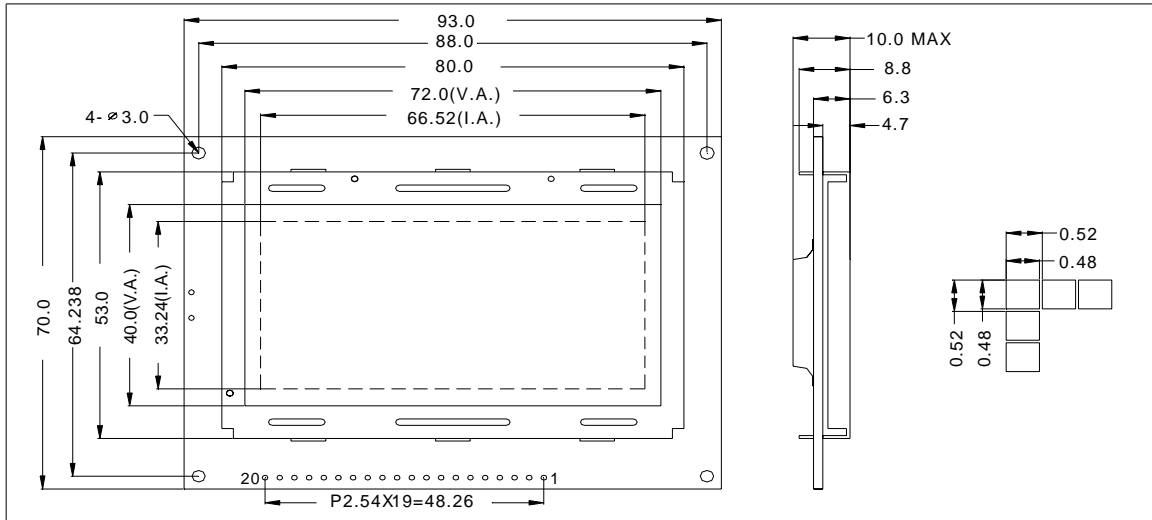


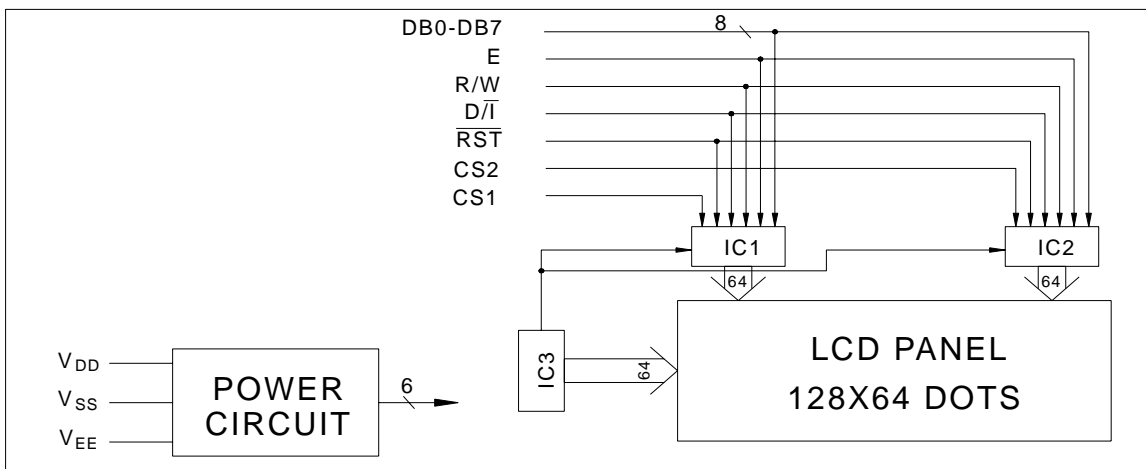
1.0 Features

- * 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



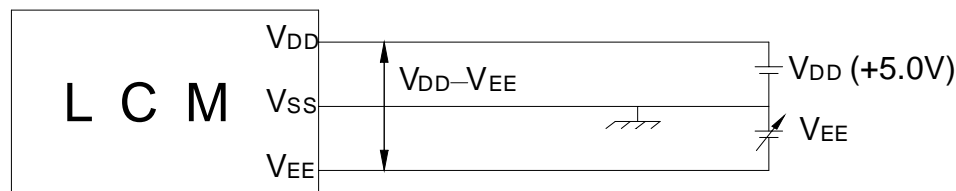
4.0 Maximum Rating

Item	Symbol	Test Condition	Standard Value		Unit
			Min.	Max.	
Supply Voltage for Logic	V _{DD} -V _{SS}	Ta=25°C	0	6.7	V
Supply Voltage for LCD	V _{DD} -V _{EE}		0	20.0	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	65	70	75	Hz
Current Consumption	I _{DD}	V _{DD} =5.0V, V _{DD-V₀} =15.0 V/R=160Kohm	—	1.8	3.8	mA
LCD Driving Voltage(Recommended)	V _{DD-V₀}	T _a =25 °C; Ø, θ =0°	—	11.8	12.3	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	Description
1	V _{SS}	0V	Ground
2	V _{DD}	5.0V	Power supply for logic and LCD
3	V _{EE}	—	Power supply for LCD
4	D/I	H/L	H: Data L: Instruction code
5	R/W	H/L	H: Read L: Write
6	E	H,H/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	CS2	H	Chip select signal 2
16	CS1	H	Chip select signal 1
17	RST	L	Reset signal
18	V _{EE}	—	Power supply for LCD
19	BL	—	Back light
20	BL	—	Back light