PIN ASSIGNMENT

PIN NO.	SYMBOL	LEVEL	FUNCTION	
1	V_{SS}	-	Power Supply	0V (GND)
2	V_{DD}	-		+5V
3	V_O	-		Contrast Adjustment Voltage
4	RS	H / L	Selects Registers H : Data register (When Writing And Reading) L : Instruction Register (Writing) Busy Flag And Address Counter (Reading)	
5	R / W	H / L	Read/Write Select Signal H : Data read (Module→MPU) L : Data write (Module→MPU)	
6	E	H , H→L	Enable Signal	
7	DB0	H / L	Databus lines , see description below	
8	DB1	H / L	DB4~DB7:	
9	DB2	H / L	High-order lines of data bus with three-state , bi-directional function for use	
10	DB3	H / L	in data transfer with the MPU . DB7 may also be used to check the busy flag .	
11	DB4	H / L	DB0~DB3:	
12	DB5	H / L	Low-order lines of data bus with three-state , bi-directional function for use	
13	DB6	H / L	in data transfer with the MPU . These lines are not used when interfacing	
14	DB7	H / L	with a 4-bit microprocessor .	

ELECTRIC MAXIMUM RATINGS

ITEM	SYMBOL	MIN	MAX	UNIT	REMARKS
Power Supply For Logic	VDD-VSS	-0.3	7.0	V	
Signal Input Voltage	VIN	-3 ≦ VIN ≦ VDD+0.3		V	
Static Electricity	-	-	100	V	See Note

Note: Electro-static discharge resistance is tested by charging a 200pf capacitor and discharging it by contact with a interface connector pin .

EXAMPLE OF POWER SUPPLY

FIG.1 Normal Temperature Type

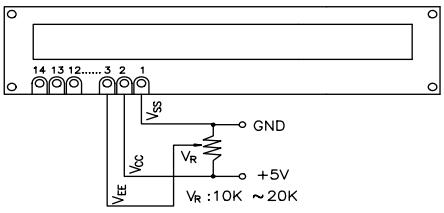
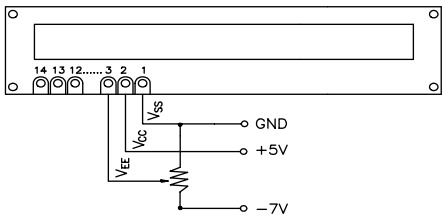


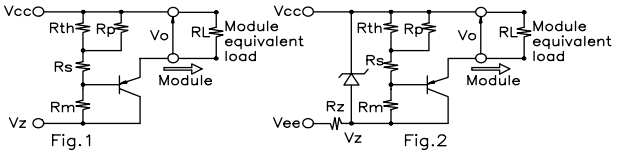
FIG.2 Extended Temperature Type



*Note:If V vary from recommended value, you cannot get proper contrast or viewing angle.

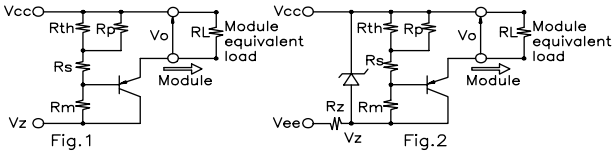
■ Examples of Temperature Compensation Circuits for Extended Temp Type. (Only for reference)

(A) 1/8Duty − 1/4Bias



Thermistor:Rth(25°C)=15[k−ohm],B=4200[K]
Resistors:Rp=30[k−ohm],Rs=6.8[k−ohm],Rm=3.3[k−ohm]
Transistors:PNP Type.
Vcc: +5V, Vss: 0V(Logic Suply)
Vz: −8V(−7.8~ −8.2V)
Vee<Vz,Rz=(Vz−Vee)/5 [k−ohm]

(B) 1/16Duty − 1/5Bias



Thermistor:Rth(25°C)=15[k−ohm],B=4200[K]
Resistors:Rp=150[k−ohm],Rs=8.2[k−ohm],Rm=3.9[k−ohm]
Transistors:PNP Type.
Vcc: +5V, Vss: 0V(Logic Suply)
Vz: −11V(−10.725~ −11.275V)
Vee<Vz,Rz=(Vz−Vee)/5 [k−ohm]