

2.0 inch (50.80mm)

5X7 DOT MATRIX LED DISPLAY UVP-2X57A SERIES

DESCRIPTION

The UVP-2057/2157 is 2.0 inch (50.80mm) height 5X7 dot matrix display.

Single color display have the of choices of three bright colors-AlGaAs red/green/red orange.

Multicolor display are applicable to two colors : green and red orange.

All device have gray face and white dot.

The AlGaAs red LED chip are made from AlGaAs on a non-transparent GaAs substrate.

The green LED chip are made from GaP on a transparent GaP substrate.

The red orange LED chip are made from GaAsP on a transparent GaP substrate.

FEATURES

- Industry standard size
- Wide viewing angle
- Continuous uniform dot matrix.
- Excellent characters appearance
- Low power requirement

DEVICES

| PART NO. | DESCRIPTION | PACKAGE DIMENSION | INTERNAL CIRCUIT DIAGRAM |
|-----------|----------------|-------------------|--------------------------|
| UVP-2057A | Column Anode | Fig. 1 | Fig. 2 |
| UVP-2157A | Column Cathode | | |

ABSOLUTE MAXIMUM RATINGS

@ T_A=25°C

| PARAMETER | AlGaAs RED | GREEN | RED ORANGE | UNIT |
|---|--------------|-------|------------|-------|
| Power Dissipation Per Dot | 36 | 36 | 36 | mW |
| Peak Forward Current Per Dot | 125 | 100 | 100 | mA |
| Continuous Forward Current Per Dot | 15 | 13 | 13 | mA |
| Derating Linear From 25°C Per Dot | 0.20 | 0.17 | 0.17 | mA/°C |
| Reverse Voltage Per Dot | 5 | 5 | 5 | V |
| Operating Temperature Range | -35°Cto+85°C | | | |
| Storage Temperature Range | -35°Cto+85°C | | | |
| Solder Temperature 1/16 inch Below Seating Plane for 3 Seconds at 260°C | | | | |



2.0 inch (50.80mm)

5X7 DOT MATRIX LED DISPLAY

UVP-2X57A SERIES

TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES

(Ambient Temperature =25°C Unless Otherwise Noted)

