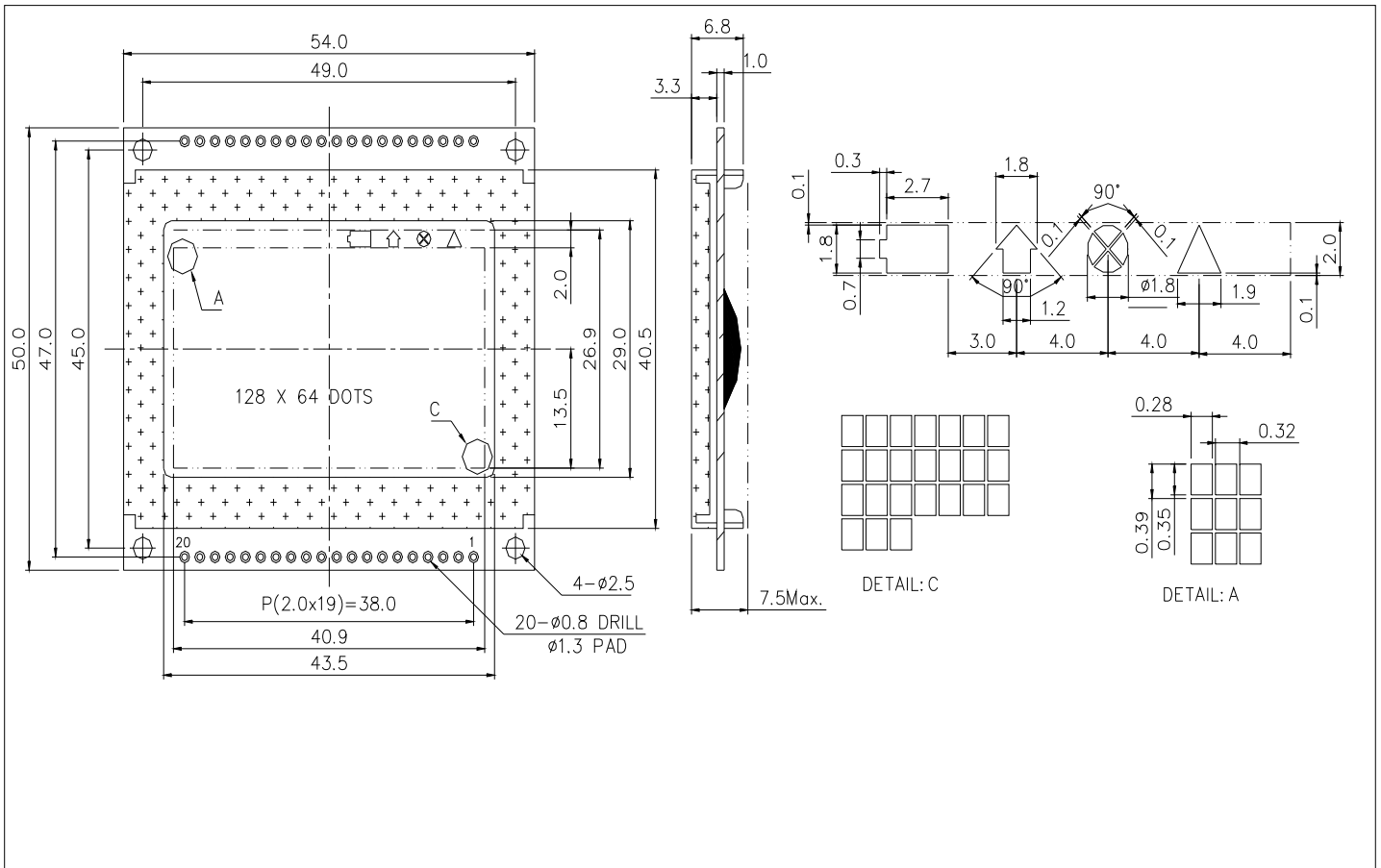
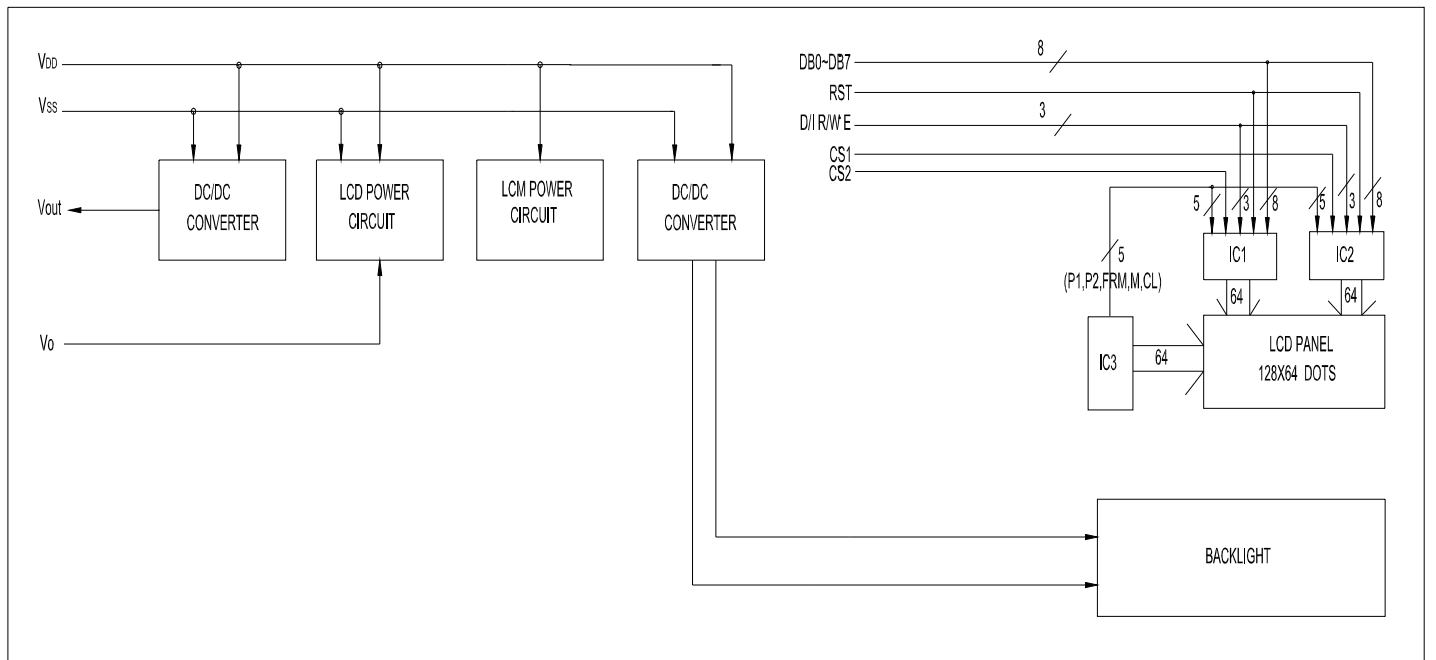


