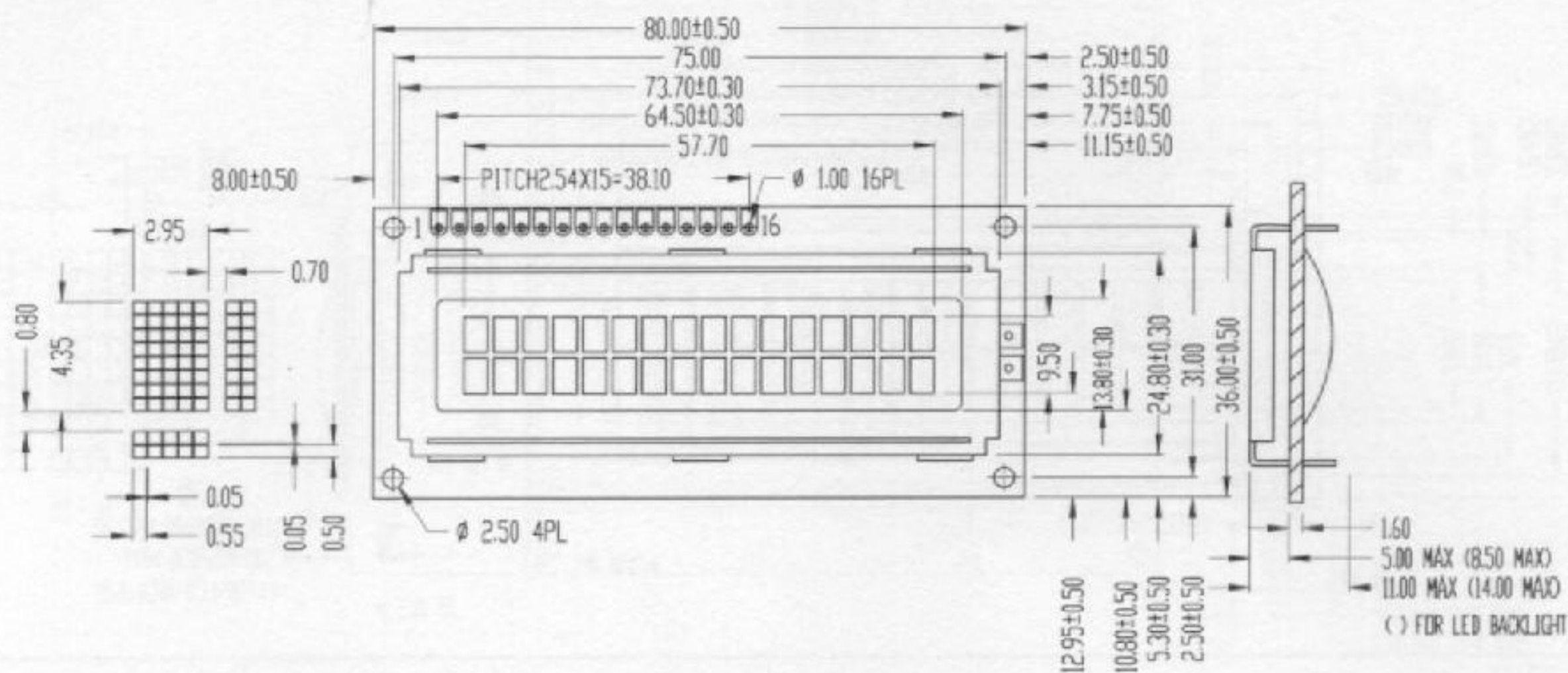
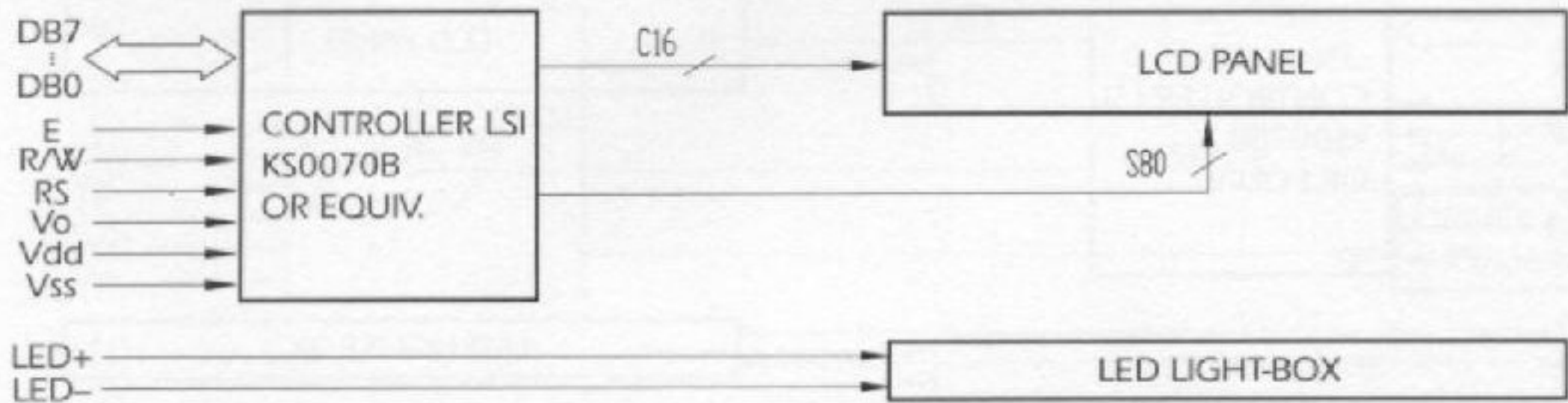


