

16 × 16 matrix displays

LM-2256 Series

The LM-2256 series are 16 × 16 matrix displays which can be used in a wide variety of applications, including alpha-bet, numeric, symbol, and graphic displays. Red and green are available, as well as a dual-color red/green type.

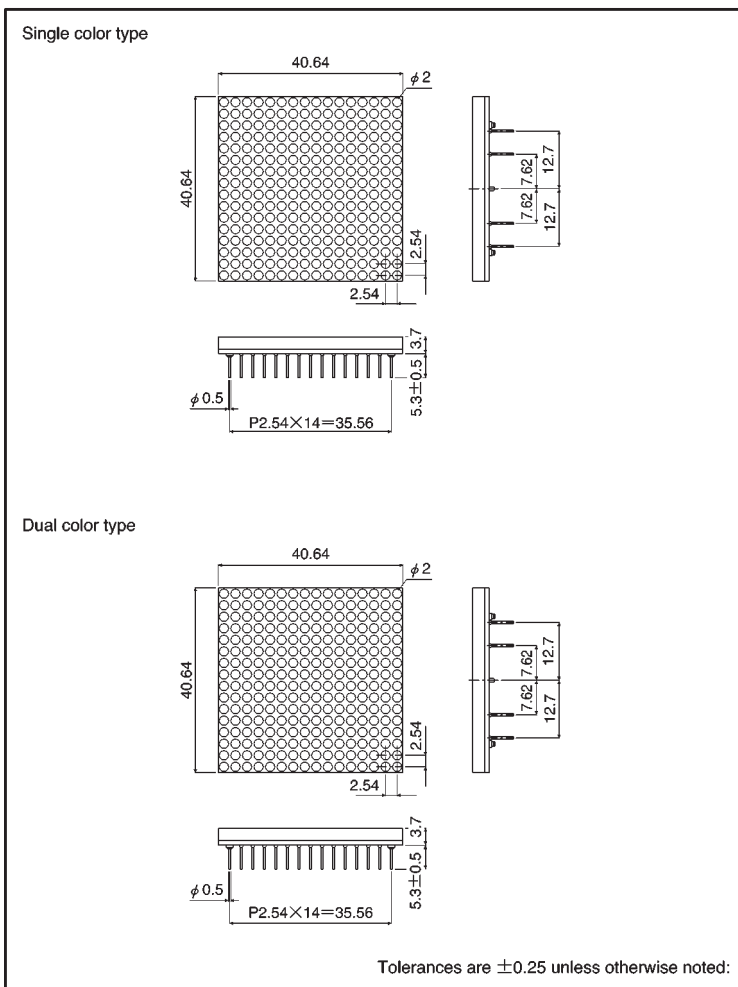
●Applications

Light sources for displays

●Features

- 1) 16 × 16 dot matrix
Circular emitters.
- 2) External dimensions: 40.64 × 40.64 × 5 mm
- 3) Emitters: Circular, 2.0 mm diameter
- 4) Black package.

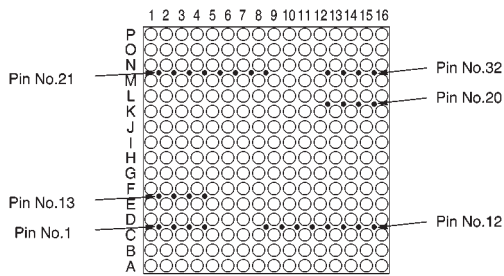
●External dimensions (Units: mm)



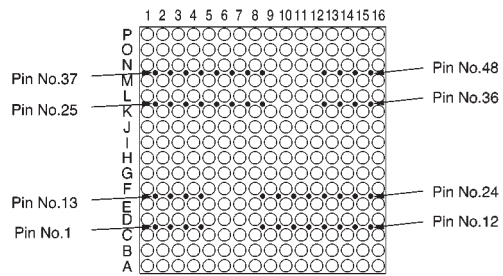
●Selection guide

| Emitting color | Red | Green | Red / Green |
|----------------|-----------|-----------|-------------|
| Common | — | — | LM-2256MUB |
| Anode | — | — | — |
| Cathode | LM-2256UB | LM-2256MB | — |