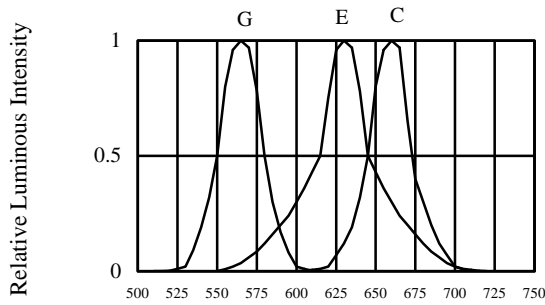


FIG.1 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH

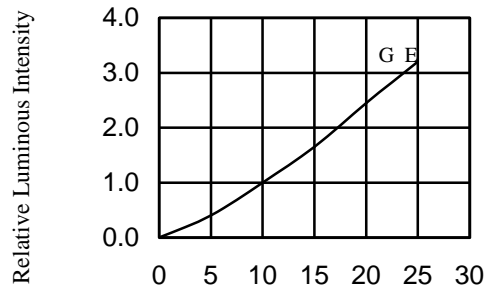


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

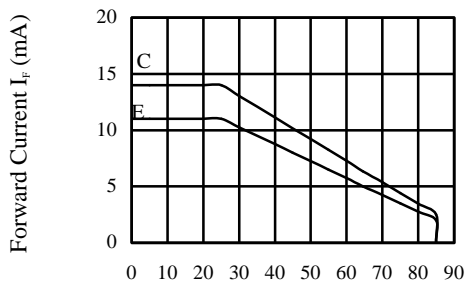


FIG.3 ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

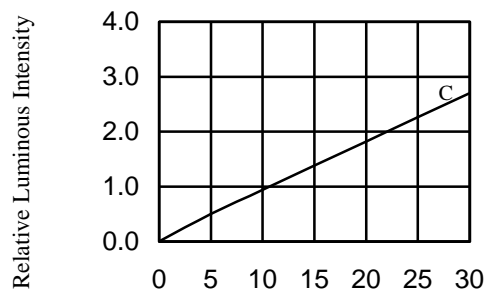


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

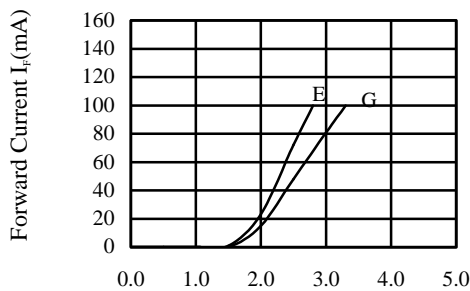


FIG.4 FORWARD CURRENT VS. FORWARD VOLTAGE

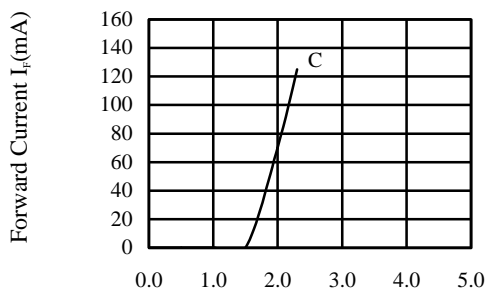


FIG.4 FORWARD CURRENT VS. FORWARD VOLTAGE

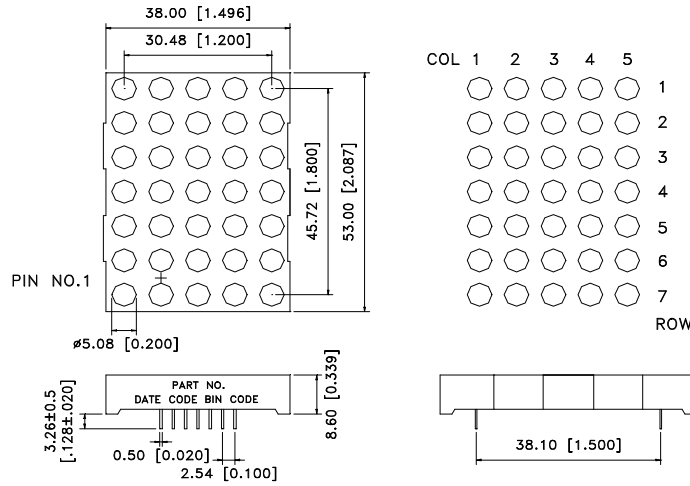


2.0 inch (50.80mm)

