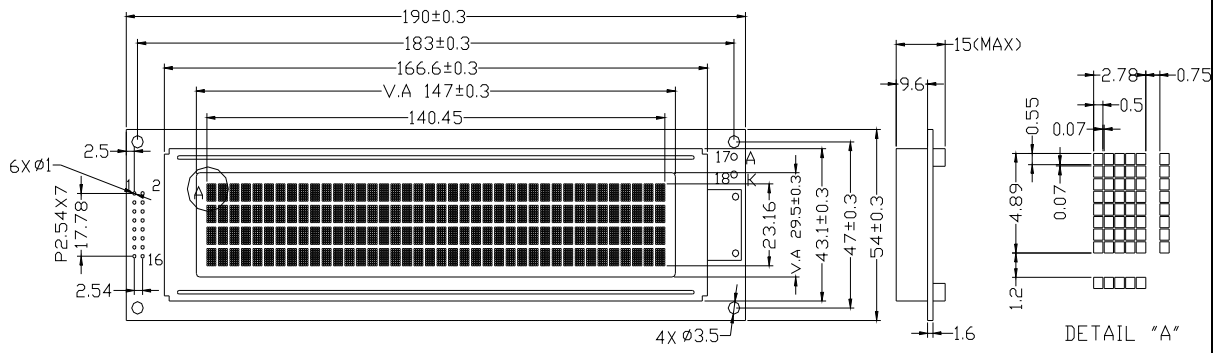
TC4004A(L)

TINSHARP ELECTRONICS CO.LTD

EXTERNAL DIMENSIONS AND DISPLAY PATTERN



MECHANICAL DATA (Nominal dimensions)

ITEM	SPECFICATION	UNIT
Module Size(WxH)	190.0x54.0	mm
Viewing Area(WxH)	147.0x29.5	mm
Internel Area(WxH)	140.45x23.16	mm
Dot pitch(WxH)	0.57x0.62	mm
Dot Size(WxH)	0.50x0.55	mm
Character Pitch(WxH)	3.53x6.09	mm
Character Size(WxH)	2.78x4.89	mm
Number of character	40characterx4line	char

Absolute Maximum Ratings

Item	Symbol	Condition	Standard Value		unit
			min	max	
Supply Voltage for Logic	V_{DD}-V_{SS}	Ta=25℃	-0.3	7.0	V
Supply Voltage for LCD	V_{DD}-V_{EE}		-0.3	13.0	V
Input Voltage	V_I		0	V_{DD}	V

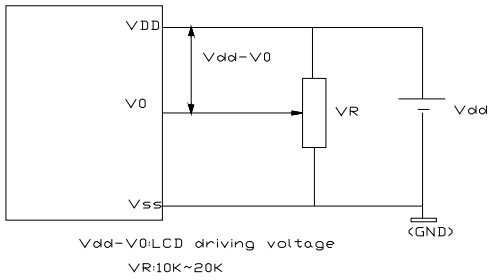
PIN CONFIGURATION

ITEM	SYMBOL	Level	DESCRIPTION
1-8	DB7-DB0	H/L	Data bus
9	E1	H/L	Enable Input 1
10	R/W	H/L	H:Data read
11	RS	H/L	Selects read or write
12	V0	0.3	Power supply voltage for LCD(-)
13	VSS	-	Ground
14	VCC	5.0V	Power supply voltage for Logic and LCD(+)
15	E2	H/L	Enable Input 2
16	NC	-	Not connected
17	LED+	+4.2V	Power supply for LED(+)
18	LED-	0V	Power supply for LED(-)

ELECTRICAL CHARACTERISTICS

Item	Symbol	Condition	Standard value			Unit
			min.	typ.	max.	
Supply Voltage for Logic	V_{DD}-V_{SS}	-	4.5	5.0	5.5	V
Supply Voltage for LCD	V_{DD}-V_0	-	-	4.7	-	V
Input high Voltage	V_{IH}	-	0.7V_{DD}	-	V_{DD}+0.3	V
Input low Voltage	V_{IL}	-	-0.3	-	0.2V_{DD}	V
Supply Current for Logic	I_{DD}	-	-	-	3.0	mA
Supply Currrent for LCD	I_{EE}	-	-	-	1.0	mA
With B/L	I_{LED}	-	-	300	-	mA
Drive method	1/16Duty		1/5Bias			

Power supply



Vdd-V0:LCD driving voltage

VR:10K~20K

Block diagram