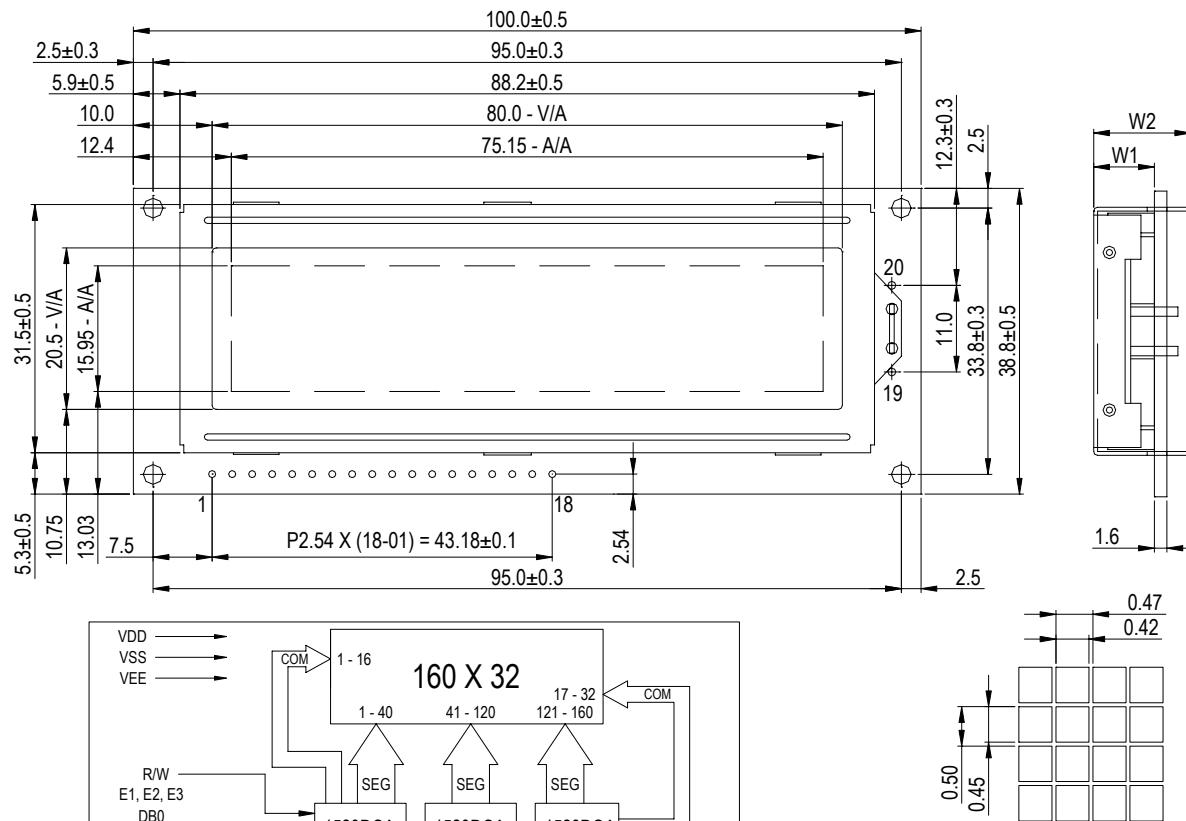




STANDARD GRAPHICS MODULES

G32160x01 OUTLINE DIMENSION AND BLOCK DIAGRAM



The tolerance unless classified ±0.3 mm

| VERSION | W1 | W2 |
|----------------------|----------|----------|
| NO/EL BACKLIGHT | 5.70±0.5 | 10.5 MAX |
| BOTTOM LED BACKLIGHT | 7.70±0.5 | 12.5 MAX |

| PIN ASSIGNMENT | | |
|----------------|--------|-----------------------------|
| Pin No. | Symbol | Function |
| 1 | VSS | Ground Terminal |
| 2 | VDD | Supply Terminal |
| 3 | VEE | Negative Supply Voltage |
| 4 | A0 | Power Supply for LCD Driver |
| 5 | R/W | Read/Write Selection |
| 6 | E3 | Enable IC U ₂ |
| 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 | NC | - |
| 16 | NC | - |
| 17 | E1 | Enable IC U ₁ |
| 18 | E2 | Enable IC U ₃ |
| 19 | BL+ | Led Backlight Power Supply |
| 20 | BL- | Led Backlight Ground |

NOTE :
1. ALL BACKLIGHT : SIDE LED BACKLIGHT

| ABSOLUTE MAXIMUM RATING | | | | | | |
|-------------------------|-----------------------|------------|--------|------|------|----|
| Item | Symbol | Conditions | Min. | Max. | Unit | |
| Power Supply Voltage | Vdd-Vss | - | -0.3 | 8.0 | V | |
| Input Voltage | Vin | - | Vss | Vdd | V | |
| NORMAL | OPERATING TEMPERATURE | Topr | Normal | 0 | +50 | °C |
| | STORAGE TEMPERATURE | Tstg | Normal | -20 | +70 | °C |
| WIDE | OPERATING TEMPERATURE | Topr | Normal | -20 | +70 | °C |
| | STORAGE TEMPERATURE | Tstg | Normal | -30 | +80 | °C |

| ELECTRICAL CHARACTERISTIC (Vdd = + 5v, Ta = 25°C) | | | | | | |
|---|------------------|------------|------|------|------|------|
| Item | Symbol | Conditions | Min. | Typ. | Max. | Unit |
| Logic Supply Voltage | Vdd | - | 2.4 | - | 5.5 | V |
| "H" Input Voltage | V _{ih} | - | 2.2 | - | Vdd | V |
| "L" Input Voltage | V _{il} | - | -0.3 | - | 0.6 | V |
| "H" Output Voltage | V _{oh} | - | 2.4 | - | - | V |
| "L" Output Voltage | V _{ol} | - | - | - | 0.4 | V |
| Module Supply Current | I _{dd} | - | - | 1.5 | 2.0 | mA |
| LCD Driving Voltage | V _{lcd} | Vdd-Vo | - | 7.0 | - | V |
| Negative Supply Voltage | VEE | VSS-VEE | - | -4.0 | - | V |

| BACKLIGHT OPTION | | | | | |
|------------------|--------|---|------------------------|-----|-----|
| LED COLOR | OPTION | CONDITION | FORWARD CURRENT (mA) | | |
| | | | MIN | TYP | MAX |
| GREEN | YES | V _{led} = 3.6V R _{led} = 0 ohm | - | 20 | 30 |
| WHITE | YES | V _{led} = 3.6V R _{led} = 0 ohm | - | 20 | 30 |
| BLUE | NO | - | - | - | - |
| AMBER | NO | - | - | - | - |
| RED | NO | - | - | - | - |
| EL | NO | - | - | - | - |

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