5X7 DOT MATRIX LED DISPLAY

UVP-2X57A SERIES

PACKAGE DIMENSIONS



Unit:mm(inches)
Tolerance is ± 0.25mm(0.01")unless otherwise noted

Fig. 1

INTERNAL CIRCUIT DIAGRAM

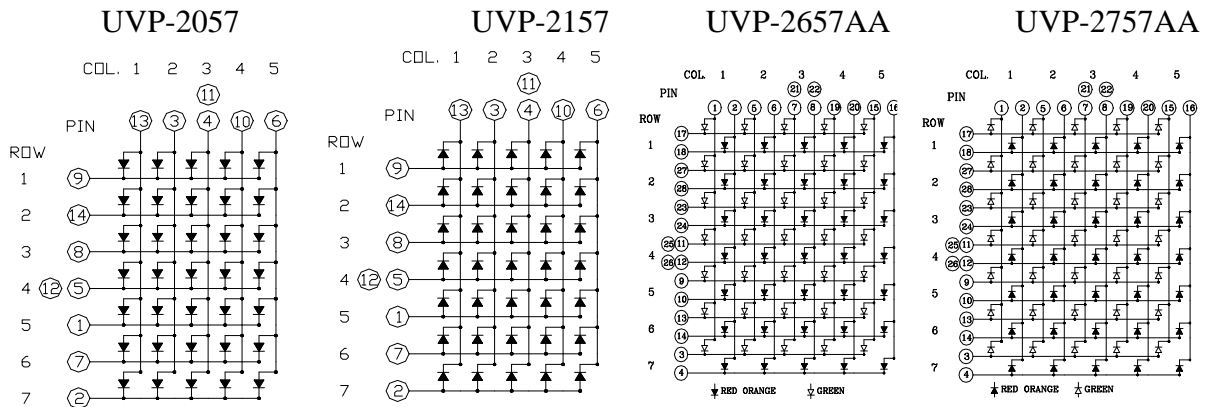


Fig. 2

2.0 inch (50.80mm)

5X7 DOT MATRIX LED DISPLAY

UVP-2X57A SERIES

PIN CONNECTION

| Pin No. | CONNECTION | |
|---------|---------------------------|-----------------------------|
| | UVP-2657AA | UVP-2757AA |
| 1 | ANODE COLUMN 1 GREEN | CATHODE COLUMN 1 GREEN |
| 2 | ANODE COLUMN 1 RED ORANGE | CATHODE COLUMN 1 RED ORANGE |
| 3 | CATHODE ROW 7 GREEN | ANODE ROW 7 GREEN |
| 4 | CATHODE ROW 7 RED ORANGE | ANODE ROW 7 RED ORANGE |
| 5 | ANODE COLUMN 2 GREEN | CATHODE COLUMN 2 GREEN |
| 6 | ANODE COLUMN 2 RED ORANGE | CATHODE COLUMN 2 RED ORANGE |
| 7 | ANODE COLUMN 3 GREEN | CATHODE COLUMN 3 GREEN |
| 8 | ANODE COLUMN 3 RED ORANGE | CATHODE COLUMN 3 RED ORANGE |
| 9 | CATHODE ROW 5 GREEN | ANODE ROW 5 GREEN |
| 10 | CATHODE ROW 5 RED ORANGE | ANODE ROW 5 RED ORANGE |
| 11 | CATHODE ROW 4 GREEN | ANODE ROW 4 GREEN |
| 12 | CATHODE ROW 4 RED ORANGE | ANODE ROW 4 RED ORANGE |
| 13 | CATHODE ROW 6 GREEN | ANODE ROW 6 GREEN |
| 14 | CATHODE ROW 6 RED ORANGE | ANODE ROW 6 RED ORANGE |
| 15 | ANODE COLUMN 5 GREEN | CATHODE COLUMN 5 GREEN |
| 16 | ANODE COLUMN 5 RED ORANGE | CATHODE COLUMN 5 RED ORANGE |
| 17 | CATHODE ROW 1 GREEN | ANODE ROW 1 GREEN |
| 18 | CATHODE ROW 1 RED ORANGE | ANODE ROW 1 RED ORANGE |
| 19 | ANODE COLUMN 4 GREEN | CATHODE COLUMN 4 GREEN |
| 20 | ANODE COLUMN 4 RED ORANGE | CATHODE COLUMN 4 RED ORANGE |
| 21 | ANODE COLUMN 3 GREEN | CATHODE COLUMN 3 GREEN |
| 22 | ANODE COLUMN 3 RED ORANGE | CATHODE COLUMN 3 RED ORANGE |
| 23 | CATHODE ROW 3 GREEN | ANODE ROW 3 GREEN |
| 24 | CATHODE ROW 3 RED ORANGE | ANODE ROW 3 RED ORANGE |
| 25 | CATHODE ROW 4 GREEN | ANODE ROW 4 GREEN |
| 26 | CATHODE ROW 4 RED ORANGE | ANODE ROW 4 RED ORANGE |
| 27 | CATHODE ROW 2 GREEN | ANODE ROW 2 GREEN |
| 28 | CATHODE ROW 2 RED ORANGE | ANODE ROW 2 RED ORANGE |