EXTERNAL DIMENSIONS



BLOCK DIAGRAM



MECHANICAL SPECIFICATIONS

ITEM	NOMINAL DIMENSIONS	UNIT
Module Size (WxHxT)	80x36x11.0 (14.0 W/LED BACKLIGHT)	mm
Viewing Area (WxH)	64.5x13.8	mm
Character Pitch (WxH)	3.65x5.15	mm
Character Size (WxH)	2.95x4.35	mm
Character Font	5x8 DOTS	---
Dot Pitch (WxH)	0.60x0.55	mm
Dot Size (WxH)	0.55x0.50	mm

ELECTRICAL CHARACTERISTICS (Vdd=+5V±10%, Vss=0V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	Vdd	---	4.5	5.0	5.5	V
Supply Current	Idd	---	---	2.0	4.0	mA
Input High Voltage (DB0-DB7, E, R/W, RS)	Vih	---	2.2	---	Vdd	V
Input Low Voltage (DB0-DB7, E, R/W, RS)	Vil	---	-0.3	---	0.6	V
Output High Voltage (DB0-DB7)	Voh	Ioh = -0.205mA	2.4	---	---	V
Output Low Voltage (DB0-DB7)	Vol	Iol = 1.2mA	---	---	0.4	V

ABSOLUTE MAXIMUM RATINGS FOR LED BACKLIGHT

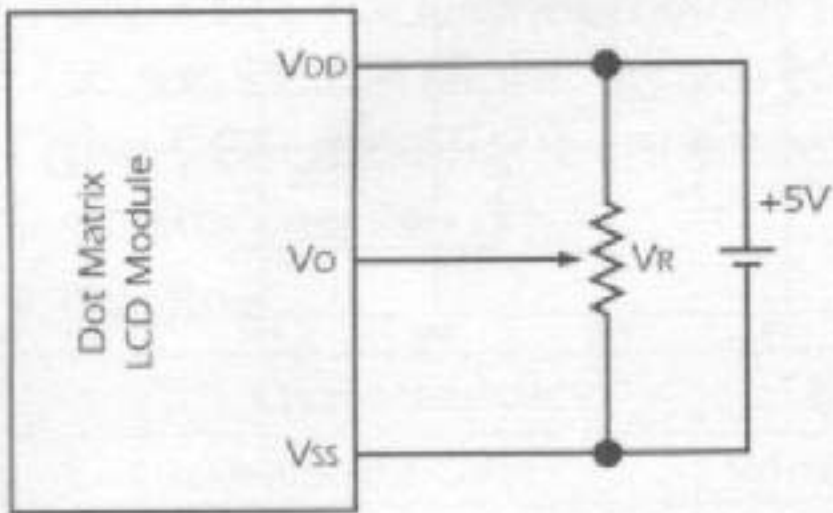
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
LED Forward Consumption Current	If	Ta=25°C Vf=4.5V Vr=5.0Vmax.	---	80	95	mA
LED Allowable Dissipation	Pd	Ta=25°C Vf=4.5V Vr=5.0Vmax.	---	360	428	mW

