

CAT# LCD-76

Features

The features of LCD module are as follows.

- Display mode ; STN, Normal temperature
POSITIVE, R/F
- Color ; Display dot : BLUE
Back ground : GRAY
- Display format ; 20 Characters x 1 Lines
- Input data ; 4-BIT OR 8-BIT Interface available
- Multiplexing ratio ; 1/8 Duty
- Viewing direction ; 6 O'clock
- Back light ; -
- Bezel ; SPC 0.6t BLACK COATING
- Others ;

Mechanical specification

| Item | Specification | Unit | Remark |
|-----------------|--------------------------------------|------|--------------------------------------|
| Module size | 182.0 [W] x 33.5 [H] x 10.5 MAX. [T] | mm | Reference diemensional outline |
| Viewing area | 154.5 [W] x 15.8 [H] | | |
| Active area | 147.3 [W] x 11.5 [H] | | |
| Character font | 5 x 7 DOT With cursor | - | |
| Character size | 11.5 [W] x 6.7 [H] | mm | |
| Character pitch | 11.5 [W] x 7.4 [H] | | |
| Dot size | 1.3 [W] x 1.3 [H] | | |
| Weight | About 70 | g | |

Electrical & optical characteristics

8-1. Electrical characteristics [Vdd = 5V ± 10%, Vss = 0V, Ta = -20°C to 75°C]

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---|----------|-----------------------------|------|------|------|------|
| Power supply for logic | Vdd-Vss | - | 4.5 | 5.0 | 5.5 | V |
| Input high voltage | VIH | - | 2.2 | - | Vdd | |
| Input low voltage | VIL | - | -0.3 | - | 0.6 | |
| Output high voltage | VOH | IOH = 0.2 mA | 2.4 | - | - | |
| Output low voltage | VOL | IOL = 1.2 mA | - | - | 0.4 | |
| Current consumption for logic & LCD driving | Id* | Vdd = 5.0 V | - | 2.0 | 3.0 | mA |
| LCD driving voltage (Recommended voltage) | Vdd - Vo | Ta = 0°C φ = 0°, θ = 0° | - | 4.8 | 5.0 | V |
| | | Ta = 25°C φ = 0°, θ = 0° | - | 4.5 | - | |
| | | Ta = 40°C φ = 0°, θ = 0° | 4.0 | 4.2 | - | |
| Frame frequency | f FLM | - | - | 82.0 | - | Hz |

* When all character fonts are displayed as "5".

8-2. Electro - optical characteristics

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit | Note | |
|-------------------------|--------|--------------------|------------|------|------|------|------|---|
| Viewing angle | φ | Horizontal (K ≥ 2) | -40 | - | 40 | DEG. | 1,2 | |
| | | Vertical (K ≥ 2) | -40 | - | 50 | | | |
| Contrast ratio | K | φ = 0°, θ = 0° | 2 | 7 | - | - | 3 | |
| Response time [Rising] | Tr | φ, θ = 0° | Top = 0°C | - | 600 | 700 | ms | 4 |
| | | | Top = 25°C | - | 100 | 150 | | |
| Response time [Falling] | Tf | φ, θ = 0° | Top = 0°C | - | 800 | 1000 | ms | |
| | | | Top = 25°C | - | 200 | 300 | | |

* All values are measured by DMS (made in AUTRONIC) under the test conditions : Vdd - Vo = 4.5 V, 1/8 Duty, 1/4 Bias, f FLM = 82 Hz, Ta = 25°C

Terminal functions & block diagram

9-1. Terminal functions

| Pin No. | Symbol | Function |
|---------|--------|------------------------|
| 1 | Vss | Ground |
| 2 | Vdd | Power supply for logic |
| 3 | Vo | LCD control voltage |
| 4 | RS | Register selection |
| 5 | R/W | Read/write |
| 6 | E | Enable signal |
| 7 | D0 | Data line |
| 8 | D1 | Data line |
| 9 | D2 | Data line |
| 10 | D3 | Data line |
| 11 | D4 | Data line |
| 12 | D5 | Data line |
| 13 | D6 | Data line |
| 14 | D7 | Data line |

9-2. Block diagram



