## LM1601616C/B Series – 1.50 inch 16x16 Dot Matrix LED Display



**ATTENTION**
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

RoHS

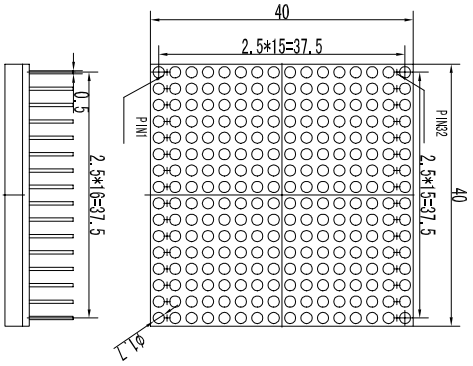
### Features

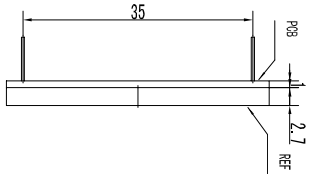
- 39.00 mm (1.50 inch) matrix height
- Dot size: Diameter 1.80 mm
- Pitch: 2.5 mm
- Wide viewing angle
- Range of emitted colors
- I.C. compatible
- Low power consumption
- White dot, grey or black face
- RoHS compliant

### Available options

- Alternative emitting luminosity:
  Standard or high brightness version
- Alternative emitted color
- Alternative dot color
- Alternative face color
- Both CA or CC versions are available
- Cropped terminal pins

### Package Dimensions



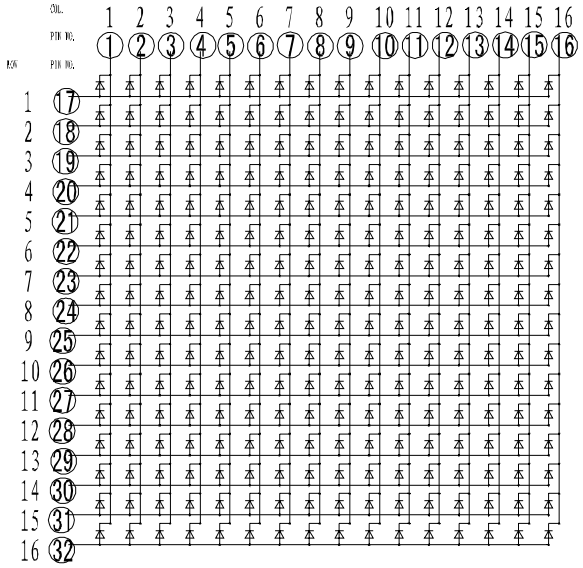



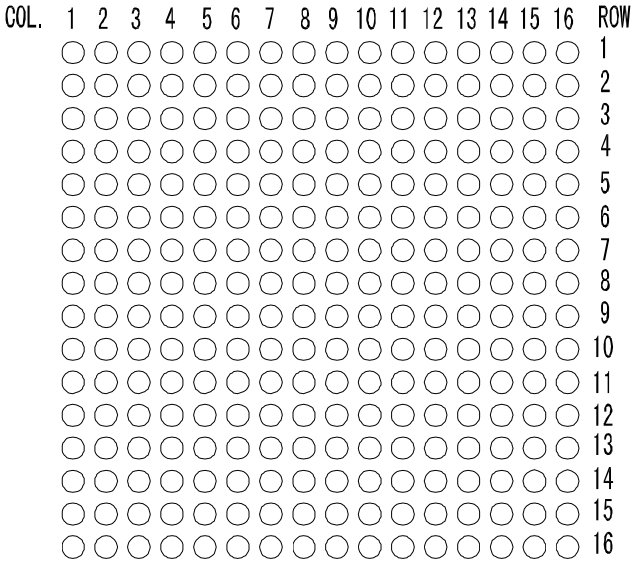

Notes:

1. All dimensions are in millimeters (inches), Tolerance is ± 0.25mm (0.01inch) unless other wise noted.
2. Specifications are subject to change without notice.
3. The gap between the reflector and PCB shall not exceed 0.25mm.

