

## 0.4 inch ( 10.0 mm )

# **SINGLE DIGIT NUMERIC LED DISPLAYS UVS-4X01 SERIES**

### DESCRIPTION

The UVS-4301/4801 is 0.4 inch (10.0mm) height single digit display.

Choices of five colors-high efficiency red/bright red/green/yellow/red orange.

All devices displays have gray face and white segments.

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

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

### FEATURES

- Industry Standard Size
- Wide Viewing angle
- Continuous uniform segments.
- Excellent characters appearance
- Low power requirement

### DEVICES

PART NO.	DESCRIPTION	PACKAGE DIMENSION	INTERNAL CIRCUIT DIAGRAM
UVS-4301	Common Cathode	Fig. 1	Fig. 2
UVS-4801	Common Anode		

### ABSOLUTE MAXIMUM RATINGS

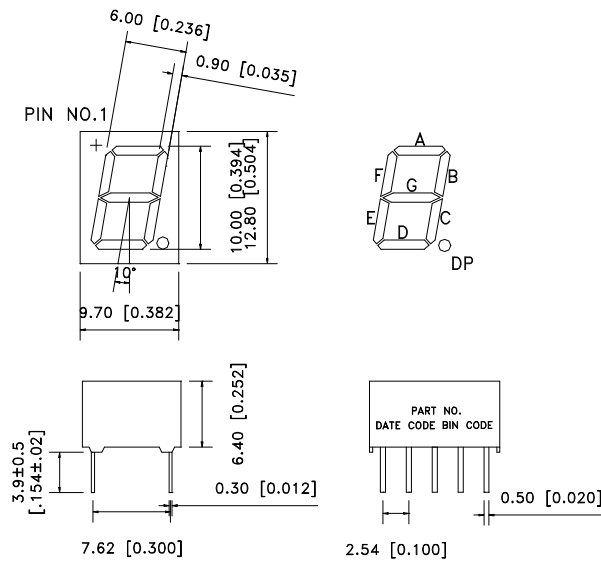
@ T<sub>A</sub>=25 °C

PARAMETER	H.I.EFF. RED	BRIGHT RED	GREEN	YELLOW	RED ORANGE	UNIT
Power Dissipation Per Segment	75	40	75	60	75	mW
Peak Forward Current Per Segment ( 1/10 Duty Cycle, .0.1ms pulse width)	100	60	100	80	100	mA
Continuous Forward Current Per Segment	25	15	25	20	25	mA
Derating Linear From 25°C Per Segment	0.33	0.2	0.33	0.27	0.33	mA/°C
Reverse Voltage Per Segment	5	5	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



Unit:mm(inches)

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

Fig. 1

## INTERNAL CIRCUIT DIAGRAM

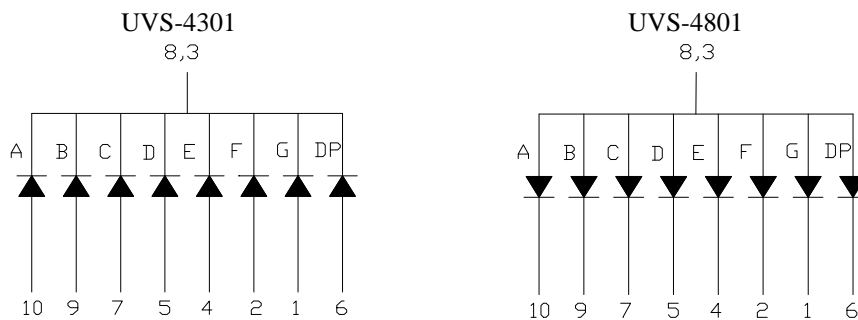


Fig. 2

**0.4 inch ( 10.0 mm )**

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**PIN CONNECTION**

PIN	CONNECTION	
	UVS-4301	UVS-4801
1	ANODE G	CATHODE G
2	ANODE F	CATHODE F
3	COMMON CATHODE	COMMON ANODE
4	ANODE E	CATHODE E
5	ANODE D	CATHODE D
6	ANODE D . P .	CATHODE D . P .
7	ANODE C	CATHODE C
8	COMMON CATHODE	COMMON ANODE
9	ANODE B	CATHODE B
10	ANODE A	CATHODE A

**ELECTRICAL/OPTICAL CHARACTERISTICS**

**HI.EFF. RED (UVS-4310HR / 4810HR)**

@ T<sub>A</sub>=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>V</sub>	800	2200		μcd	I <sub>F</sub> = 10 mA
Peak Emission Wavelength	λ <sub>p</sub> /Hue		635/623		nm	I <sub>F</sub> = 20 mA
Spectral Line Half-Width	Δλ		40		nm	I <sub>F</sub> = 20 mA
Forward Voltage, Per Segment	V <sub>F</sub>		2.0	2.6	V	I <sub>F</sub> = 10 mA
Reverse Current, Per Segment	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

