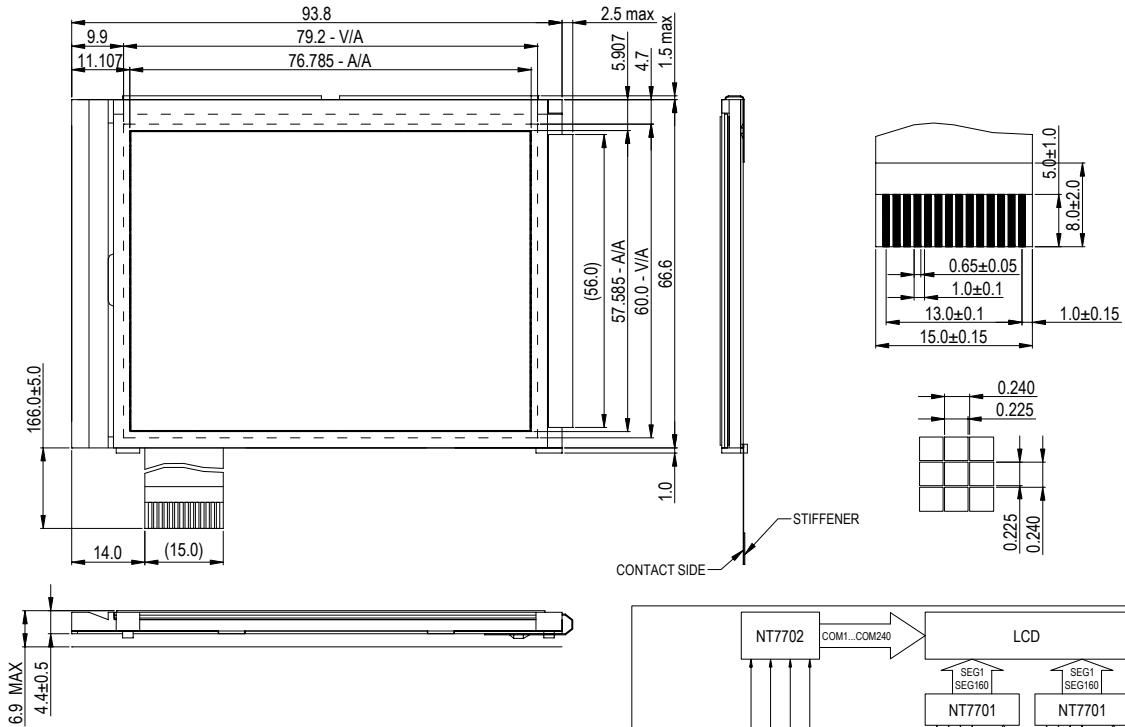




STANDARD GRAPHICS MODULES

G2432x20..... OUTLINE DIMENSION AND BLOCK DIAGRAM



The tolerance unless classified ± 0.3 mm

| PIN ASSIGNMENT | | |
|----------------|-----------|----------------------------|
| Pin No. | Symbol | Function |
| 1 | VDD | Supply Terminal |
| 2 | VSS | Ground Terminal |
| 3 | VEE | Positive Supply Voltage |
| 4 | FRAME | Frame Signal |
| 5 | VADJ | LCD Contrast Adjust |
| 6 | CL1 | Data Latch Clock |
| 7 | CL2 | Data Shift Clock |
| 8 | XD3 | Display Data 3 |
| 9 | XD2 | Display Data 2 |
| 10 | XD1 | Display Data 1 |
| 11 | XD0 | Display Data 0 |
| 12 | /DISP OFF | Display Off |
| 13 | SLA | Led Backlight Power Supply |
| 14 | SLK | Led Backlight Ground |

| 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 | |
| OPERATING TEMPERATURE | T _{opr} | Normal | -10 | +60 | °C | |
| STORAGE TEMPERATURE | T _{stg} | Normal | -20 | +70 | °C | |

ELECTRICAL CHARACTERISTIC (Vdd = + 5v, Ta = 25°C)

| Item | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|-----------------------|------------------|------------|--------|------|--------|------|
| Logic Supply Voltage | Vdd | - | 4.5 | 5.0 | 5.5 | V |
| "H" Input Voltage | V _{ih} | - | 0.8Vdd | - | Vdd | V |
| "L" Input Voltage | V _{il} | - | 0 | - | 0.2Vdd | V |
| "H" Output Voltage | V _{oh} | - | 0.9Vdd | - | - | V |
| "L" Output Voltage | V _{ol} | - | - | - | 0.1Vdd | V |
| Module Supply Current | I _{dd} | - | - | 30 | 50 | mA |
| LCD Driving Voltage | V _{lcd} | Vdd-Vo | 21.4 | 22.5 | 23.6 | V |

BACKLIGHT OPTION

| LED COLOR | OPTION | CONDITION | FORWARD CURRENT (mA) | | |
|-----------|--------|---|------------------------|-----|-----|
| | | | MIN | TYP | MAX |
| GREEN | NO | - | - | - | - |
| WHITE | YES | V _{led} = 5.0 V R _{led} = 10 ohm | - | 80 | 100 |
| BLUE | YES | - | - | - | - |
| AMBER | NO | - | - | - | - |
| RED | NO | - | - | - | - |
| EL | NO | - | - | - | - |

- NOTE :
1. ALL BACKLIGHT : SIDE LED BACKLIGHT
 2. INTERNAL M SIGNAL
 3. OTHER OPTION : INTERNAL VEE

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