POWER SUPPLY SCHEMATICS

See individual module specification pages for voltage settings to obtain optimum contrast and viewing angle.

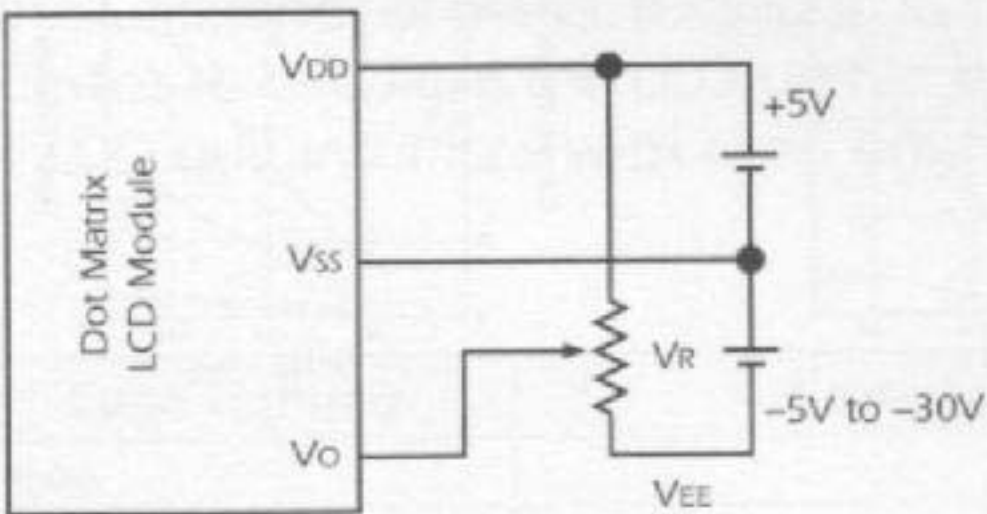
Note : V_R =Variable Resistor 10 K Ω to 20 K Ω for Adjusting Contrast

For Single Source



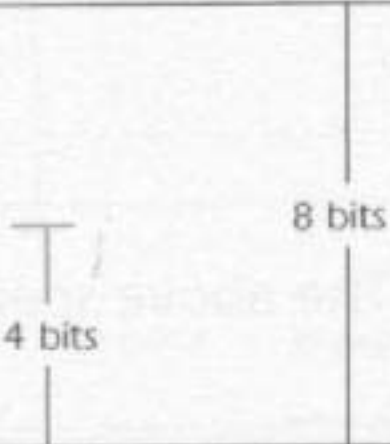
For Modules With Normal Temperature Range Fluid

For Double Source



For Modules With Extended Temperature Range Fluid or Wide Viewing Cone Fluid

INTERFACE PIN CONNECTIONS

Pin No.	Symbol	Level	Pin Description	Functions
1	Vss	—	Ground	0 V
2	VDD	—	Supply voltage for logic and LCD(+)	5V ± 5%
3	Vo	—	Supply voltage for LCD	Decision by user system
4	RS	H/L	Register selection	H : Data L : Instruction code
5	R/W	H/L	Read/Write	H : Read L : Write
6	E	H, H → L	Enable signal	—
7	DB0	H/L	Data bit 0	
8	DB1	H/L	Data bit 1	
9	DB2	H/L	Data bit 2	
10	DB3	H/L	Data bit 3	
11	DB4	H/L	Data bit 4	
12	DB5	H/L	Data bit 5	
13	DB6	H/L	Data bit 6	
14	DB7	H/L	Data bit 7	
15	LED +	LED Backlight		
16	LED -			