**0.4 inch ( 10.0 mm )****SINGLE DIGIT NUMERIC LED DISPLAYS****UVS-4X01 SERIES****ELECTRICAL/OPTICAL CHARACTERISTICS****BRIGHT RED (UVS-4310P / 4810P)**@ T<sub>A</sub>=25 °C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>V</sub>	320	800		μcd	I <sub>F</sub> = 10 mA
Peak Emission Wavelength	λ <sub>p</sub> /Hue		697/657		nm	I <sub>F</sub> = 20 mA
Spectral Line Half-Width	Δλ		90		nm	I <sub>F</sub> = 20 mA
Forward Voltage, Per Segment	V <sub>F</sub>		2.1	2.6	V	I <sub>F</sub> = 20 mA
Reverse Current, Per Segment	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 (UVS-4310G / 4810G)**@ T<sub>A</sub>=25 °C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>V</sub>	800	2200		mcd	I <sub>F</sub> = 10 mA
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, Per Segment	V <sub>F</sub>		2.1	2.6	V	I <sub>F</sub> = 20 mA
Reverse Current, Per Segment	I <sub>R</sub>			100	mA	V <sub>R</sub> = 5 V
Luminous Intensity Matching Ratio	I <sub>v</sub> - m			2:1		I <sub>F</sub> = 10 mA

**YELLOW (UVS-4310Y / 4810Y)**@ T<sub>A</sub>=25 °C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>V</sub>	800	2200		μcd	I <sub>F</sub> = 10 mA
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, Per Segment	V <sub>F</sub>		2.1	2.6	V	I <sub>F</sub> = 20 mA
Reverse Current, Per Segment	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

**RED ORANGE (UVS-4310E / 4810E)**@ T<sub>A</sub>=25 °C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>V</sub>	800	2200		μcd	I <sub>F</sub> = 10 mA
Peak Emission Wavelength	λ <sub>p</sub> /Hue		630/621		nm	I <sub>F</sub> = 20 mA
Spectral Line Half-Width	Δλ		40		nm	I <sub>F</sub> = 20 mA
Forward Voltage, Per Segment	V <sub>F</sub>		2.0	2.6	V	I <sub>F</sub> = 20 mA
Reverse Current, Per Segment	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

**0.4 inch ( 10.0 mm )**

**SINGLE DIGIT NUMERIC LED DISPLAYS**

**UVS-4X01 SERIES**

**TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES**

( Ambient Temperature =25°C Unless Otherwise Noted )

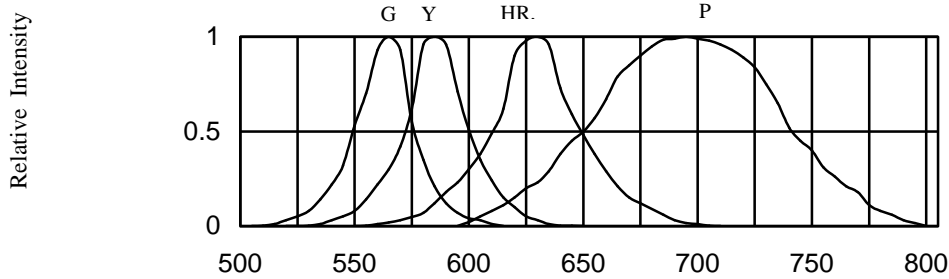


FIG.1 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH

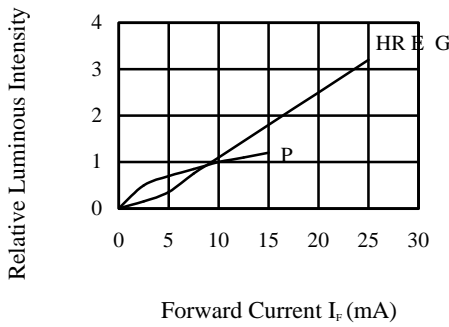


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

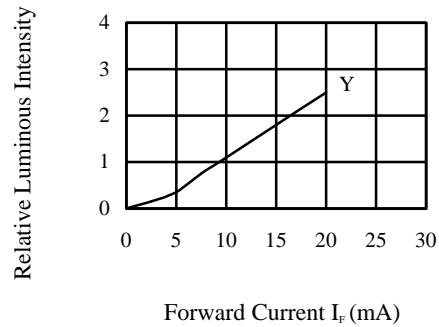


FIG.2-1 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

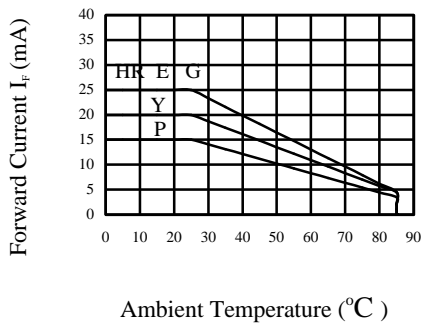


FIG.3 ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

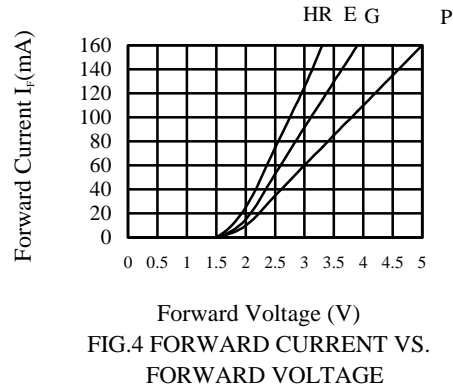


FIG.4 FORWARD CURRENT VS. FORWARD VOLTAGE