



PIN CONNECTIONS

| Pin | Symbol | Level | Function |
|-----|--------------------|-------|--|
| 1 | DB7 | H/L | Data bus |
| 8 | DB0 | | |
| 9 | E1 | H→L | Enable signal IC1 |
| 10 | R/W | H/L | “H”Read, “L”Write |
| 11 | RS | H/L | “H” Data “L” Instruction code |
| 12 | V _O | - | Operating voltage for LCD |
| 13 | V _{SS} | 0V | GND |
| 14 | V _{DD} | +5V | Power supply for logic |
| 15 | E2 | H→L | Enable signal IC2 |
| 16 | NC/V _{EE} | - | No connection/ /Negative voltage output |
| 17 | LEDA | +5V | Power supply for LED Backlight |
| 18 | LEDK | 0V | |

NOTES:

- 1.Built-in controller(KS0066 or Equivalent)
- 2.+5V/+3.3V power supply optional

MECHANICAL DATA

| Item | Nominal Dimensions | Unit |
|-------------------------|--------------------|------|
| Module Size (W x H x T) | 190.0X54.0X13.6 | mm |
| Viewing Area (W x H) | 147.0 X29.5 | mm |
| Character Size (W x H) | 2.78X4.97 | mm |
| Dot Size (W x H) | 0.50X0.56 | mm |

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 _O | -0.3 | 7.0 | 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 |

ELECTRICAL CHARACTERISTICS (V_{DD}=5V, Ta=25°C)

| Item | Symbol | Min. | Typ. | Max. | Unit |
|---------------------|---------------------------------|------|------|-----------------|------|
| Input High Voltage | V _{IH} | 2.2 | - | V _{DD} | V |
| Input Low Voltage | V _{IL} | -0.3 | - | 0.6 | V |
| Output High Voltage | V _{OH} | 2.4 | - | V _{DD} | V |
| Output Low Voltage | V _{OL} | 0 | - | 0.4 | V |
| Supply Current | I _{DD} | - | - | - | mA |
| LCD Driving Voltage | V _{DD} -V _O | - | 4.6 | - | V |

LED BACKLIGHT SPECIFICATION (Ta=25°C)

| Item | Forward Voltage | Forward Current |
|-------------------|-----------------|-----------------|
| WHITE | 3.5V | 64mA |
| YELLOW-GREEN Edge | 3.1V | 60mA |