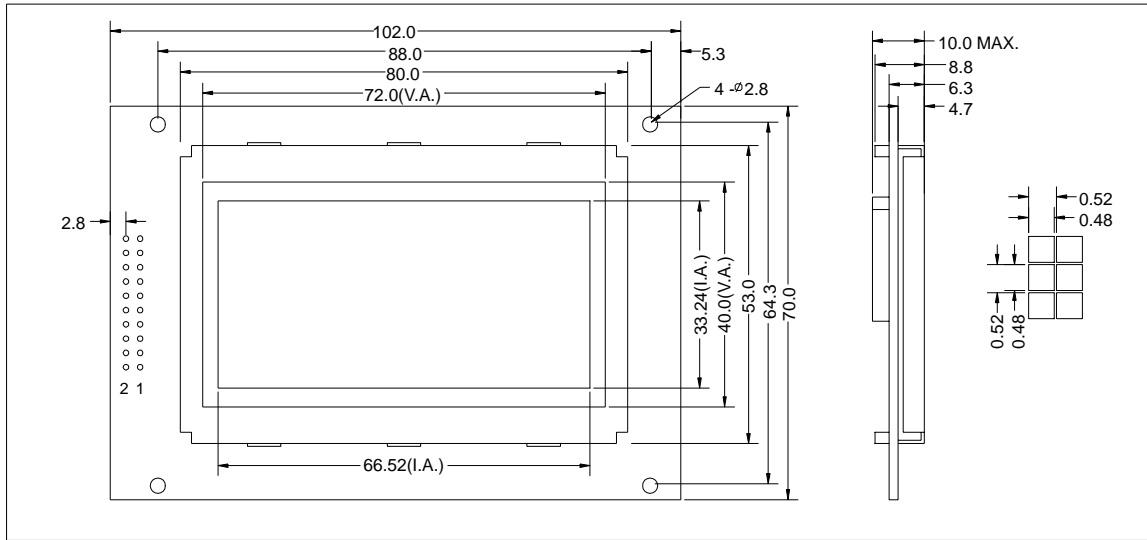


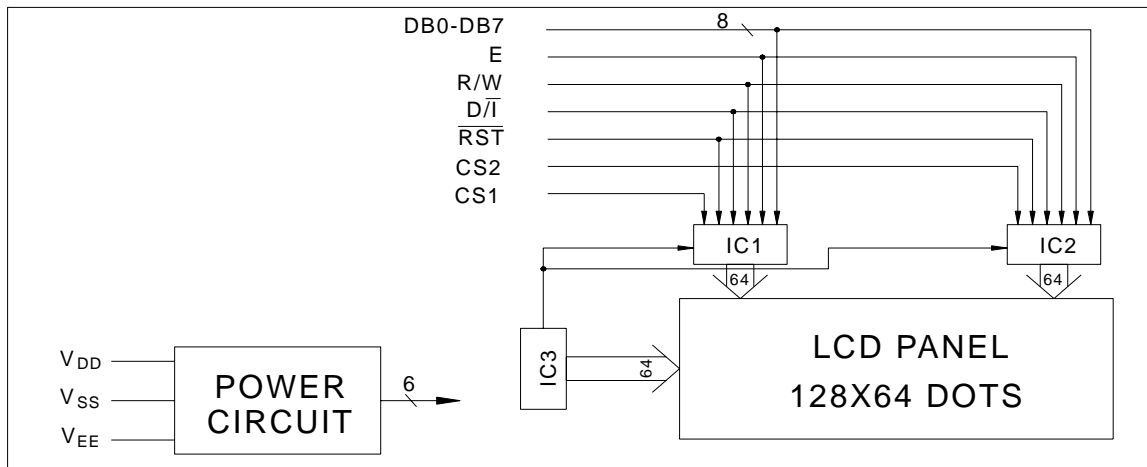
1.0 Features

- * 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



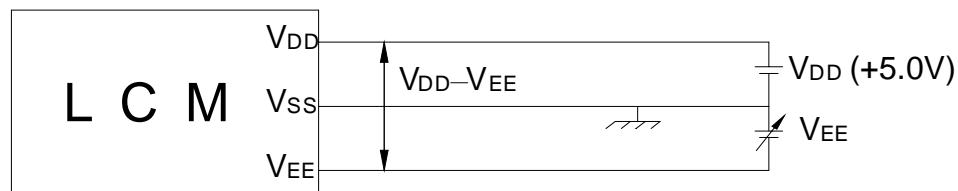
4.0 Maximum Rating

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	Vdd	4.75	5.0	5.25	V
	LCD Drive	Vdd-Vee	—	—	17.0	
Frame Frequency	f FLM	Vdd=5.0V	65	70	75	Hz
Current Consumption	Idd	Vdd=5.0V, Vdd-V0=15.0 V/R=160Kohm	—	1.8	3.8	mA
LCD Driving Voltage(Recommended)	Vdd-V0	Ta=25 °C; $\phi, \theta = 0^\circ$	—	15.0	—	V
Response Time(Rising)	Tr	Ta=25 °C; $\phi, \theta = 0^\circ$	—	200	250	ms
Response Time(Decay)	Td		—	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	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	CS2	H	Chip select signal 2
2	\	—	Not connector
3	Vss	0V	Ground
4	CS1	H	Chip select signal 1
5	RST	L	Reset signal
6	\	—	Not connector
7	\	—	Not connector
8	VDD	5.0V	Power supply for logic and LCD
9	VEE	—	Power supply for LCD
10	D/I	H/L	H: Data L: Instruction code
11	R/W	H/L	H: Read L: Write
12	E	H,H/L	Chip enable signal
13	DB0	H/L	Data bit 0
14	DB1	H/L	Data bit 1
15	DB2	H/L	Data bit 2
16	DB3	H/L	Data bit 3
17	DB4	H/L	Data bit 4
18	DB5	H/L	Data bit 5
19	DB6	H/L	Data bit 6
20	DB7	H/L	Data bit 7