

GENERAL SPECIFICATION

| Item | Content |
|---------------------|--|
| Number of Character | 128x64 |
| Module Size | 78.0(W)x70.0(H)x10.5/12.4(D)mm Max |
| Viewing Area | 62.0(W)x44.0(H)mm |
| Dot Size/Dot Pitch | 0.42(W)x0.58(H)mm/0.44(W)x0.60(H)mm |
| Backlight | Without/EL/LED |
| Options | Gray STN/Yellow STN/Normal/Extended Temperature/Bottom/Top Viewing |
| Built-in Controller | T6963C(Toshiba) |

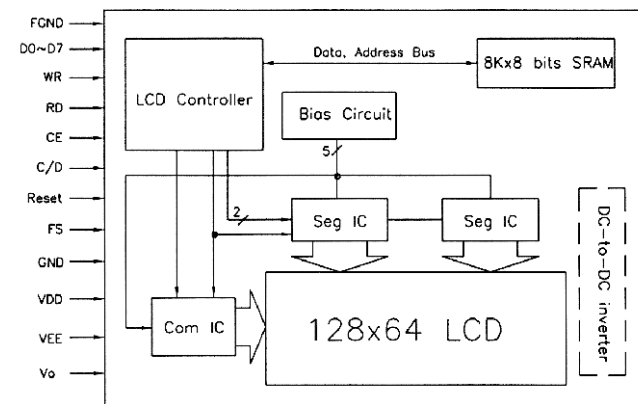
INTERFACE PIN ASSIGNMENT

| Pin No. | Pin Out | Function Description |
|---------|----------------------|---|
| 1 | FGND/V _{EE} | Frame Ground for DC to DC built-in type, this pin becomes supply voltage output for LCD panel |
| 2 | V _{SS} | GND |
| 3 | V _{DD} | Logic supply voltage |
| 4 | V _{LCD} | LCD driver supply voltage |
| 5 | WR | Write Data |
| 6 | RD | Read Data |
| 7 | CE | Chip Enable |
| 8 | C/D | Command/Data Register select |
| 9 | RES | Reset |
| 10-17 | DB0-DB7 | Data bus |
| 18 | FS | Font Select, H=6x8 dot matrix, L=8x8 dot matrix |
| 19 | BKL _A | Power supply for backlight. (4.2V/100-150mA DC for LED backlight, 110V/400Hz AC for EL) |
| 20 | BKL _K | |

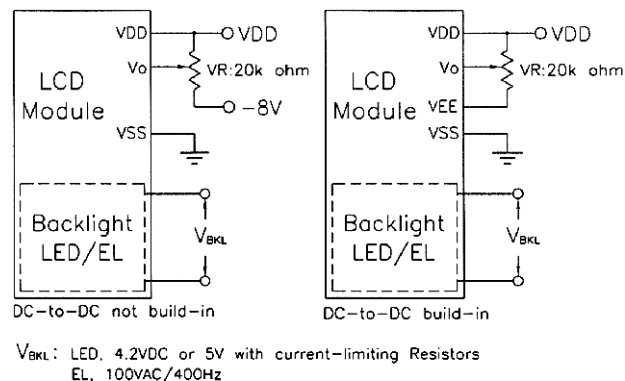
ELECTRICAL CHARACTERISTICS

| Item | Symbol | Condition | Min. | Typ | Max. | Unit | note |
|--|---|--|---------------------------------------|---------------------------------------|------|------|------|
| Power Supply for Logic | V _{DD} -V _{SS} | - | 4.5 | 5.0 | 5.5 | Volt | - |
| Input Voltage | V _{IL} V _{IH} | L level H level | V _{SS} 0.8V _{DD} | 0.2V _{DD} V _{DD} | - | | |
| LCM Recommend LCD Module Driving Voltage | V _{DD} -V _{LCD} | Ta=0°C | 8.3 | 9.0 | 9.3 | Volt | - |
| | | Ta=25°C | 8.4 | 8.7 | 9.0 | | |
| | | Ta=50°C | 7.7 | 7.92 | 8.2 | | |
| Power Supply Current for LCM | I _{DD} (LED B/L OFF) I _{LED} (LED B/L ON) I _{EE} | V _{DD} =5.0V V _{DD} -V _{LCD} =8.7V FLM=64Hz V _{LED} =4.2V | - | 13 | 15 | mA | - |
| | | | - | 100 | 150 | | |
| | | | - | 0.4 | 1.0 | | |
| Power Supply for LED Backlight | V _{EL} | - | - | 100V/-400Hz | - | - | AC |

BLOCK DIAGRAM



POWER SUPPLY



MECHANICAL

