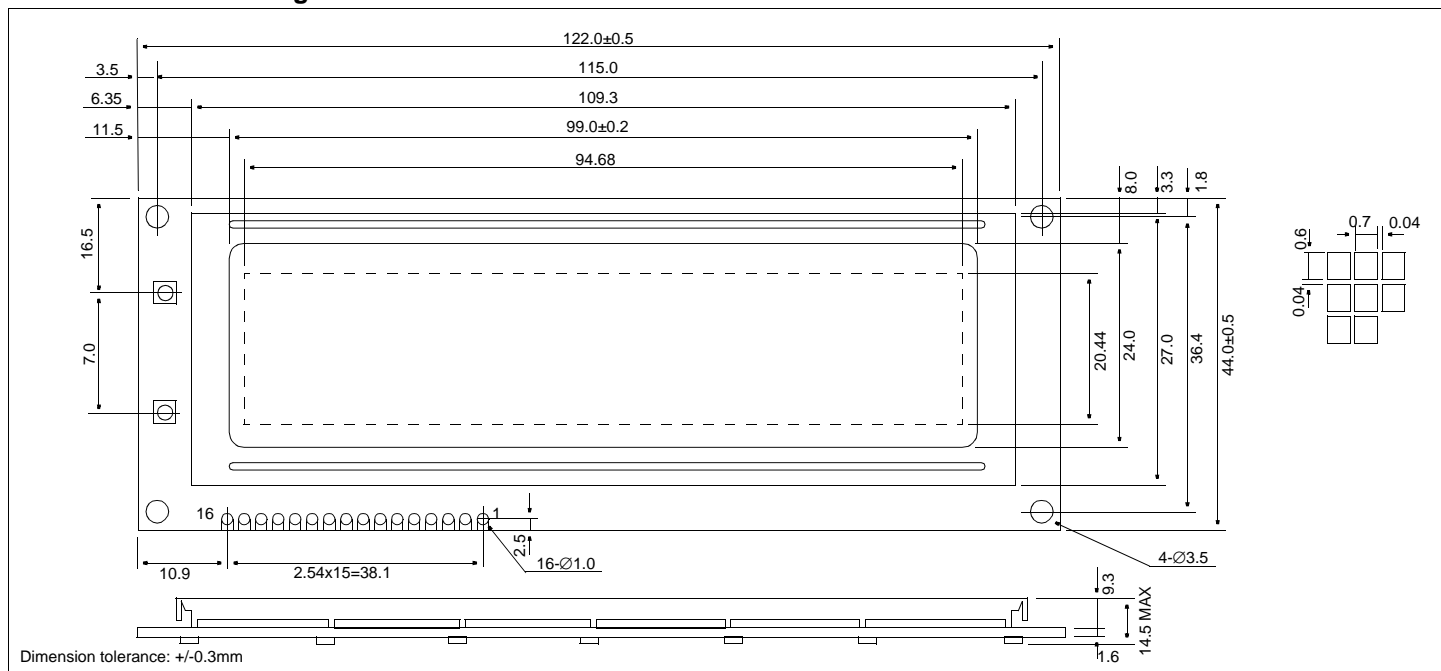


HDM32GS12L-4

Dimensional Drawing

128 X 32 Dots Graphic, LED Back Light



Features

- Backlight.....LED
- Options.....Yellow STN
- Extended Temperature
- Top Viewing
- Built-in Controller.....Sanyo LC7981

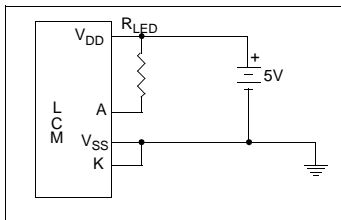
Physical Data

- Module Size.....122.0W x 44.0H x 14.5T mm
- Viewing Area Size.....99.0W x 24.0H mm
- Dot Pitch.....0.74W x 0.64H mm
- Dot Size.....0.70W x 0.60H mm
- Weight.....78g

Absolute Maximum Ratings

| PARAMETER | SYMBOL | MIN | MAX | UNIT |
|-----------------------|-----------------|------|------|------|
| SUPPLY VOLTAGE | $V_{DD}-V_{SS}$ | -0.3 | 6.5 | V |
| INPUT VOLTAGE | $V_{DD}-V_6$ | 0 | 28.0 | V |
| OPERATING TEMPERATURE | T_{OP} | -20 | 70 | °C |
| STORAGE TEMPERATURE | T_{STG} | -30 | 80 | °C |

Power Supply



Pin Connections

| PIN NO. | SYMBOL | LEVEL | FUNCTION |
|---------|------------------|-------|---------------------------|
| 1 | LED _A | - | Anode for LED Backlight |
| 2 | LED _C | - | Cathode for LED Backlight |
| 3 | V _{SS} | 0V | Ground |
| 4 | V _{DD} | 5V | Power supply for logic |
| 5 | N/C | | No Connection |
| 6 | RS | H/L | Register Select |
| 7 | R/W | H/L | H=Read/L=Write |
| 8 | E | H,H→L | Enable signal |
| 9 | DB0 | H/L | Data bus |
| 10 | DB1 | H/L | |
| 11 | DB2 | H/L | |
| 12 | DB3 | H/L | |
| 13 | DB4 | H/L | |
| 14 | DB5 | H/L | |
| 15 | DB6 | H/L | |
| 16 | DB7 | H/L | |

Electrical Characteristics (VDD=5.0±0.25V 25°C)

| PARAMETER | SYM | CONDITION | MIN | TYP | MAX | UNIT |
|----------------------|---------------------------------|-------------------------|-------------------|-----|-------------------|------|
| OPERATING VOLTAGE | V _{DD} | - | 4.75 | 5.0 | 5.25 | V |
| POWER FOR LCD | V _{DD} -V _L | V _{DD} =5V | 4.5 | 5.7 | 6.5 | V |
| INPUT HIGH VOLTAGE | V _{IH} | - | .8V _{DD} | - | V _{DD} | V |
| INPUT LOW VOLTAGE | V _{IL} | - | GND | - | .2V _{DD} | V |
| POWER SUPPLY CURRENT | I _{DD} | V _{DD} =5.0V | - | - | - | mA |
| POWER SUPPLY CURRENT | I _{LCD} | V _{EE} = -5.0V | - | - | 5.0 | mA |
| LED SUPPLY CURRENT | I _{LED} | - | - | - | - | mA |

This is a +5v only module which has a built in inverter for the LCD voltage.