/L	Read signal for 8080 MCU. Enable signal for 6800 MCU.
20	/CS	L	Chip selection signal for parallel mode. Active "L".

## BLOCK DIAGRAM

