

4.0 inch (101.6mm)

5X7 DOT MATRIX LED DISPLAY UVP-4X57XX SERIES

DESCRIPTION

The UVP-4057/4157 4257AA/4357AA is 4.0 inch (101.6mm) height 5X7 dot matrix display.

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

Multicolored 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.

And 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-4057	Column Anode	Fig. 1	Fig. 2
UVP-4157	Column Cathode		

ABSOLUTE MAXIMUM RATINGS

@ T_A=25 °C

PARAMETER	AlGaAs RED	GREEN	RED ORANGE	UNIT
Power Dissipation Per Dot	64	64	60	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	10	10	10	V
Operating Temperature Range	-35°C to +85°C			
Storage Temperature Range	-35°C to +85°C			
Solder Temperature 1/16 inch Below Seating Plane for 3 Seconds at 260°C				

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PACKAGE DIMENSIONS

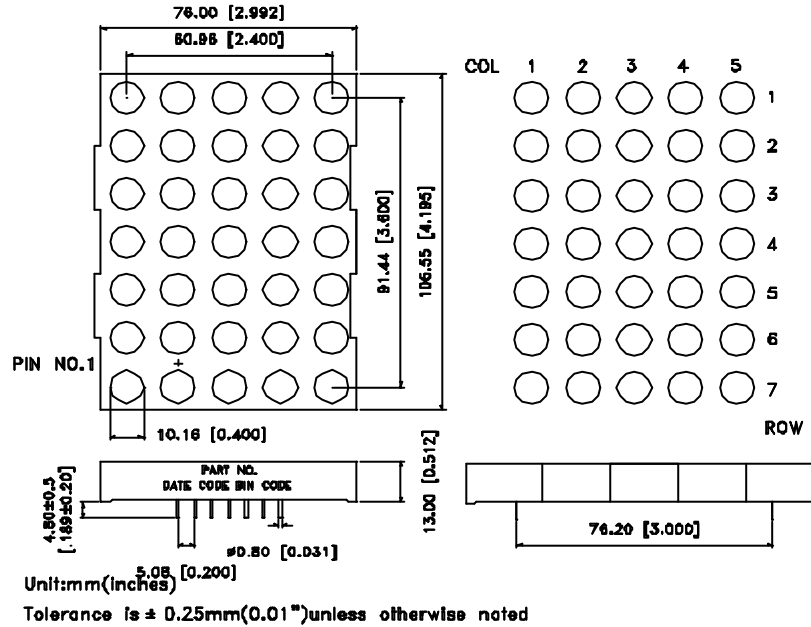
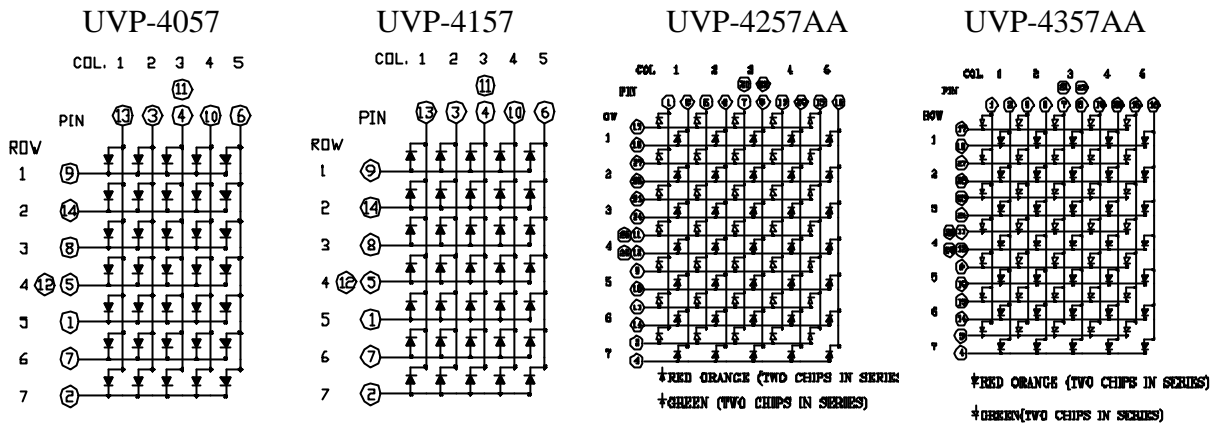


Fig. 1

INTERNAL CIRCUIT DIAGRAM



Note : The Sign \blacktriangleright " Stands For 2 Chips in Series.

