

# 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<sub>A</sub>=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

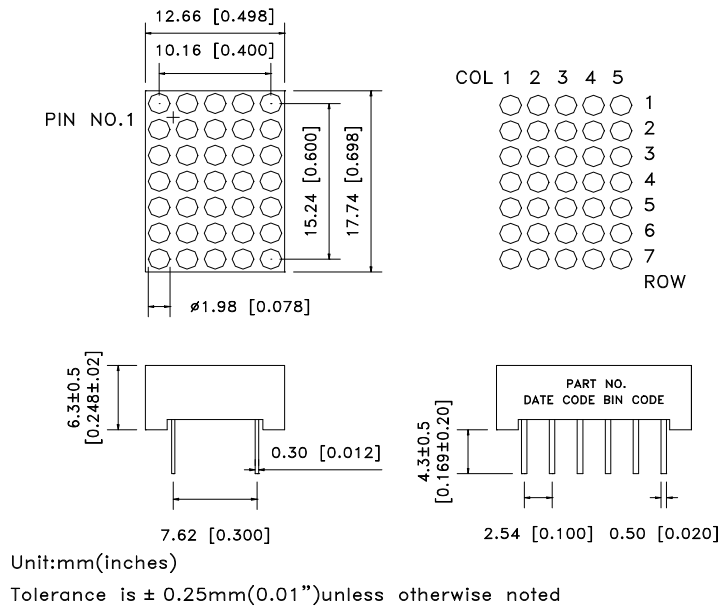


Fig. 1

## INTERNAL CIRCUIT DIAGRAM

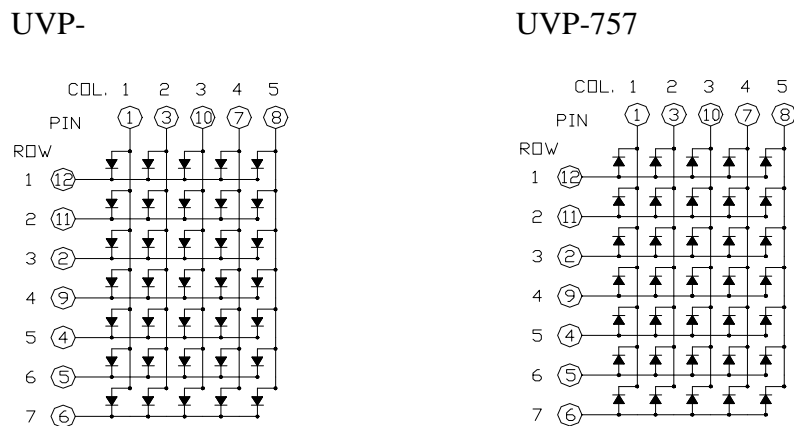


Fig. 2

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

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**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<sub>A</sub>=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>V</sub>	5000	9000		μcd	I <sub>p</sub> = 80 mA 1/16 Duty
Peak Emission Wavelength	λ <sub>p</sub> /Hue		660/638		nm	I <sub>F</sub> = 20 mA
Spectral Line Half-Width	Δλ		35		nm	I <sub>F</sub> = 20 mA
Forward Voltage, any Dot	V <sub>F</sub>		1.8	2.4	V	I <sub>F</sub> = 20 mA
Reverse Current, any Dot	I <sub>R</sub>			100	μA	V <sub>R</sub> = 5 V
Luminous Intensity Matching Ratio	I <sub>V</sub> -m			2:1		I <sub>F</sub> = 10 mA

**GREEN (UVP-747G/757G)**

@ T<sub>A</sub>=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>V</sub>	630	2000		μcd	I <sub>p</sub> = 80 mA 1/16 Duty
Peak Emission Wavelength	λ <sub>p</sub> /Hue		565/569		nm	I <sub>F</sub> = 20 mA
Spectral Line Half-Width	Δλ		30		nm	I <sub>F</sub> = 20 mA
Forward Voltage, any Dot	V <sub>F</sub>		2.1	2.6	V	I <sub>F</sub> = 20 mA
Reverse Current, any Dot	I <sub>R</sub>			100	μA	V <sub>R</sub> = 5 V
Luminous Intensity Matching Ratio	I <sub>V</sub> -m			2:1		I <sub>F</sub> = 10 mA

