

0.7 inch (17.22mm) 5X7 DOT MATRIX LED DISPLAY

UVP-7X7 SERIES

DESCRIPTION

The UVP-747/757 is 0.7 inch (17.22mm) height 5X7 dot matrix display.

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

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 yellow LED chip are made from GaAsP on a transparent GaP substrate.

FEATURES

- Industuy 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-747 | Column Anode | Fig. 1 | Fig. 2 |
| UVP-757 | Column Cathode | | |

ABSOLUTE MAXIMUM RATINGS

@ T_A=25°C

| PARAMETER | AlGaAs RED | GREEN | YELLOW | UNIT |
|---|--------------|-------|--------|-------|
| Power Dissipation Per Dot | 32 | 32 | 28 | mW |
| Peak Forward Current Per Dot | 110 | 90 | 80 | mA |
| Continuous Forward Current Per Dot | 14 | 11 | 8 | mA |
| Derating Linear From 25°C Per Dot | 0.19 | 0.15 | 0.08 | 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 | | | | |

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PACKAGE DIMENSIONS

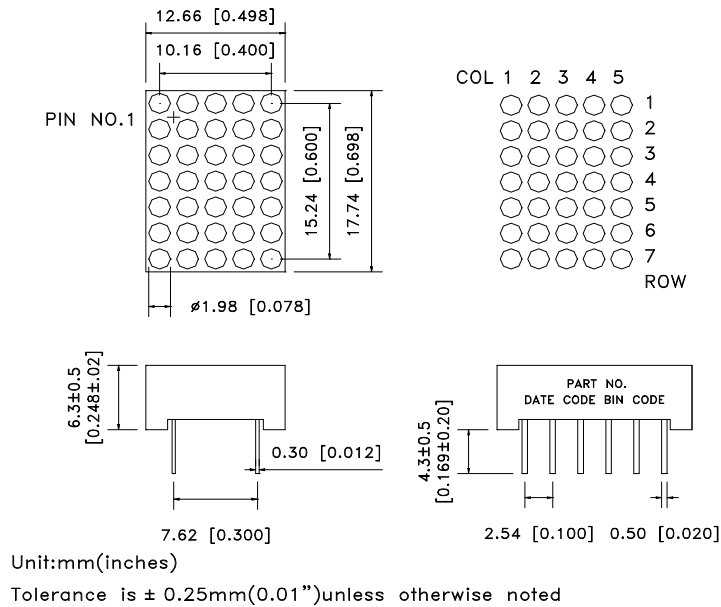


Fig. 1

INTERNAL CIRCUIT DIAGRAM

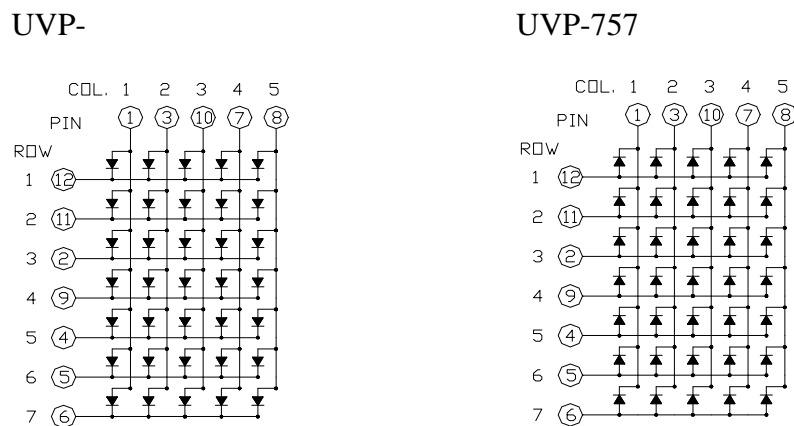


Fig. 2

**0.7 inch (17.22mm)
5X7 DOT MATRIX LED DISPLAY**

UVP-7X7 SERIES

PIN CONNECTION

| Pin No. | CONNECTION | |
|---------|----------------|------------------|
| | UVP-747 | UVP-757 |
| 1 | ANODE COLUMN 1 | CATHODE COLUMN 1 |
| 2 | CATHODE ROW 3 | ANODE ROW 3 |
| 3 | ANODE COLUMN 2 | CATHODE COLUMN 2 |
| 4 | CATHODE ROW 5 | ANODE ROW 5 |
| 5 | CATHODE ROW 6 | ANODE ROW 6 |
| 6 | CATHODE ROW 7 | ANODE ROW 7 |
| 7 | ANODE COLUMN 4 | CATHODE COLUMN 4 |
| 8 | ANODE COLUMN 5 | CATHODE COLUMN 5 |
| 9 | CATHODE ROW 4 | ANODE ROW 4 |
| 10 | ANODE COLUMN 3 | CATHODE COLUMN 3 |
| 11 | CATHODE ROW 2 | ANODE ROW 2 |
| 12 | CATHODE ROW 1 | ANODE ROW 1 |

