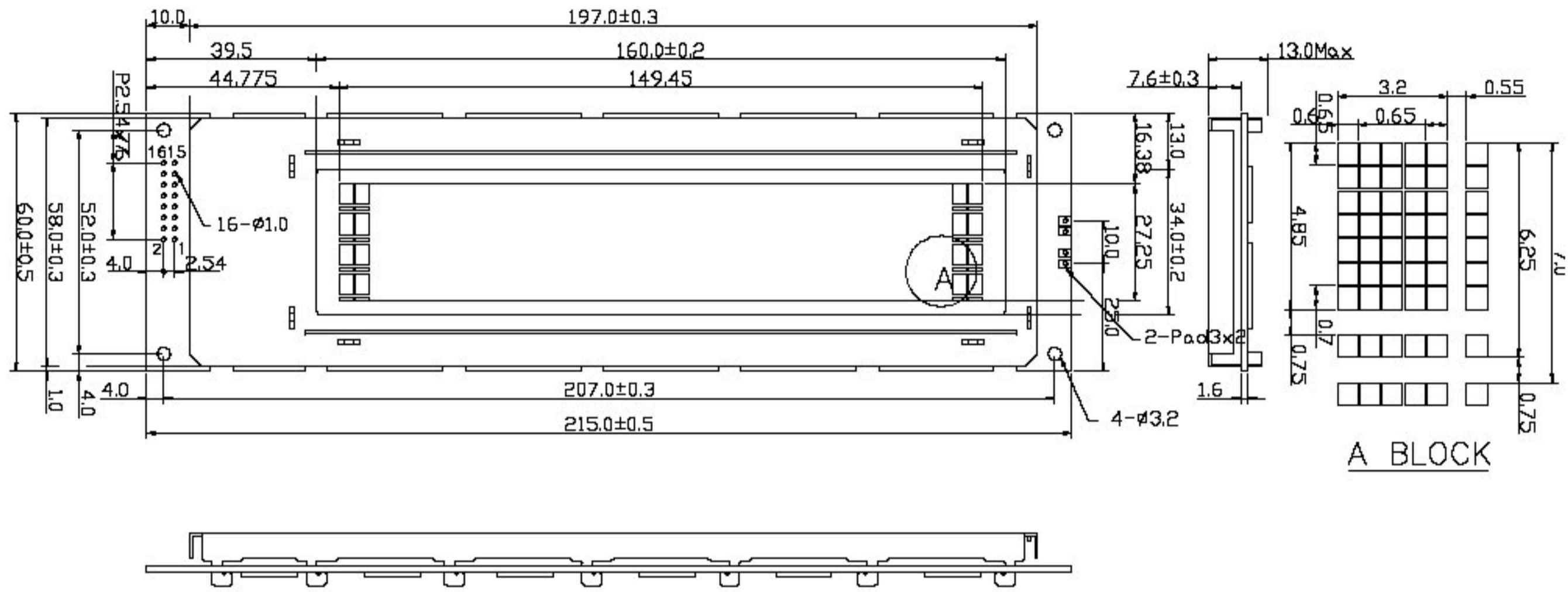


**PACKAGE DIMENSIONS:**

**General Specification**
**Mechanical Dimension**

Item	Dimension	Unit
Number of Characters	40 characters×4 Lines	—
Module dimension (L x W x H)	215.0 x 60.0 x 13.0 (Max)— EL or No B/L	mm
View area	160.0 x 34.0	mm
Active area	149.4 x 27.2	mm
Dot size	0.6 x 0.65	mm
Dot pitch	0.65 x 0.67	mm
Character size (L x W)	3.2 x 4.85	mm
Character pitch (L x W)	3.75 x 4.85	mm

**Electrical Characteristics**

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	V <sub>dd</sub> -V <sub>ss</sub>	—	4.5	—	5.5	V
Supply Voltage For LCD	V <sub>dd</sub> -V <sub>o</sub>	* Ta=-20°C	—	5.0	—	V
		Ta=0°C	—	—	—	V
		Ta=25°C	—	4.5	—	V
		Ta=50°C	—	—	—	V
		* Ta=+70°C	—	3.8	—	V
* Wide Temp. Type						
Input High Volt.	V <sub>IH</sub>	—	2.0	—	V <sub>dd</sub>	V
Input Low Volt.	V <sub>IL</sub>	—	—	—	0.6	V
Output High Volt.	V <sub>OH</sub>	—	2.4	—	—	V
Output Low Volt.	V <sub>OL</sub>	—	—	—	0.4	V
Supply Current	I <sub>dd</sub>	V <sub>dd</sub> =5V	—	3.0	—	mA

**Electrical Absolute Maximum Ratings**

 (V<sub>ss</sub>=0V, Ta=25°C)

Item	Symbol	Min	Max	Unit
Supply Voltage (Logic)	V <sub>dd</sub> -V <sub>ss</sub>	-0.3	7	V
Supply Voltage (LCD driver)	V <sub>dd</sub> -V <sub>o</sub>	-0.3	13	V
Input Voltage	V <sub>I</sub>	V <sub>ss</sub>	V <sub>dd</sub>	V
Normal Type	TOP	0	+50	°C
	TSTG	-10	+60	°C
Wide Temperature Type	Top	-20	+70	°C
	Tstg	-30	+80	°C

**Interface Pin Function**

Pin No.	Symbol	Level	Description
1	DB6	H/L	Data bit 6
2	DB7	H/L	Data bit 7
3	DB4	H/L	Data bit 4
4	DB5	H/L	Data bit 5
5	DB2	H/L	Data bit 2
6	DB3	H/L	Data bit 3
7	DB0	H/L	Data bit 0
8	DB1	H/L	Data bit 1
9	E1	H/L	Enable signal ic1
10	E2	H/L	Enable signal ic2
11	RS	H/L	H:DATA, L:Instruction code
12	R/W	H/L	H:Read(MPU→Module)L:Write(MPU→Module)
13	V <sub>o</sub>	(Variable)	Contrast adjustment
14	VDD	5V	Supply Voltage for logic 5V (+3V option)
15	VSS	0V	Supply Voltage for logic GND
16	VSS	0V	Supply Voltage for logic GND