1.0 DIMENSIONAL DRAWING



2.0 BLOCK DIAGRAM



3.0 ELECTRICAL CHARACTERISTICS Ta=25 °C V_{DD}=5.0V±0.25V

| Item | Symbol | Test Condition | Standard Value | | | |
|---------------------------|----------------------------------|----------------|----------------|------|------|------|
| | | | Min. | Typ. | Max. | Unit |
| Power Supply Voltage | V _{DD} -V _{SS} | 25°C | 3.25 | 3.5 | 3.75 | V |
| LCD Operation Voltage | V _{OP} | | - | 8.0 | - | V |
| LCM Current Consumption | I _{DD} | | - | 15.0 | 20.0 | mA |
| Backlight Forward Voltage | V _F | | - | 3.0 | - | V |

4.0 ABSOLUTE MAXIMUM RATINGS

| Item | Symbol | Test Condition | Standard Value | | |
|------------------------|------------------|----------------|----------------|--------------|------|
| | | | Min. | Max. | Unit |
| Supply Voltage (Logic) | $V_{DD}-V_{SS}$ | 25°C | -0.3 | 7.0 | V |
| Supply Voltage (LCD) | $V_{DD}-V_{LCD}$ | | -0.3 | 17.5 | V |
| Input Voltage | V_{IN} | | -0.3 | $V_{DD}+0.3$ | V |
| Operating Temp. | T_{OPR} | - | -20 | 70 | °C |
| Storage Temp. | T_{STG} | - | -30 | 80 | °C |

5.0 PIN ASSIGNMENT

| PIN No. | Symbol | Description |
|---------|---------|--|
| 1 | Vss | Power supply(GND) |
| 2 | VDD | Power supply |
| 3 | Vo | Contrast adjust |
| 4 | D/I | H: Display data, L: Instruction code |
| 5 | R/W | H: Data/Status read L: Data/instruction write |
| 6 | E | Enable signal |
| 7~14 | DB0~DB7 | Data bus line |
| 15 | CS1 | Chip select signal for IC1 |
| 16 | CS2 | Chip select signal for IC2 |
| 17 | RSTB | Reset Signal |
| 18 | Vout | Negative Voltage Output |
| 19 | BLE | Back light enable |
| 20 | NC | - |

Remark

1. LCD option: STN, FSTN .
2. Standard module.
3. Backlight option: EL backlight feature, other specs not available on catalog is under request.