| Pin No. | CONNECTION | |
|---------|-----------------|------------------|
| | UVP-2057 | UVP-2157 |
| 1 | CATHODE ROW 5 | ANODE ROW 5 |
| 2 | CATHODE ROW 7 | ANODE ROW 7 |
| 3 | ANODE COL. 2 | CATHODE COL. 2 |
| 4 | ANODE COL. 3*1 | CATHODE COL. 3*1 |
| 5 | CATHODE ROW 4*2 | ANODE ROW 4*2 |
| 6 | ANODE COL. 5 | CATHODE COL. 5 |
| 7 | CATHODE ROW 6 | ANODE ROW 6 |
| 8 | CATHODE ROW 3 | ANODE ROW 3 |
| 9 | CATHODE ROW 1 | ANODE ROW 1 |
| 10 | ANODE COL. 4 | CATHODE COL. 4 |
| 11 | ANODE COL. 3*1 | CATHODE COL. 3*1 |
| 12 | CATHODE ROW 4*2 | ANODE ROW 4*2 |
| 13 | ANODE COL. 1 | CATHODE COL. 1 |
| 14 | CATHODE ROW 2 | ANODE ROW 2 |

2.0 inch (50.80mm)

5X7 DOT MATRIX LED DISPLAY

UVP-2X57A SERIES

ELECTRICAL/OPTICAL CHARACTERISTICS

AIGaAs RED (UVP-2057AC/2157AC)

@ T_A=25°C

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|-----------------------------------|---------------------|------|---------|------|------|----------------------------------|
| Average Luminous Intensity | I _V | 6300 | 12000 | | μcd | I _p = 80 mA 1/16 Duty |
| Peak Emission Wavelength | λ _p /Hue | | 660/638 | | nm | I _F = 20 mA |
| Spectral Line Half-Width | Δλ | | 35 | | nm | I _F = 20 mA |
| Forward Voltage, any Dot | V _F | | 1.8 | 2.4 | V | I _F = 20 mA |
| Reverse Current, any Dot | I _R | | | 100 | μA | V _R = 5 V |
| Luminous Intensity Matching Ratio | I _V -m | | | 2:1 | | I _F = 10 mA |

GREEN (UVP-2057AG/2157AG) & (UVP-2657AA/2757AA GREEN)

@ T_A=25°C

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|-----------------------------------|---------------------|------|---------|------|------|----------------------------------|
| Average Luminous Intensity | I _V | 1780 | 4800 | | μcd | I _p = 80 mA 1/16 Duty |
| Peak Emission Wavelength | λ _p /Hue | | 565/569 | | nm | I _F = 20 mA |
| Spectral Line Half-Width | Δλ | | 30 | | nm | I _F = 20 mA |
| Forward Voltage, any Dot | V _F | | 2.1 | 2.6 | V | I _F = 20 mA |
| Reverse Current, any Dot | I _R | | | 100 | μA | V _R = 5 V |
| Luminous Intensity Matching Ratio | I _V -m | | | 2:1 | | I _F = 10 mA |

RED ORANGE (UVP-2057E/2157E)&(UVP-2657AA/2757AA RED ORANGE)

@ T_A=25°C

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|-----------------------------------|---------------------|------|---------|------|------|----------------------------------|
| Average Luminous Intensity | I _V | 3000 | 9600 | | μcd | I _p = 80 mA 1/16 Duty |
| Peak Emission Wavelength | λ _p /Hue | | 630/621 | | nm | I _F = 20 mA |
| Spectral Line Half-Width | Δλ | | 35 | | nm | I _F = 20 mA |
| Forward Voltage, any Dot | V _F | | 2.0 | 2.6 | V | I _F = 20 mA |
| Reverse Current, any Dot | I _R | | | 100 | μA | V _R = 5 V |
| Luminous Intensity Matching Ratio | I _V -m | | | 2:1 | | I _F = 10 mA |

