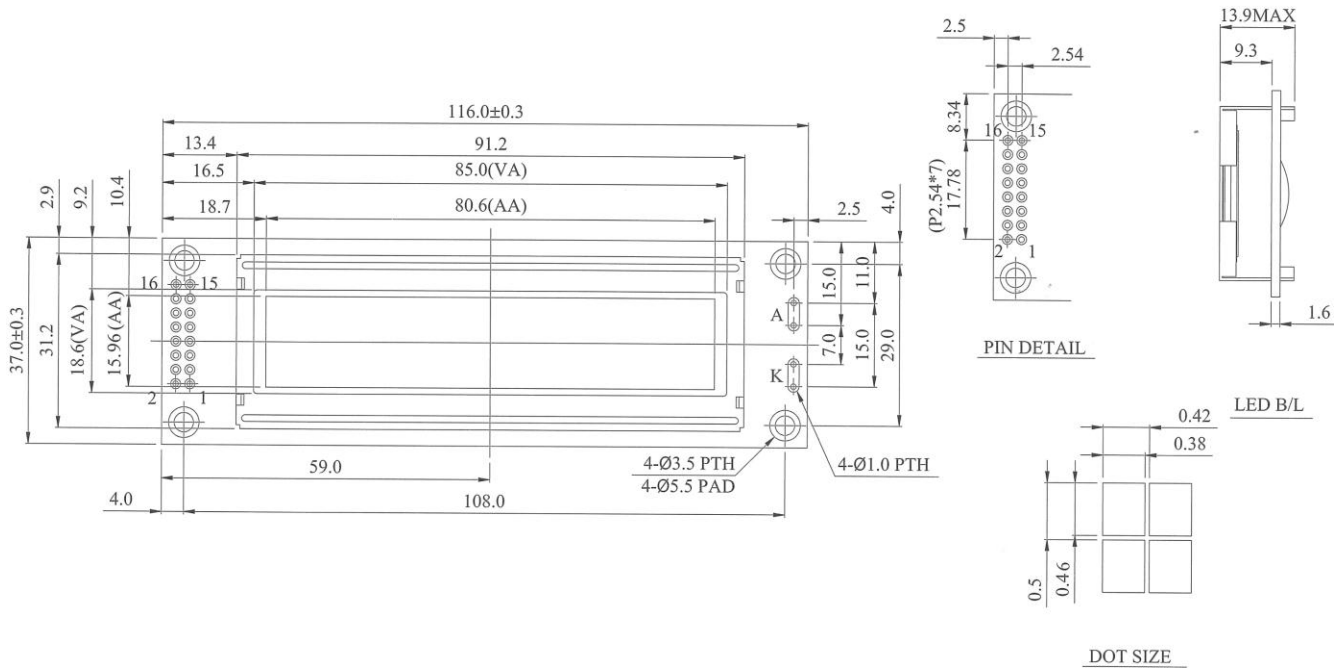


MSG19232C

Graphic 192x32 dots

GMS.

■ ■ ■ DISPLAY SYSTEMS



| Feature | | |
|------------------------------------|--------|------------------------------|
| 1. Built-in controller (ST7920) | | |
| 2. +5V Power supply | | |
| 3. 1/32 duty cycle | | |
| 4. LED can be driven by PIN 15, 16 | | |
| 5. Chinese Version | | |
| 6. Same size with MSH2002A | | |
| Pin | Symbol | Function |
| 1 | Vss | GND |
| 2 | Vdd | Supply voltage for logic |
| 3 | Vo | Operating voltage for logic |
| 4 | RS | Register select signal |
| 5 | R/W | H: read data / L: write data |
| 6 | E | Enable signal |
| 7 | DB0 | Data bus line |
| 8 | DB1 | Data bus line |
| 9 | DB2 | Data bus line |
| 10 | DB3 | Data bus line |
| 11 | DB4 | Data bus line |
| 12 | DB5 | Data bus line |
| 13 | DB6 | Data bus line |
| 14 | DB7 | Data bus line |
| 15 | A | Power supply for B/L (+) |
| 16 | K | Power supply for B/L (-) |

| Mechanical Data | | | | | |
|-------------------------|----------------|----------------|-----|------|------|
| Item | Standard Value | Unit | | | |
| Module Dimension | 116.0 x 37.0 | mm | | | |
| Viewing Area | 85.0 x 18.6 | mm | | | |
| Mounting hole | 108.0 x 29.0 | mm | | | |
| Dot Size | 0.38 x 0.46 | mm | | | |
| Dot Pitch | 0.42 x 0.50 | mm | | | |
| Absolute Maximum Rating | | | | | |
| Item | Symbol | Standard Value | | | Unit |
| | | min | typ | max | |
| Power Supply | Vdd - Vss | 4.75 | 5.0 | 5.25 | V |
| Input Voltage | Vi | 0 | --- | Vdd | V |

Note: Vss=0 V, Vdd=5.0 V

| Electronical Characteristics | | | | | | |
|--|--------|-----------|----------------|-----|--------|------|
| Item | Symbol | Condition | Standard Value | | | Unit |
| | | | min | typ | max | |
| Input Voltage | Vdd | L level | 0.7Vdd | --- | Vdd | V |
| | Vio | H level | 0 | --- | 0.3Vdd | |
| Supply Current | Idd | Vdd=+5V | --- | 2 | --- | mA |
| Recommended LC Driving Voltage for normal Temperature Version module | Vo-Vss | -20°C | --- | --- | 5.2 | V |
| | | 0°C | --- | --- | 4.8 | |
| | | 25°C | --- | 4.5 | --- | |
| | | 50°C | 4.7 | --- | --- | |
| | | 70°C | 3.8 | --- | --- | |

See Specification for Backlight information.

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