**YELLOW (UVP-747Y/757Y)**

@ T<sub>A</sub>=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>V</sub>	630	2000		μcd	I <sub>p</sub> = 80 mA 1/16 Duty
Peak Emission Wavelength	λ <sub>p</sub> /Hue		585/588		nm	I <sub>F</sub> = 20 mA
Spectral Line Half-Width	Δλ		35		nm	I <sub>F</sub> = 20 mA
Forward Voltage, any Dot	V <sub>F</sub>		2.1	2.6	V	I <sub>F</sub> = 20 mA
Reverse Current, any Dot	I <sub>R</sub>			100	μA	V <sub>R</sub> = 5 V
Luminous Intensity Matching Ratio	I <sub>V</sub> -m			2:1		I <sub>F</sub> = 10 mA



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## TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES

( Ambient Temperature =25°C Unless Otherwise Noted )

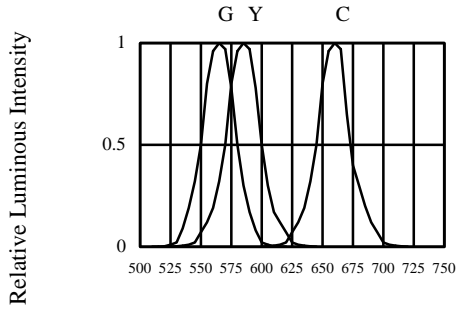


FIG.1 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH

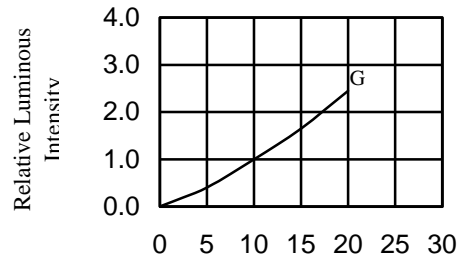


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

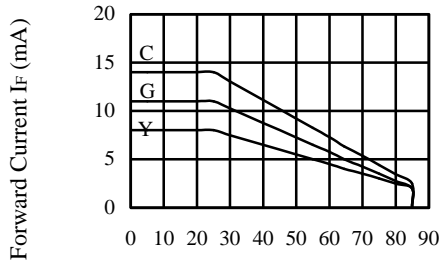


FIG.3 FORWARD CURRENT DERATING CURVE

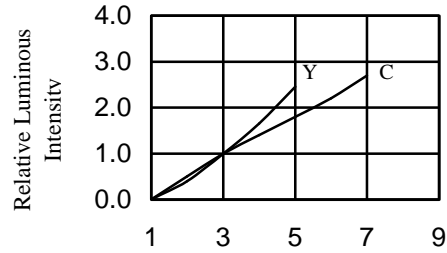


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

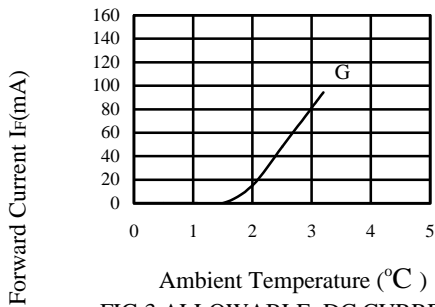


FIG.3 ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

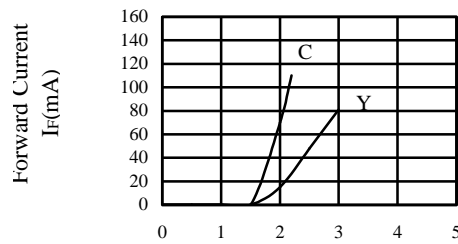


FIG.4 FORWARD CURRENT VS. FORWARD VOLTAGE