● Pin assignments

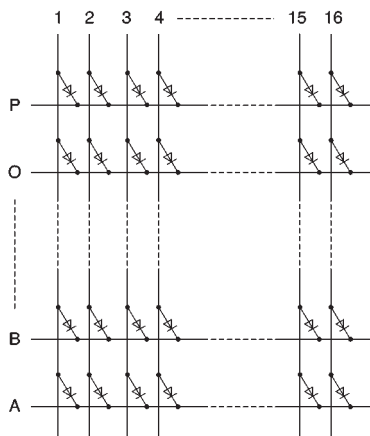


Single color type

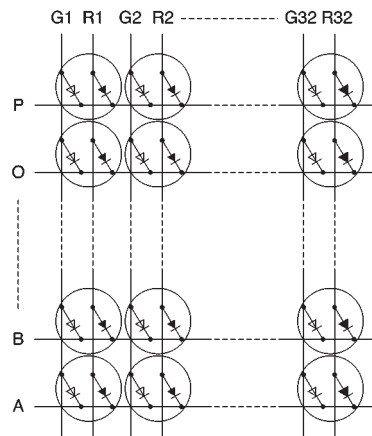


Dual color type

● Internal circuit schematic



Single color type



—▷ GREEN

—▷ RED

Dual color type

● Pin assignment table

Single-color type

| Pin No. | Function | Pin No. | Function |
|---------|-----------|---------|-----------|
| 1 | A Cathode | 17 | J Cathode |
| 2 | C Cathode | 18 | L Cathode |
| 3 | D Cathode | 19 | K Cathode |
| 4 | B Cathode | 20 | I Cathode |
| 5 | 9 Anode | 21 | 1 Anode |
| 6 | 10 Anode | 22 | 2 Anode |
| 7 | 11 Anode | 23 | 3 Anode |
| 8 | 12 Anode | 24 | 4 Anode |
| 9 | 13 Anode | 25 | 5 Anode |
| 10 | 14 Anode | 26 | 6 Anode |
| 11 | 15 Anode | 27 | 7 Anode |
| 12 | 16 Anode | 28 | 8 Anode |
| 13 | H Cathode | 29 | O Anode |
| 14 | F Cathode | 30 | M Cathode |
| 15 | E Cathode | 31 | N Cathode |
| 16 | G Cathode | 32 | P Cathode |

Dual-color type

| Pin No. | Function | Pin No. | Function |
|---------|-----------|---------|-----------|
| 1 | A Cathode | 25 | R1 Anode |
| 2 | C Cathode | 26 | R2 Anode |
| 3 | D Cathode | 27 | R3 Anode |
| 4 | B Cathode | 28 | R4 Anode |
| 5 | G9 Anode | 29 | R5 Anode |
| 6 | G10 Anode | 30 | R6 Anode |
| 7 | G11 Anode | 31 | R7 Anode |
| 8 | G12 Anode | 32 | R8 Anode |
| 9 | G13 Anode | 33 | J Cathode |
| 10 | G14 Anode | 34 | L Cathode |
| 11 | G15 Anode | 35 | K Cathode |
| 12 | G16 Anode | 36 | I Cathode |
| 13 | H Cathode | 37 | G1 Anode |
| 14 | F Cathode | 38 | G2 Anode |
| 15 | E Cathode | 39 | G3 Anode |
| 16 | G Cathode | 40 | G4 Anode |
| 17 | R9 Anode | 41 | G5 Anode |
| 18 | R10 Anode | 42 | G6 Anode |
| 19 | R11 Anode | 43 | G7 Anode |
| 20 | R12 Anode | 44 | G8 Anode |
| 21 | R13 Anode | 45 | O Cathode |
| 22 | R14 Anode | 46 | M Cathode |
| 23 | R15 Anode | 47 | N Cathode |
| 24 | R16 Anode | 48 | P Cathode |

● Absolute maximum ratings (Ta = 25°C)

Single-color type

| Parameter | Symbol | UB | MB | Unit |
|-----------------------|------------------|---------|-------|------|
| | | Red | Green | |
| Power dissipation | P _D | 2.88 | 2.88 | W |
| Forward current | I _F | 15 | 15 | mA |
| Peak forward current | I _{FP} | 60* | 60* | mA |
| Reverse voltage | V _R | 3 | 3 | V |
| Operating temperature | T _{opr} | -20~+50 | | °C |
| Storage temperature | T _{stg} | -25~+75 | | °C |

* Pulse width 1msec duty 1 / 16

Dual-color type

| Parameter | Symbol | MUB | | Unit |
|-----------------------|------------------|---------|-------|------|
| | | Red | Green | |
| Power dissipation | P _D | 2.7 | 2.7 | W |
| Forward current | I _F | 15 | 15 | mA |
| Peak forward current | I _{FP} | 60* | 60* | mA |
| Reverse voltage | V _R | 3 | 3 | V |
| Operating temperature | T _{opr} | -20~+50 | | °C |
| Storage temperature | T _{stg} | -25~+75 | | °C |

* Pulse width 1msec duty 1 / 16

●Electrical and optical characteristics (Ta = 25°C)

Single-color type

| Parameter | Symbol | Conditions | UB | | | MB | | | Unit |
|-------------------------------|----------------|----------------------|------|------|------|-------|------|------|------|
| | | | Red | | | Green | | | |
| | | | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| Forward voltage | V _F | I _F =10mA | — | 2.0 | 2.8 | — | 2.1 | 2.8 | V |
| Reverse current | I _R | V _R =3V | — | — | 100 | — | — | 100 | μ A |
| Peak wavelength | λ _P | I _F =10mA | — | 635 | — | — | 563 | — | nm |
| Spectral half-power bandwidth | Δ λ | I _F =10mA | — | 40 | — | — | 40 | — | nm |

⊙Not designed for radiation resistance.

Dual-color type

| Parameter | Symbol | Conditions | MUB | | | | | | Unit |
|--------------------------|----------------|----------------------|------|------|------|-------|------|------|------|
| | | | Red | | | Green | | | |
| | | | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| Forward voltage | V _F | I _F =10mA | — | 2.0 | 2.8 | — | 2.1 | 2.8 | V |
| Reverse current | I _R | V _R =3V | — | — | 100 | — | — | 100 | μ A |
| Peak wavelength | λ _P | I _F =10mA | — | 635 | — | — | 563 | — | nm |
| Spectral line half width | Δ λ | I _F =10mA | — | 40 | — | — | 40 | — | nm |

⊙Not designed for radiation resistance.

●Luminous intensity

| Color | Type | Min. | Typ. | Max. | Unit |
|-------|------|------|------|------|------|
| Red | UB | 0.22 | 0.63 | — | mcd |
| Green | MB | 0.36 | 1.0 | — | mcd |
| Red | MUB | 0.22 | 0.63 | — | mcd |
| Green | | 0.56 | 1.6 | — | mcd |

Note: Measured at I_F = 10mA