

ABSOLUTE MAXIMUM RATINGS

| Item | Symbol | Min. | Max. | Unit |
|-----------------------|-----------------------------------|------|-----------------------|------|
| Supply Voltage(Logic) | V _{DD} - V _{SS} | -0.3 | 7.0 | V |
| Supply Voltage(LCD) | V _{DD} - V _{EE} | -0.3 | 28.0 | V |
| Input Voltage | V _I | -0.3 | V _{DD} + 0.3 | V |
| Operating Temp. | T _{opr} | -20 | 70 | °C |
| Storage Temp. | T _{stg} | -30 | 80 | °C |

MECHANICAL DATA

| Item | Nominal Dimensions | Unit |
|---------------------------|----------------------|------|
| Module Size (W x H x T) | 129.0 x 102.0 x 13.0 | mm |
| Viewing Area (W x H) | 101.0 x 82.0 | mm |
| Dot Pitch (W x H) | 0.58 x 0.58 | mm |
| Dot Size(W x H) | 0.54 x 0.54 | mm |
| Weight | Approx. 175 | g |

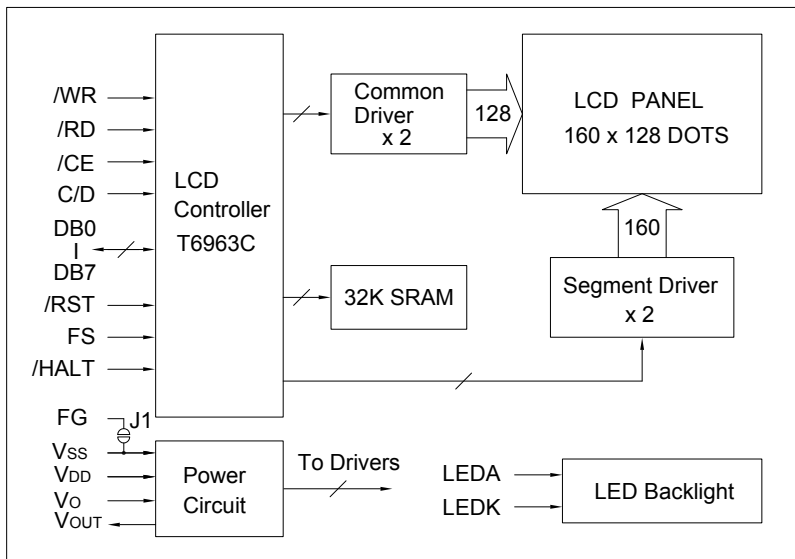
ELECTRICAL CHARACTERISTICS (V_{DD}=5V±0.25V)

| Item | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|---------------------|----------------------------------|------------------------|----------------------|------|-----------------|------|
| Input High Voltage | V _{IH} | -- | V _{DD} -2.2 | -- | V _{DD} | V |
| Input Low Voltage | V _{IL} | -- | -0.3 | -- | 0.8 | V |
| Output High Voltage | V _{OH} | -- | V _{DD} -0.3 | -- | V _{DD} | V |
| Output Low Voltage | V _{OL} | -- | 0 | -- | 0.3 | V |
| Supply Current | I _{DD} | V _{DD} = 5.0V | -- | 16.0 | 22.0 | mA |
| LCD Driving Voltage | V _{DD} - V _O | T _a =25°C | -- | 18.2 | -- | V |

PIN CONNECTIONS

| Pin | Symbol | Level | Function |
|-----|------------------|-------|---------------------------------|
| 1 | FG | -- | Frame ground |
| 2 | V _{SS} | 0V | GND |
| 3 | V _{DD} | +5V | Power supply for logic |
| 4 | V _O | -- | Operating Voltage for LCD |
| 5 | V _{OUT} | -15V | Output voltage for LCD driving |
| 6 | /WR | L | Write signal. Active "L". |
| 7 | /RD | L | Read signal. Active "L". |
| 8 | /CE | L | Chip enable signal. Active "L". |
| 9 | C/ _D | H/L | L : Data H : Instruction Code |
| 10 | /HALT | H/L | H : Normal L : Stops osc. clock |
| 11 | /RST | L | Reset signal. Active "L". |
| 12 | DB0 | H/L | Data bus |
| 13 | DB1 | H/L | |
| 14 | DB2 | H/L | |
| 15 | DB3 | H/L | |
| 16 | DB4 | H/L | |
| 17 | DB5 | H/L | |
| 18 | DB6 | H/L | |
| 19 | DB7 | H/L | |
| 20 | FS | H/L | Font selection L: 8x8, H: 6x8 |

BLOCK DIAGRAM



LED BACKLIGHT SPECIFICATIONS (T_a=25°C)

| Item | Symbol | Typ. | Max. | Unit |
|-----------------|----------------|-------|------|------|
| Forward Voltage | V _f | 3.1 | 3.3 | V |
| Forward Current | I _f | 105 | -- | mA |
| LED Color | | White | | |