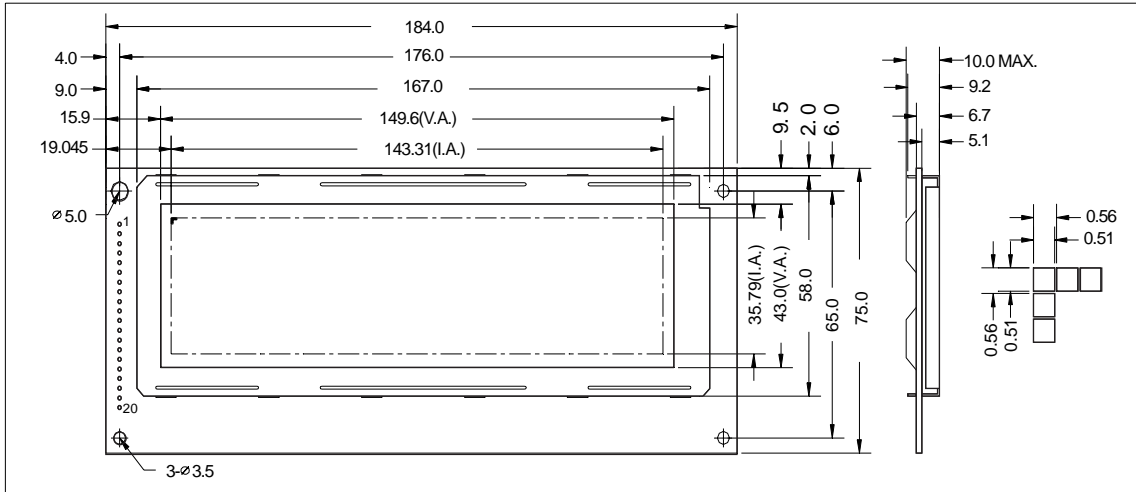


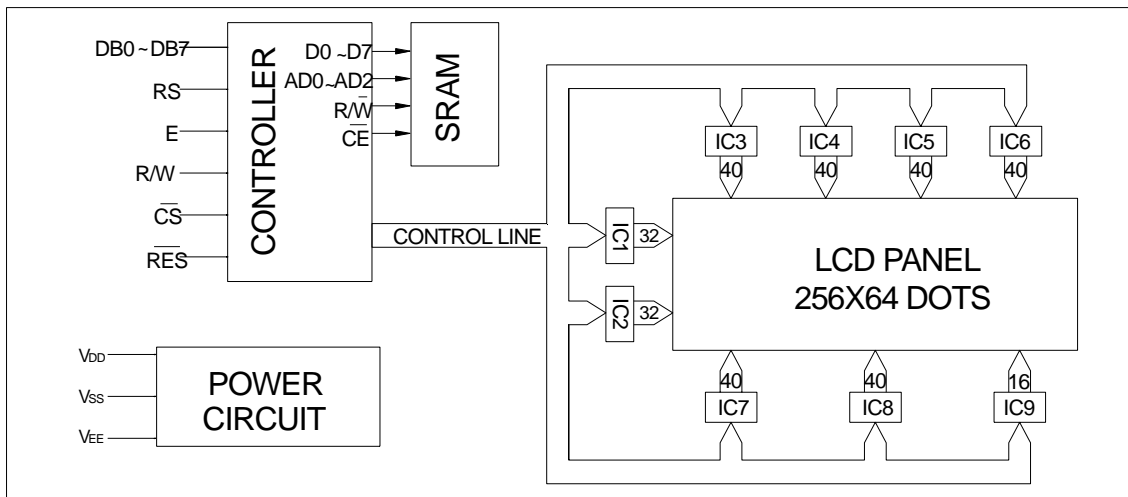
### 1.0 Features

- \* Display Mode: Reflective/Transflective/Transmissive and Positive Type STN
- \* Input Data: 8-Bits Parallel Data Input from a MPU
- \* Assembly: SMT
- \* Backlight: Optional

### 2.0 External Dimensions



### 3.0 Block Diagram



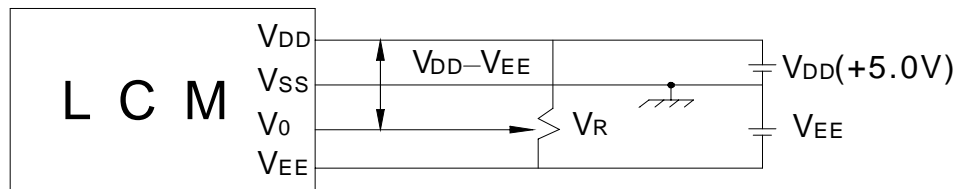
### 4.0 Maximum Rating

Item	Symbol	Test Condition	Standard Value		Unit
			Min.	Max.	
Supply Voltage for Logic	V <sub>DD</sub> -V <sub>SS</sub>	Ta=25 °C	0	6.0	V
Supply Voltage for LCD	V <sub>DD</sub> -V <sub>EE</sub>		0	23.0	V
Input Voltage	V <sub>I</sub>		0	V <sub>DD</sub>	V
Operating Temperature	T <sub>opr</sub>	—	0	+50	°C
Storage Temperature	T <sub>stg</sub>	—	-10	+60	°C

## 5.0 Electro-Optical Characteristics

Item		Symbol	Conditions	Standard Value			Unit
				Min.	Typ.	Max.	
Power Supply for Logic	Logic	V <sub>DD</sub>	—	4.75	5.0	5.25	V
	LCD Drive	V <sub>DD-V<sub>EE</sub></sub>		—	—	17.0	
Frame Frequency		f FLM	V <sub>DD</sub> =5.0V	70	75	80	Hz
Current Consumption		I <sub>DD</sub>	V <sub>DD</sub> =5.0V, V <sub>DD-V<sub>0</sub></sub> =15.0 f FLM=75Hz	—	13.8	23.0	mA
LCD Driving Voltage(Recommended)		V <sub>DD-V<sub>0</sub></sub>	T <sub>a</sub> =25 °C; Ø, θ =0 °	—	15.0	—	V
Response Time(Rising)		T <sub>r</sub>	T <sub>a</sub> =25 °C; Ø, θ =0 °	—	200	250	ms
Response Time(Decay)		T <sub>d</sub>		—	250	300	ms
Viewing Angle		Ø2-Ø1	K≥2	0	—	45	DEG.
Contrast Ratio		K	Ø=0 °, θ =0 °	2.0	3.0	—	—

## 6.0 Power Supply for LCM



V<sub>DD-V<sub>EE</sub></sub>: LCD Driving Voltage

## 7.0 I/O Connection

Pin No	Symbol	Level	Function
1	GND	0V	Ground
2	V <sub>DD</sub>	5.0V	Power supply for logic and LCD
3	V <sub>0</sub>	—	Operating voltage for LCD display
4	RS	H/L	Instruction/Data select signal
5	R/W	H/L	H: Read L: Write
6	E	L	Chip 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	/CS	H	Chip select
16	/RST	L	Reset signal
17	V <sub>EE</sub>	—	Power supply for LCD
18	\	—	No connection
19	\	—	No connection
20	\	—	No connection