

SG160128A (160 DOTS X 128 DOTS)

FEATURES

- ◆ BUILT-IN CONTROLLER (T6963C OR EQUIVALENT)
- ◆ +5 V POWER SUPPLY
- ◆ 1/128 DUTY CYCLE
- ◆ 8-BIT PARALLEL INTERFACE

MECHANICAL DATA

| ITEM | DIMENSIONS | UNIT |
|-------------------------|--------------------------------|------|
| Module Size (W x H x T) | 129.0 x 102.0 x 16.2 (19.2LED) | mm |
| Viewing Area (W x H) | 101.0 x 82.0 | mm |
| Active Area (W x H) | 92.76 x 74.2 | mm |
| Dot Size (W x H) | 0.54 x 0.54 | mm |
| Dot Pitch (W x H) | 0.58 x 0.58 | mm |

INTERFACE PIN CONNECTIONS

| NO. | SYMBOL | LEVEL | FUNCTION |
|-------|---------|-------|--------------------------------------|
| 1 | FGND | - | Frame Ground |
| 2 | Vss | 0V | Power Supply Ground |
| 3 | Vcc | 5V | Power Supply Voltage |
| 4 | Vo | - | Contrast Adjustment Voltage |
| 5 | VEE | - | Power Supply Voltage For LCD |
| 6 | /WR | L | Write Signal |
| 7 | /RD | L | Read Signal |
| 8 | /CE | L | Enable Signal |
| 9 | C/D | H/L | H : Instruction Code , L : Data Code |
| 10 | /HALT | L | Stop The Oscillatuion Of Clock |
| 11 | /RESET | L | Reset Signal |
| 12~19 | DB0~DB7 | H/L | Data Bus Line |
| 20 | A | 4.2V | LED Power Supply (+) |