Fig. 2

4.0 inch (101.6mm)

5X7 DOT MATRIX LED DISPLAY

UVP-4X58XX SERIES

PIN CONNECTION

PIN NO.	CONNECTION	
	UVP-4057	UVP-4157
1	CATHODE ROW 5	ANODE ROW 5
2	CATHODE ROW 7	ANODE ROW 7
3	ANODE COLUMN 2	CATHODE COLUMN 2
4	ANODE COLUMN 3	CATHODE COLUMN 3
5	CATHODE ROW 4	ANODE ROW 4
6	ANODE COLUMN 5	CATHODE COLUMN 5
7	CATHODE ROW 6	ANODE ROW 6
8	CATHODE ROW 3	ANODE ROW 3
9	CATHODE ROW 1	ANODE ROW 1
10	ANODE COLUMN 4	CATHODE COLUMN 4
11	ANODE COLUMN 3	CATHODE COLUMN 3
12	CATHODE ROW 4	ANODE ROW 4
13	ANODE COLUMN 1	CATHODE COLUMN 1
14	CATHODE ROW 2	ANODE ROW 2

PIN NO.	CONNECTION	
	UVP-4257AA	UVP-4357AA
1	ANODE COLUMN 1 GREEN	CATHODE COLUMN 1 GREEN
2	ANODE COLUMN 1 RED ORAGNE	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 COLUMN3 GREEN
8	ANODE COLUMN 3 RED ORAGNE	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 ORAGNE	CATHODE COLUMN 4 RED ORANGE
21	ANODE COLUMN 3 GREEN	CATHODE COLUMN 3 GREEN
22	ANODE COLUMN 3 RED ORAGNE	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

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ELECTRICAL/OPTICAL CHARACTERISTICS

AlGaAs RED (UVP-4X57AC)

@ T_A=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I _V	11600	20000		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		3.6	4.8	V	I _F = 20 mA
Reverse Current, any Dot	I _R			100	μA	V _R = 10V
Luminous Intensity Matching Ratio	I _V -m			2:1		I _F = 10 mA

GREEN (UVP-4X57AG & UVP-4X57AA GREEN)

@ 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		565/569		nm	I _F = 20 mA
Spectral Line Half-Width	Δλ		30		nm	I _F = 20 mA
Forward Voltage, any Dot	V _F		4.2	5.2	V	I _F = 20 mA
Reverse Current, any Dot	I _R			100	μA	V _R = 10 V
Luminous Intensity Matching Ratio	I _V -m			2:1		I _F = 10 mA

YELLOW (RED ORANGE (UVP-4X57AE & UVP-4X57AA RED OR

@ 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		40		nm	I _F = 20 mA
Forward Voltage, any Dot	V _F		4	5.2	V	I _F = 20 mA
Reverse Current, any Dot	I _R			100	μA	V _R = 10 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)

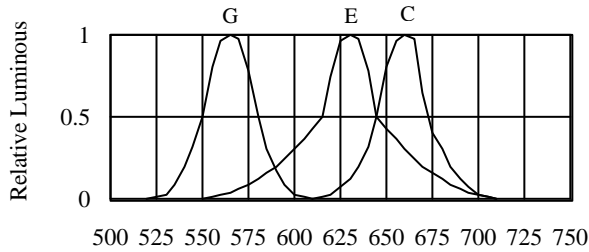


FIG.1 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH

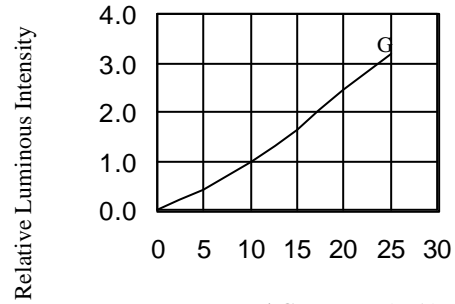


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

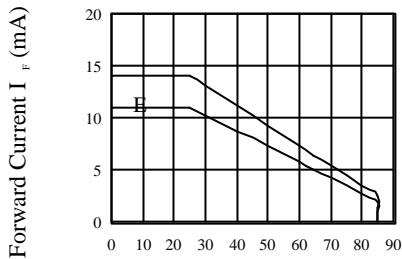


FIG.3 ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

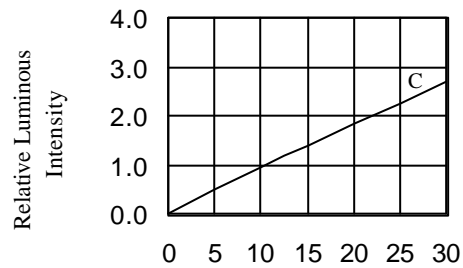


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

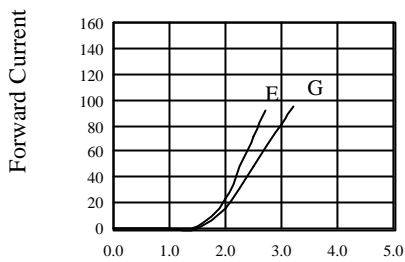


FIG.4 FORWARD CURRENT VS. FORWARD VOLTAGE

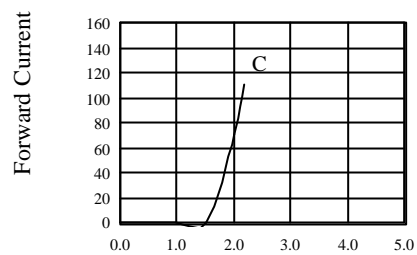


FIG.4 FORWARD CURRENT VS. FORWARD VOLTAGE