

### 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	13.0	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>	-20	80	°C

### MECHANICAL DATA

Item	Nominal Dimensions	Unit
Module Size ( W x H x T )	84.0 x 44.0 x 13.5	mm
Viewing Area ( W x H )	60.5 x 18.5	mm
Dot Pitch ( W x H )	0.44 x 0.49	mm
Dot Size ( W x H )	0.40 x 0.45	mm
Weight	Approx. 36	g

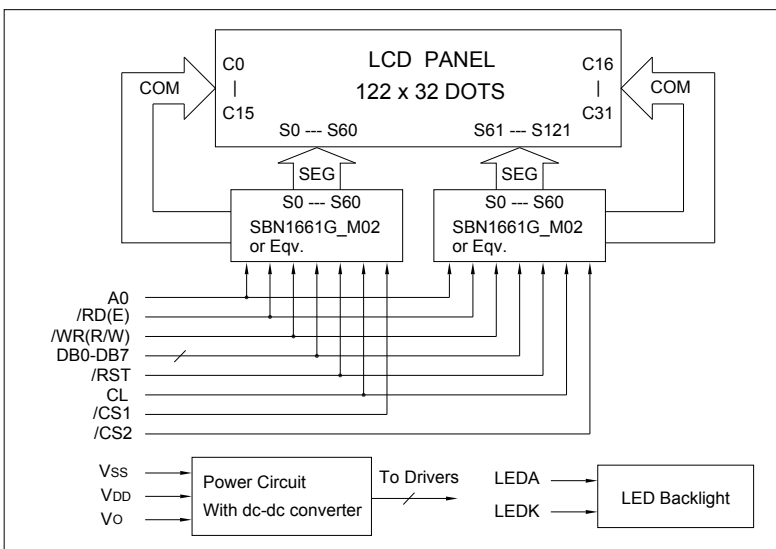
### ELECTRICAL CHARACTERISTICS ( V<sub>DD</sub> =5V±0.1V )

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input High Voltage	V <sub>IH</sub>	--	3.0	--	V <sub>DD</sub>	V
Input Low Voltage	V <sub>IL</sub>	--	0	--	1.1	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>	V <sub>DD</sub> = 5.0V	--	0.6	1.0	mA
LCD Driving Voltage	V <sub>DD</sub> - V <sub>O</sub>	T <sub>a</sub> =25°C	--	6.5	--	V

### PIN CONNECTIONS

Pin	Symbol	Level	Function
1	V <sub>SS</sub>	0V	GND
2	V <sub>DD</sub>	5V	Power supply for logic
3	V <sub>O</sub>	--	Operating voltage for LCD
4	A0	H/L	H : Data, L : Instruction code
5	/CS1	L	Chip selection for IC1. Active "L".
6	/CS2	L	Chip selection for IC2. Active "L".
7	CL	--	External clock input ( 2KHz )
8	/RD(E)	H/L	/RD for 80 MPU, E for 68 MPU
9	/WR(R/W)	H/L	/WR for 80 MPU, R/W for 68 MPU
10	DB0	H/L	Data bus
11	DB1	H/L	
12	DB2	H/L	
13	DB3	H/L	
14	DB4	H/L	
15	DB5	H/L	
16	DB6	H/L	
17	DB7	H/L	
18	/RST	H/L	Reset. H->L:80 MPU, L->H:68 MPU
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>	2.9	3.0	V
Forward Current	I <sub>f</sub>	18	--	mA
LED Color		White		