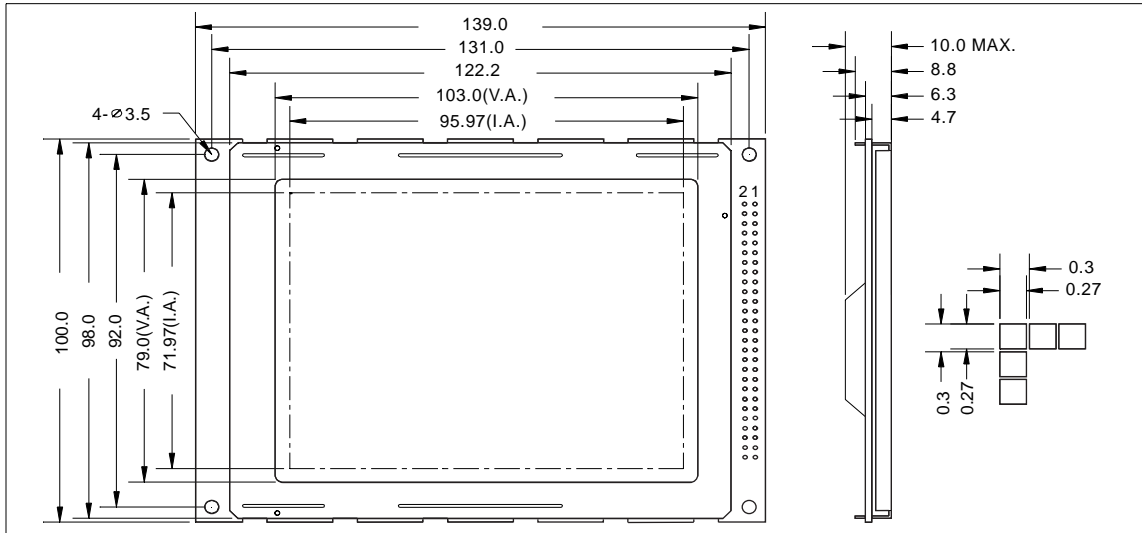


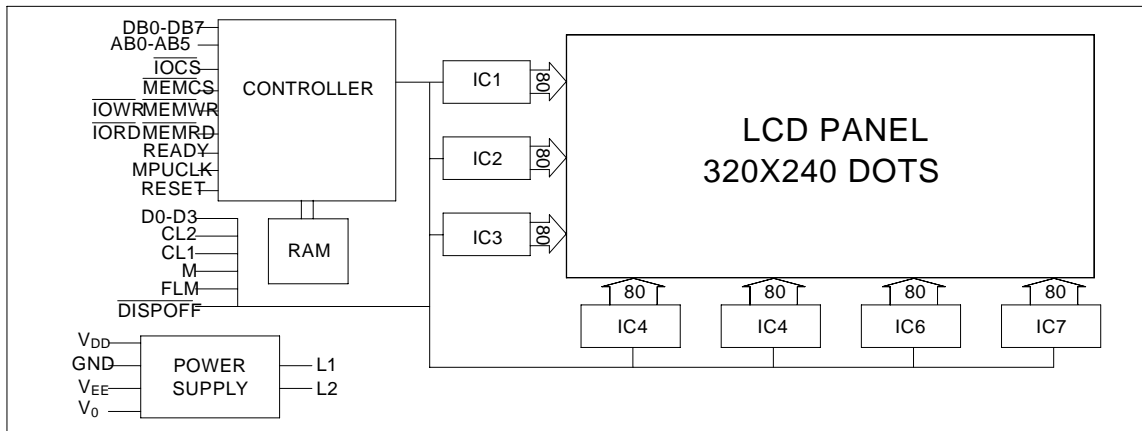
1.0 Features

- * 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



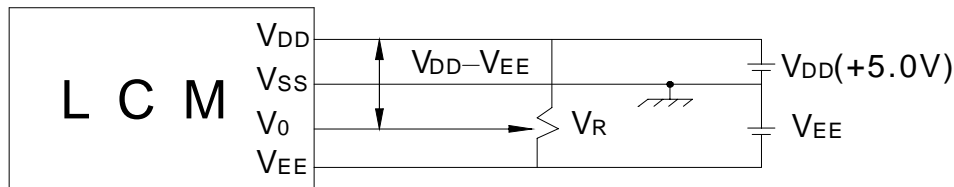
4.0 Maximum Rating

Item	Symbol	Test Condition	Standard Value		Unit
			Min.	Max.	
Supply Voltage for Logic	V _{DD} -V _{SS}	Ta=25 °C	0	5.5	V
Supply Voltage for LCD	V _{DD} -V _{EE}		0	28.0	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}}	—	—	28.0	
Frame Frequency	f FLM	V _{DD} =5.0V	70	75	80	Hz
Current Consumption	I _{DD}	V _{DD} =5.0V, V _{DD-V₀} =25.0 f FLM=75Hz	—	13.8	23.0	mA
LCD Driving Voltage(Recommended)	V _{DD-V₀}	T _a =25°C; Ø, θ =0°	—	25.0	—	V
Response Time(Rising)	T _r	T _a =25°C; Ø, θ =0°	—	250	300	ms
Response Time(Decay)	T _d		—	300	350	ms
Viewing Angle	Ø2-Ø1	K≥2	5	—	40	DEG.
Contrast Ratio	K	Ø=0°, θ =0°	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, 45	GND	0V	Ground
2, 44	V _{DD}	5.0V	Power supply for logic and LCD
3, 43	V _{EE}	—	Power supply for LCD
4, 42	V ₀	—	Operating voltage for LCD driving
5	/IOCS		Selects a control register
6	/WR	H/L	Writing data to a control register
7	/RD		Reading data from a control register
8	/MEMCS		Select WRAM
9	READY		MPU "wait" request output
10	MPUCLK		MPU clock input
11	RESET		MPU reset input
12~26	AB0~AB14		Connected to the MPU address bus
27~34	DB0~DB7		Connected to the MPU data bus
35,36,39,41	\		No connection
37,38,40	L1,L2,L2		Backlight power supply1, 2
46	M		AC conversion signal for LCD drive output
47	/DISPOFF		LCD Enable signal
48	FLM		Active high start-of-frame pulse signal
49~52	D3~D0		LCD display data input
53, 54	CL1,CL2		Display data latch clock