## Internal Circuit Diagram

**LM1601616D (Common Cathode Row)**






## Selection Guide

| Part No. | | Chip | | | Iv@IF=20mA | |
|---|---|---|---|---|---|---|
| Common Cathode Row | Common Anode Row | Material | Color | WLD | One Dot | |
| | | | | | Min. | Typ. |
| LM1601616CR | LM1601616DR | GaAlAs | Super Red | 640 | 8 | 10 |
| LM1601616CD | LM1601616DD | GaAlAs | Hi-Red | 640 | 18 | 25 |
| LM1601616CO | LM1601616DO | GaAsP | Orange | 625 | 7 | 9 |
| LM1601616CY | LM1601616DY | GaAsP | Yellow | 588 | 8 | 10 |
| LM1601616CG | LM1601616DG | GaP | Green | 568 | 7 | 9 |
| LM1601616CUR | LM1601616DUR | AlGaInP | Ultra Red | 640 | 30 | 45 |
| LM1601616CUO | LM1601616DUO | AlGaInP | Ultra Orange | 625 | 45 | 60 |
| LM1601616CUA | LM1601616DUA | AlGaInP | Ultra Amber | 605 | 30 | 45 |
| LM1601616CUY | LM1601616DUY | AlGaInP | Ultra Yellow | 595 | 30 | 45 |
| LM1601616CUG | LM1601616DUG | AlGaInP | Ultra Green | 573 | 30 | 45 |
| LM1601616CPG | LM1601616DPG | InGaN | Pure Green | 525 | 120 | 300 |
| LM1601616CUB | LM1601616DUB | InGaN | Ultra Blue | 470 | 30 | 45 |
| LM1601616CUW | LM1601616DUW | SMD | Ultra White | \ | 100 | 120 |
| Unit: | \ | \ | \ | nm | mcd | mcd |

## Electrical Characteristics & Absolute Maximum Ratings

| Color | | Electrical Characteristics[1] | | | Absolute Maximum Ratings[1] | | |
|---|---|---|---|---|---|---|---|
| | | $V_F$@ $I_F$=20mA[2] | | Reverse Current VR=5V | Power Dissipation | DC Forward Current | Peak Forward Current[3] |
| | | Typ. | Max. | | | | |
| Super Red | Per Dot | 1.8 | 2.2 | 30 | 60 | 25 | 100 |
| Hi-Red | Per Dot | 1.8 | 2.2 | 30 | 60 | 25 | 100 |
| Orange | Per Dot | 2.1 | 2.5 | 30 | 80 | 30 | 100 |
| Yellow | Per Dot | 2.1 | 2.5 | 30 | 80 | 30 | 100 |
| Green | Per Dot | 2.2 | 2.5 | 30 | 80 | 30 | 100 |
| Ultra Red | Per Dot | 1.9 | 2.6 | 30 | 60 | 30 | 100 |
| Ultra Orange | Per Dot | 2.0 | 2.6 | 30 | 65 | 30 | 100 |
| Ultra Amber | Per Dot | 2.0 | 2.6 | 30 | 65 | 30 | 100 |
| Ultra Yellow | Per Dot | 2.0 | 2.6 | 30 | 65 | 30 | 100 |
| Ultra Green | Per Dot | 2.1 | 2.6 | 30 | 75 | 30 | 100 |
| Pure Green | Per Dot | 3.5 | 4.0 | 30 | 110 | 30 | 100 |
| Ultra Blue | Per Dot | 3.5 | 4.0 | 30 | 120 | 30 | 100 |
| Ultra White | Per Dot | 3.5 | 4.0 | 30 | 120 | 30 | 100 |
| Unit: | \ | V | V | uA | mW | mA | mA |

Notes:

1. At Ta = 25 °C.

2. Forward voltage at forward current = 20mA.

3. Peak forward current at 1/10 Duty Cycle, 0.1ms Pulse.