

## ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min.	Max.	Unit
Supply Voltage(Logic)	V <sub>DD</sub> - V <sub>SS</sub>	-0.3	6.0	V
Supply Voltage(LCD)	V <sub>DD</sub> - V <sub>O</sub>	-0.3	30.0	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 )	160.0 x 109.0 x 13.5	mm
Viewing Area ( W x H )	122.0 x 92.0	mm
Dot Pitch ( W x H )	0.36 x 0.36	mm
Dot Size ( W x H )	0.33 x 0.33	mm
Weight	Approx. 220	g

## ELECTRICAL CHARACTERISTICS ( V<sub>DD</sub>=3.3V to 5.0V )

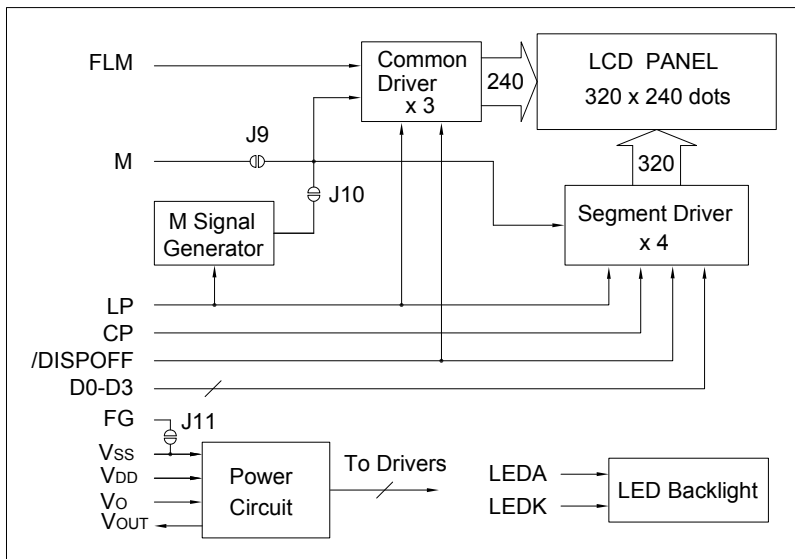
Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input High Voltage	V <sub>IH</sub>	--	0.8V <sub>DD</sub>	--	V <sub>DD</sub>	V
Input Low Voltage	V <sub>IL</sub>	--	0	--	0.2V <sub>DD</sub>	V
Supply Current	I <sub>DD</sub>	V <sub>DD</sub> = 5.0V	--	30.0	60.0	mA
		V <sub>DD</sub> = 3.3V	--	40.0	80.0	mA
LCD Driving Voltage	V <sub>DD</sub> - V <sub>O</sub>	T <sub>a</sub> =25°C	--	22.7	--	V

## PIN CONNECTIONS (CN1/CN2/CN3)

Pin	Symbol	Level	Function
1	D0	H/L	Data bus
2	D1	H/L	
3	D2	H/L	
4	D3	H/L	
5	/DISPOFF	H/L	H: display on L: display off
6	FLM	H	Scan start-up pulse
7	M (NC)	--	External M signal (J9 close and J10 open) or no connection (J9 open and J10 close).
8	LP	H>L	Display data latch pulse
9	CP	H>L	Display data shift pulse
10	V <sub>DD</sub>	3.3V-5V	Power supply for logic
11	V <sub>SS</sub>	0V	GND
12	V <sub>OUT</sub>	-22V	Output voltage for LCD driving
13	V <sub>O</sub>	--	Operating voltage for LCD
14	FGND	--	Frame ground
15	LEDA	5V	Power supply for LED backlight
16	LEDK	0V	

Note: CN3 is without Pin 15 and Pin 16 terminals

## BLOCK DIAGRAM



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

Item	Symbol	Typ.	Max.	Unit
Forward Voltage	V <sub>f</sub>	3.1	3.3	V
Forward Current	I <sub>f</sub>	150	--	mA
LED Color		White		