

### 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 15.0	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. 240	g

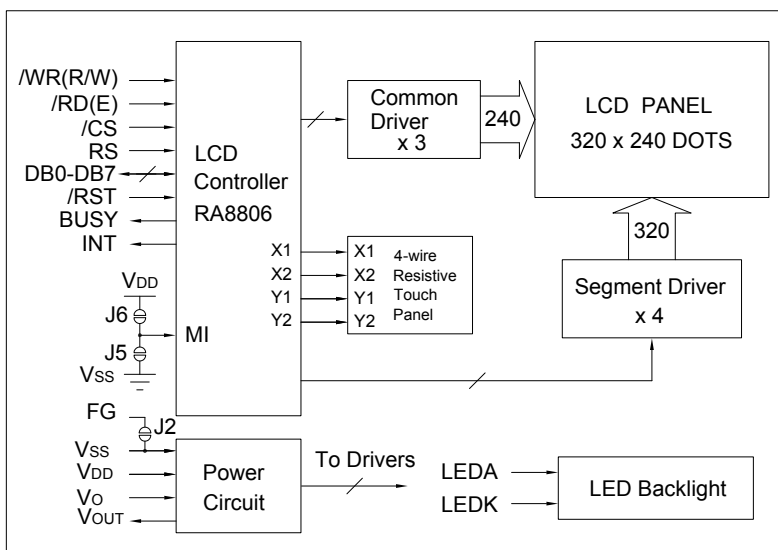
### ELECTRICAL CHARACTERISTICS (V<sub>DD</sub>=3.3V or 5.0V)

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	70.0	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)

Pin	Symbol	Level	Function
1	V <sub>SS</sub>	0V	GND
2	V <sub>DD</sub>	3.3 or 5V	Power supply for logic
3	V <sub>O</sub>	--	Operating voltage for LCD
4	RS	H/L	L : Data H : Instruction code
5	/WR(R/W)	H/L	/WR for 80 MPU, R/W for 68 MPU
6	/RD(E)	H/L	/RD for 80 MPU, E for 68 MPU
7	DB0	H/L	Data bus
8	DB1	H/L	
9	DB2	H/L	
10	DB3	H/L	
11	DB4	H/L	
12	DB5	H/L	
13	DB6	H/L	
14	DB7	H/L	
15	/CS	L	Chip enable signal. Active "L".
16	/RST	L	Reset signal. Active "L".
17	V <sub>OUT</sub>	-22V	Output voltage for LCD driving
18	BUSY/INT	H/L	Busy or Interrupt signal output
19	LEDA	5V	Power supply for LED backlight
20	LEDK	0V	

### 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		