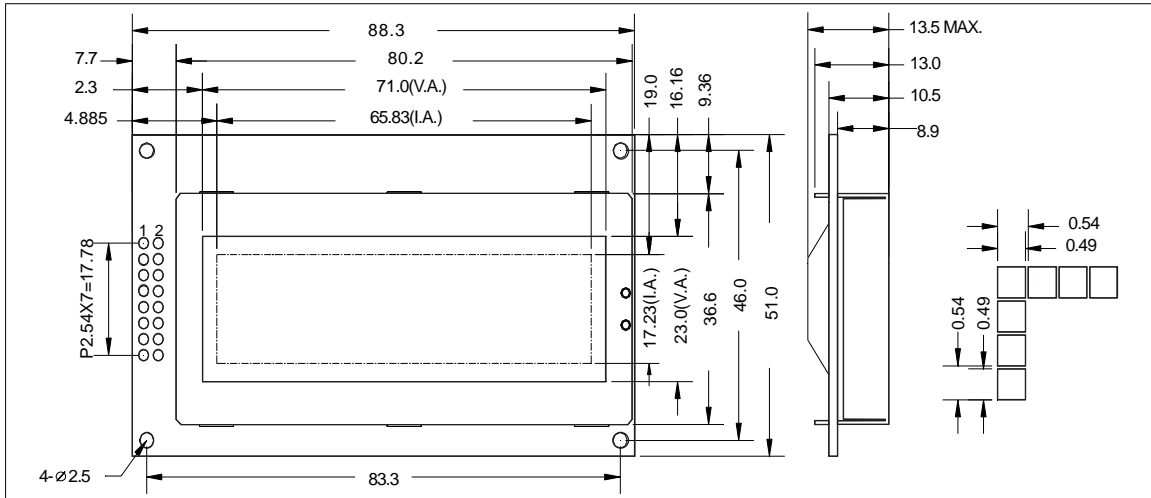


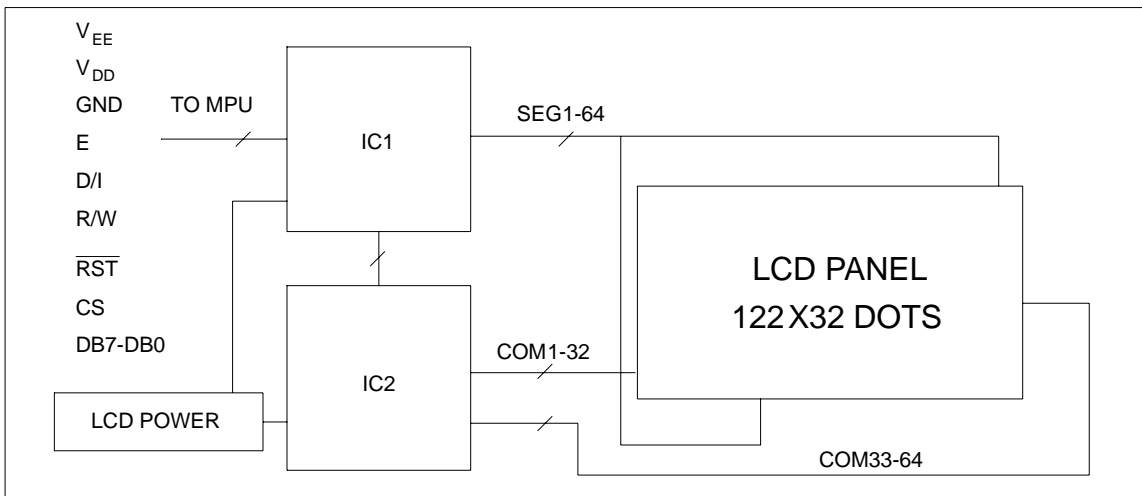
1.0 Features

- * 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



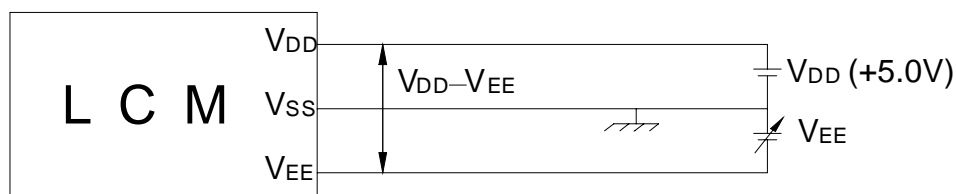
4.0 Maximum Rating

Item	Symbol	Test Condition	Standard Value		Unit
			Min.	Max.	
Supply Voltage for Logic	$V_{DD}-V_{SS}$	$T_a=25\text{ }^\circ\text{C}$	0	7.0	V
Supply Voltage for LCD	$V_{DD}-V_{EE}$		—	—	V
Input Voltage	V_i		0	V_{DD}	V
Operating Temperature	T_{opr}	—	0	+50	$^\circ\text{C}$
Storage Temperature	T_{stg}	—	-10	+60	$^\circ\text{C}$

5.0 Electro-Optical Characteristics

Item	Symbol	Conditions	Standard Value			Unit	
			Min.	Typ.	Max.		
Power Supply for Logic	Logic	V _{DD}	—	4.5	5.0	5.5	V
	LCD Drive	V _{DD-V_{EE}}		—	—	16.5	
Frame Frequency	f FLM	V _{DD} =5.0V	65	70	75	Hz	
Current Consumption	I _{DD}	V _{DD} =5.0V, V _{DD-V_{EE}} =10.0V/R=160Kohm	—	—	2.0	mA	
LCD Driving Voltage(Recommended)	V _{DD-V_{EE}}	T _a =25 °C; Ø, θ=0°	—	15.0	—	V	
Response Time(Rising)	T _r	T _a =25 °C Ø, θ=0°	—	200	250	ms	
Response Time(Decay)	T _d		—	250	300	ms	
Viewing Angle	Ø2-Ø1	K ≥ 2	0	—	45	DEG.	
Contrast Ratio	K	Ø=0°, θ=0°	2.0	5.0	—	—	

6.0 Power Supply for LCM



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

7.0 I/O Connection

Pin No	Symbol	Level	Function
1	V _{EE}	—	Power supply for LCD(build-in)
2	V _{DD}	5.0V	Power supply for logic and LCD
3	GND	0V	Ground
4	E	H,H/L	Chip enable signal 1
5	D/I	H/L	H: Data L: Instruction code
6	R/W	H/L	H; Read L: Write
7	RST	L	Reset signal
8	CS	H	Chip select
9	DB7	H/L	Data bit 7
10	DB6	H/L	Data bit 6
11	DB5	H/L	Data bit 5
12	DB4	H/L	Data bit 4
13	DB3	H/L	Data bit 3
14	DB2	H/L	Data bit 2
15	DB1	H/L	Data bit 1
16	DB0	H/L	Data bit 0