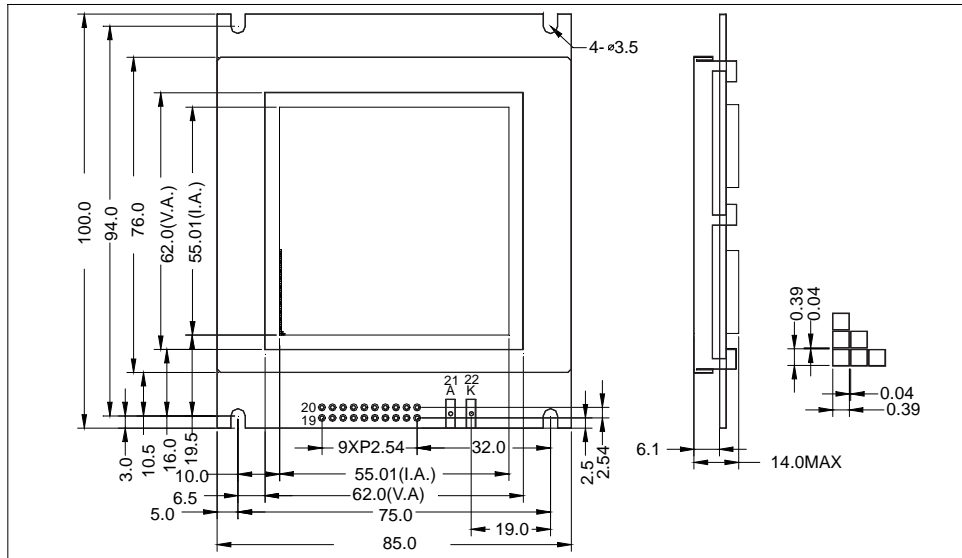


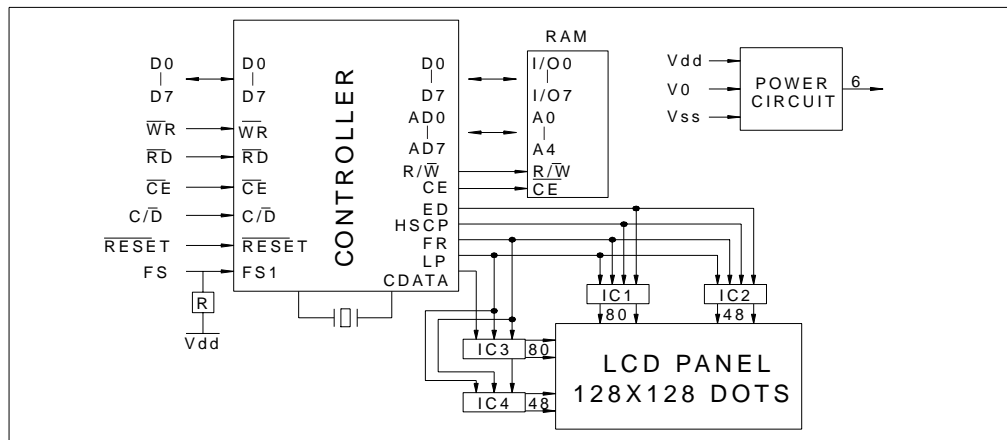
### 1.0 Features

- \* 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



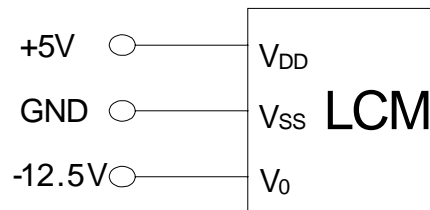
### 4.0 Maximum Rating

Item	Symbol	Test Condition	Standard Value		Unit
			Min.	Max.	
Supply Voltage for Logic	VDD-VSS	Ta=25 °C	-0.3	7.0	V
Supply Voltage for LCD	VDD-VEE		0	28	V
Input Voltage	VI		-0.3	7.0	V
Operating Temperature	Topr	—	0	50	°C
Storage Temperature	Tstg	—	-20	70	°C

## 5.0 Electro-Optical Characteristics

Item	Symbol	Conditions	Standard Value			Unit
			Min.	Typ.	Max.	
Power Supply for Logic	Logic	V <sub>DD</sub>	4.5	5.0	5.5	V
	LCD Drive	V <sub>DD-V<sub>EE</sub></sub>	—	15.0	16.0	
Frame Frequency	f FLM	V <sub>DD</sub> =5.0V	70	75	80	Hz
Current Consumption	I <sub>DD</sub>	V <sub>DD</sub> =5.0V, V <sub>DD-V<sub>0</sub></sub> =15.0 f FLM=75Hz	—	5.7	10.0	mA
LCD Driving Voltage(Recommended)	V <sub>DD-V<sub>0</sub></sub>	T <sub>a</sub> =25 °C; Ø, θ=0°	—	17.5	—	V
Response Time(Rising)	T <sub>r</sub>	T <sub>a</sub> =25 °C; Ø, θ=0°	—	150	200	ms
Response Time(Decay)	T <sub>d</sub>		—	200	250	ms
Viewing Angle	Ø2-Ø1	K≥2	-30	—	30	DEG.
Contrast Ratio	K	Ø=0°, θ=0°	2.0	5.0	—	—

## 6.0 Power Supply for LCM



## 7.0 I/O Connection

Pin No	Symbol	Level	Function
1	FGND	---	Frame ground (connected to metal bezel)
2	GND	0V	Ground
3	VDD	---	Power supply (+5V)
4	V <sub>0</sub>	---	Power supply (negative, variable)
5	/WR	L	Data write (active at low level)
6	/RD	L	Data read (active at low level)
7	/CE	L	Chip enable (active at low level)
8	C/D	H/L	/WR="L";C/D="H": Command write, C/D="L": Data write /WR="H";C/D="H": Command read, C/D="L": Data read
9	NC	---	No connected
10	/RESET	L	Reset control (module resets, active at low level)
11~18	D0~D7	H/L	Data bus (D0 is LSB, and D7 is MSB)
19	FS	---	Font selection. Connect to V <sub>DD</sub> : 6* 8 dots font Connect to V <sub>SS</sub> : 8* 8 dots font
20	NC	---	No connected
21	VELA	---	Backlight power supply A
22	VELK	---	Backlight power supply K