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ELECTRICAL/OPTICAL CHARACTERISTICS

AlGaAs RED (UVP-747C/757C)

@ T_A=25°C

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|-----------------------------------|---------------------|------|---------|------|------|----------------------------------|
| Average Luminous Intensity | I _V | 5000 | 9000 | | 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-747G/757G)

@ T_A=25°C

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|-----------------------------------|---------------------|------|---------|------|------|----------------------------------|
| Average Luminous Intensity | I _V | 630 | 2000 | | 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 |

YELLOW (UVP-747Y/757Y)

@ T_A=25°C

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|-----------------------------------|---------------------|------|---------|------|------|----------------------------------|
| Average Luminous Intensity | I _V | 630 | 2000 | | μcd | I _p = 80 mA 1/16 Duty |
| Peak Emission Wavelength | λ _p /Hue | | 585/588 | | nm | I _F = 20 mA |
| Spectral Line Half-Width | Δλ | | 35 | | 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 |



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TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES

(Ambient Temperature =25°C Unless Otherwise Noted)

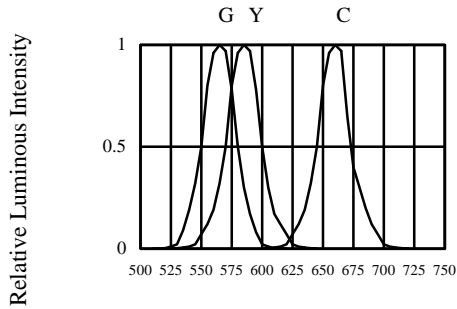


FIG.1 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH

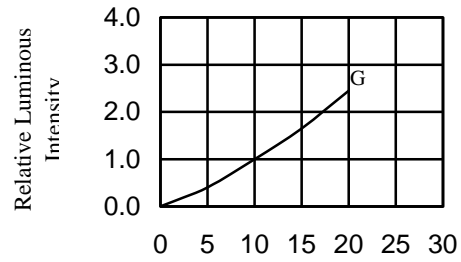


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

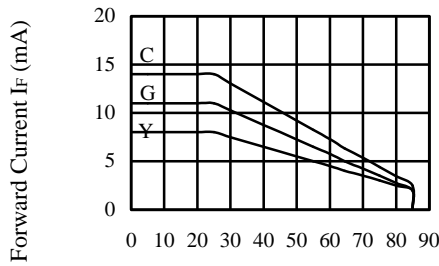


FIG.3 FORWARD CURRENT DERATING CURVE

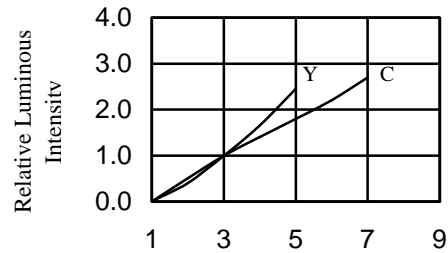


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

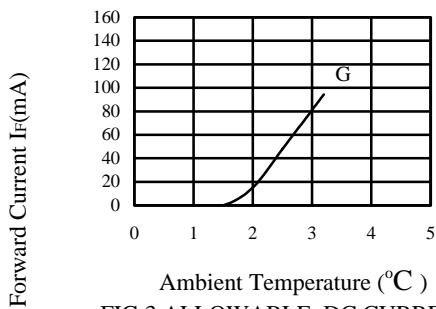


FIG.3 ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

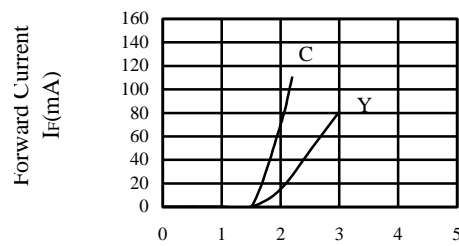


FIG.4 FORWARD CURRENT VS. FORWARD VOLTAGE