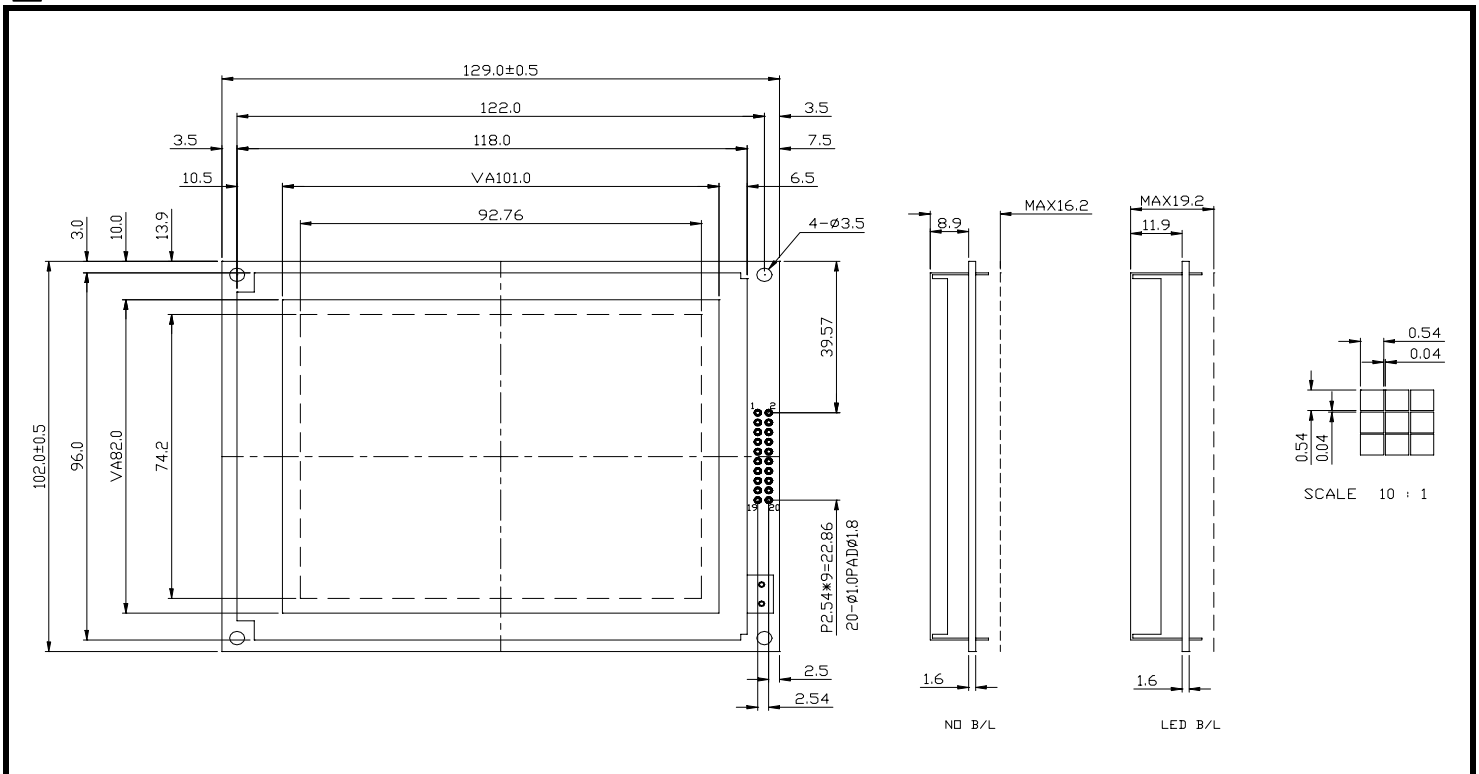
ABSOLUTE MAXIMUM RATINGS

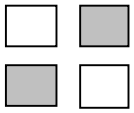
| ITEM | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|------------------------------|----------------------------------|-----------------|------|-----------------|------|
| Supply Voltage For Logic | V _{DD} -V _{SS} | 0 | - | 7 | V |
| Supply Voltage For LCD Drive | V _{DD} -V _o | 0 | - | 28 | V |
| Input Voltage | V _I | V _{SS} | - | V _{DD} | V |

ELECTRICAL CHARACTERISTICS

| ITEM | SYMBOL | CONDITION | MIN. | TYP. | MAX. | UNIT | |
|--------------------------|----------------------------------|-----------------------------|------|------|------|-----------------|---|
| Supply Voltage For Logic | V _{DD} -V _{SS} | - | 4.5 | 5 | 5.5 | V | |
| LCD Supply Voltage | V _{DD} -V _o | V _{DD} =5V Ta=25°C | 16.9 | 18 | 19.2 | V | |
| Supply Current | I _{DD} | V _{DD} =5V | - | 17.5 | 23 | mA | |
| Input Voltage | "HIGH" Level | V _{IH} | - | 2.2 | - | V _{DD} | V |
| | "LOW" Level | V _{IL} | - | - | - | 0.6 | V |
| Output Voltage | "HIGH" Level | V _{OH} | - | 2.4 | - | - | V |
| | "LOW" Level | V _{OL} | - | - | - | 0.4 | V |

EXTERNAL DIMENSIONS



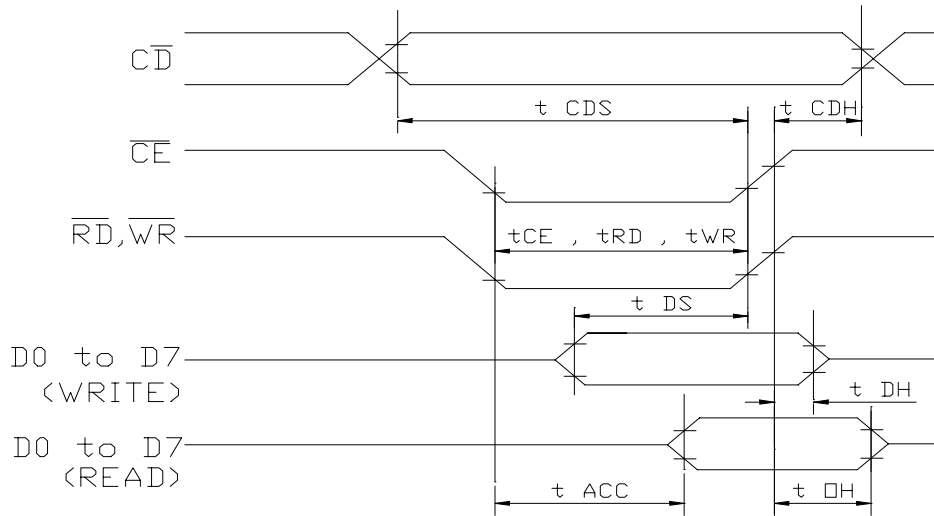


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TIMING CHARACTERISTICS

| ITEM | SYMBOL | MIN. | MAX. | UNIT. |
|------------------------|--------------------------|------|------|-------|
| C/D Setup Time | t_{CDS} | 100 | - | ns |
| C/D Hold Time | t_{CDH} | 10 | - | ns |
| CE, RD, WR Pulse Width | t_{CE}, t_{RD}, t_{WR} | 80 | - | ns |
| Data Setup Time | t_{DS} | 80 | - | ns |
| Data Hold Time | t_{DH} | 40 | - | ns |
| Access Time | t_{ACC} | - | 150 | ns |
| Output Hold Time | t_{OH} | 10 | 50 | ns |

Bus Timing



BLOCK DIAGRAM

