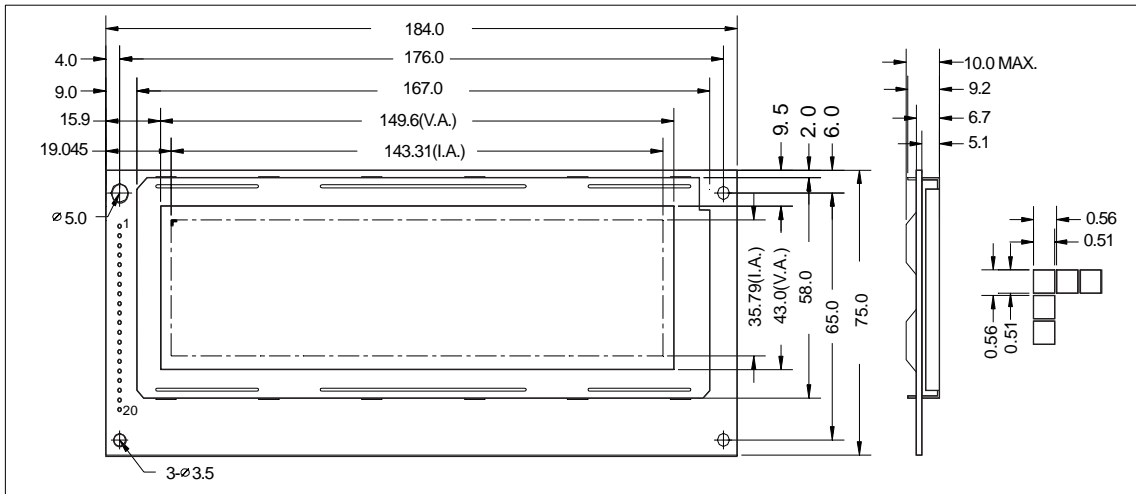


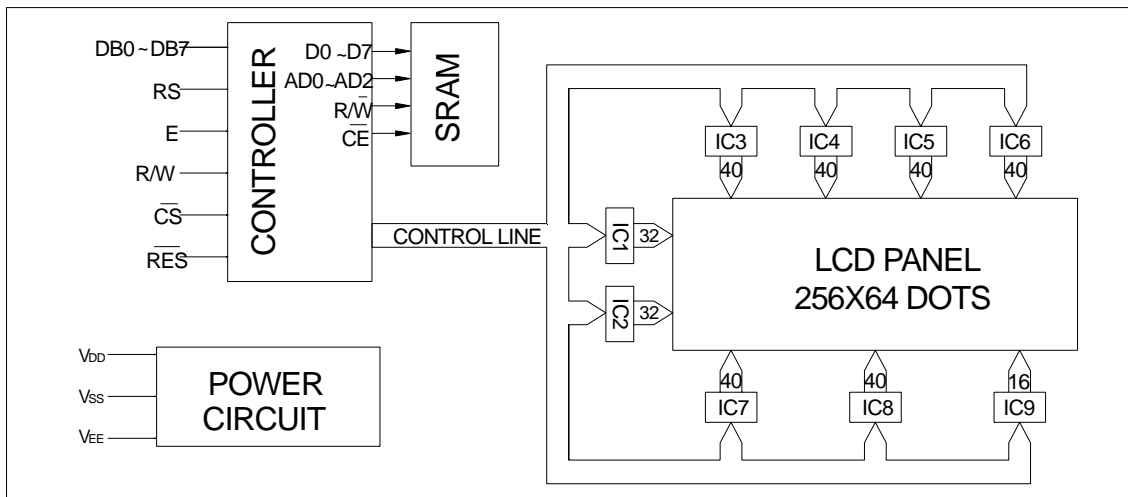
1.0 Features

- * 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



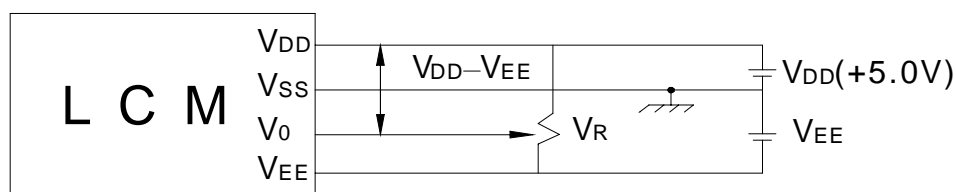
4.0 Maximum Rating

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

5.0 Electro-Optical Characteristics

Item		Symbol	Conditions	Standard Value			Unit
				Min.	Typ.	Max.	
Power Supply for Logic	Logic	V _{DD}	—	4.75	5.0	5.25	V
	LCD Drive	V _{DD-V_{EE}}		—	—	17.0	
Frame Frequency		f FLM	V _{DD} =5.0V	70	75	80	Hz
Current Consumption		I _{DD}	V _{DD} =5.0V, V _{DD-V₀} =15.0 f FLM=75Hz	—	13.8	23.0	mA
LCD Driving Voltage(Recommended)		V _{DD-V₀}	T _a =25 °C; $\phi, \theta = 0^\circ$	—	15.0	—	V
Response Time(Rising)		T _r	T _a =25 °C; $\phi, \theta = 0^\circ$	—	200	250	ms
Response Time(Decay)		T _d		—	250	300	ms
Viewing Angle		$\phi_2-\phi_1$	K \geq 2	0	—	45	DEG.
Contrast Ratio		K	$\phi=0^\circ, \theta=0^\circ$	2.0	3.0	—	—

6.0 Power Supply for LCM



V_{DD-V_{EE}}: LCD Driving Voltage

7.0 I/O Connection

Pin No	Symbol	Level	Function
1	GND	0V	Ground
2	V _{DD}	5.0V	Power supply for logic and LCD
3	V ₀	—	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 _{EE}	—	Power supply for LCD
18	\	—	No connection
19	\	—	No connection
20	\	—	No connection