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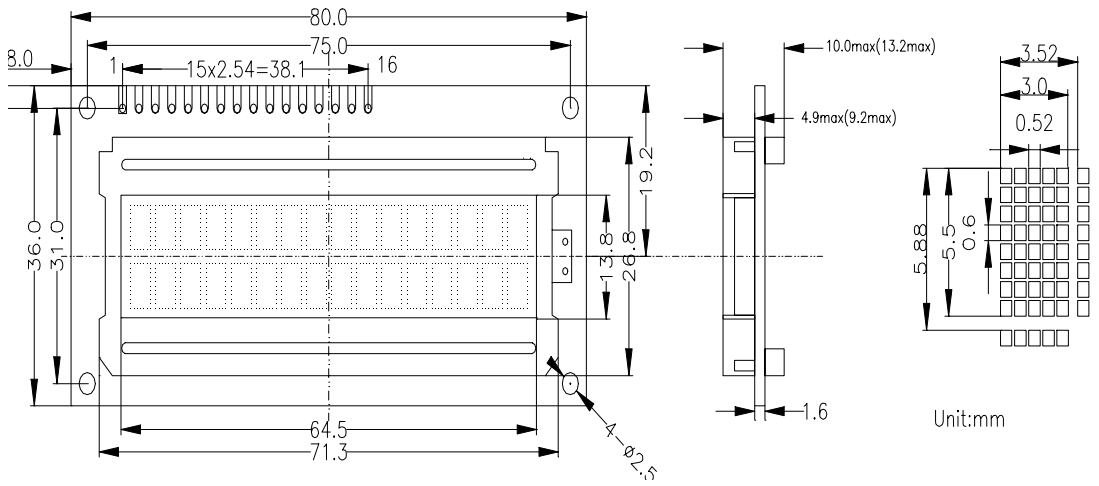
TC1602A

* 16 Characters 2 line * Controller LSI built-in * +5V single power supply

■ EXTERNAL DIMENSIONS AND DISPLAY PATTERN



MECHANICAL DATA(Nominal dimensions)

Module size ---------- 80.0WX36.0HX10.0Dmm
Effective display area ---------- 64.5WX13.8H mm
Charater size(5X8dots) -------- 3.0WX5.5H mm
Charater pitch ---------- 3.52X5.88 mm
Dot size ---------- 0.52WX0.60H mm
Weight ---------- about 40 g

ABSOLUTE MAXIMUM RATINGS	**min**	**max.**
Power supply for logic (Vdd - Vss) ----	0	7.0V
Power supply for LCD drive(Vdd-Vo) ----	0	5.0V
Input voltage (Vi) ----------	Vss	Vdd V
0perating temperature (Ta) ----------	0	55c
Storage temperature (Tstg) ----------	-20	60c

ELECTRICAL CHARACTERISTICS

Ta = 25c, Vdd = 5.0 + 0.25V
Input ' high ' voltage (Vih) ---------- 3.5V min.
Input ' low ' voltage (Vil) ---------- 0.55V max.
Output 'high' voltage(Voh)(-Ioh=0.1mA) --- 3.75V min.
Output low' voltage(Vol)(Iol = 0.1mA)---- 1.0V max.
Power supply current(Idd (Vdd=5.0 V) --- 2.0mAmax.
Drive method ---------- 1 / 16 Duty, 1 / 5 Bias.

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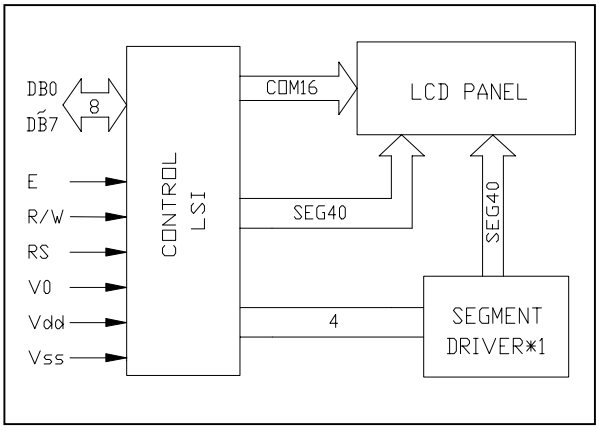
■ PIN CONNECTION

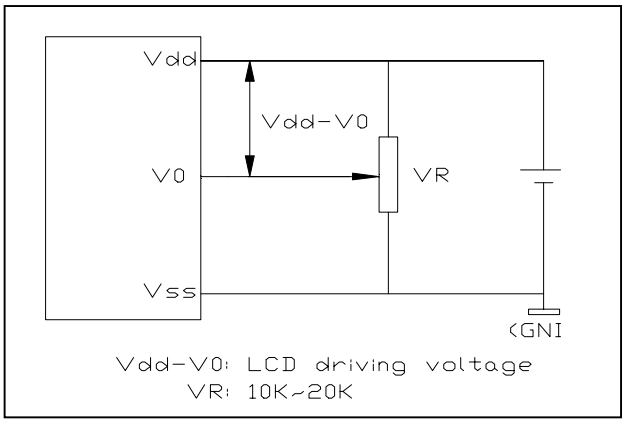
Pin No.	symbol	Lever	Function
1	Vss	--	0V
2	Vdd	--	+5V
3	Vo	--	--
4	RS	H/L	L:Instruction code input H:Data input
5	R/W	H/L	H:Data read L : Data write
6	E	H.H-L	Enable singal
7	D0	H/L	Data bus line *
8	D1	H/L	
9	D2	H/L	
10	D3	H/L	
11	D4	H/L	
12	D5	H/L	
13	D6	H/L	
14	D7	H/L	
15	LED+	5V	Power supply for LED
16	LED-	0V	Power supply for LED

* In case of 4 bits instruction, data is transfetrred by twice using only 4 buses of D4 - D7 ,and D0 - D3 are not used , first operation is highter order 4 bits and second is lower 4 bits of 8 bits , but in case of 8 bits instruction , data is transferred by data by data bus of D0 - D7.

■BLOCK DIAGRAM



■ POWER SUPPLY



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