



ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min.	Max.	Unit
Supply Voltage(Logic)	V _{DD} - V _{SS}	-0.3	4.0	V
Supply Voltage(LED)	V _{LED} - V _{SS}	-0.3	9.0	V
Input Voltage	V _I	-0.3	V _{DD} + 0.3	V
Operating Temp.	T _{opr}	-20	70	°C
Storage Temp.	T _{stg}	-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_{DD}=3.3V±0.3V)

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input High Voltage	V _{IH}	--	2.0	--	V _{DD}	V
Input Low Voltage	V _{IL}	--	-0.3	--	0.8	V
Output High Voltage	V _{OH}	--	2.4	--	V _{DD}	V
Output Low Voltage	V _{OL}	--	0	--	0.4	V
Supply Current (Logic)	I _{DD}	V _{DD} = 3.3V	--	160	200	mA
Supply Current (LED)	I _{LED}	V _{LED} = 5.0V	--	300	360	mA
		V _{LED} = 9.0V	--	160	190	mA

PIN CONNECTIONS (CN1/CN2)

Pin	Symbol	Level	Function
1	V _{SS}	0V	GND
2	V _{SS}	0V	GND
3	V _{DD}	3.3V	Power supply for logic
4	V _{LED}	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	DB6 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	DB5 is serial data output (SDO) for 4-wire SPI
15	DB1	H/L	DB5 is device address bit[5] for I2C
16	DB0	H/L	DB4 is chip selection (/SCS) for 3/4-wire SPI DB4 is device address bit[4] for I2C 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

