

# 12.7×6.35mm LIGHT BAR

# UVB-5X173 SERIES

## DESCRIPTION

The UVB-5X173 is 12.7mm×6.35 rectangular light bar.

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

The high efficiency red devices have red bars, green devices have green bars, and yellow devices have yellow bars.

The high efficiency red and yellow LED chips are made from GaAsP on a transparent GaP substrate.

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

## FEATURES

- Industry standard size
- Wide viewing angle
- Large, bright, uniform light emitting areas.
- Excellent ON-Off contrast.
- Low power requirement

## DEVICES

PART NO.	DESCRIPTION	PACKAGE DIMENSION	INTERNAL CIRCUIT DIAGRAM
UVB-5X173XX	Universal, Rectangular Bar	Fig. 1	Fig. 2

## ABSOLUTE MAXIMUM RATINGS

@ T<sub>A</sub>=25°C

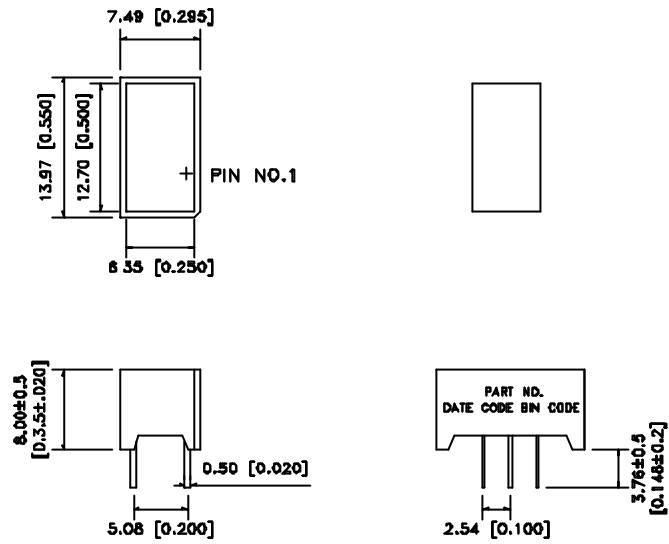
PARAMETER	HEFF. RED	GREEN	YELLOW	UNIT
Power Dissipation Per Chip	75	75	60	mW
Peak Forward Current Per Chip 1/10 Duty Cycle, .0.1ms pulse width)	100	100	80	mA
Continuous Forward Current Per Dot	25	25	20	mA
Derating Linear From 25°C Per Dot	0.33	0.33	0.27	mA/°C
Reverse Voltage Per Chip	5	5	5	V
Operating 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



Unit:mm(inches)  
Tolerance is  $\pm 0.25\text{mm}(0.01\text{'})$  unless otherwise noted

Fig. 1

## INTERNAL CIRCUIT DIAGRAM

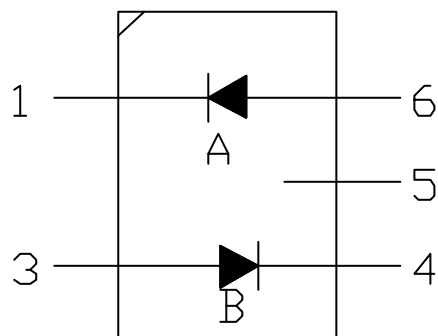


Fig. 2

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## UVB-5X173 SERIES

### PIN CONNECTION

PIN	CONNECTION
1	CATHODE A
2	NO PIN
3	ANODE B
4	CATHODE B
5	NO CONNECTION
6	ANODE A

### ELECTRICAL/OPTICAL CHARACTERISTICS

#### HI.EFF. RED (UVB-57173HR)

@ T<sub>A</sub>=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>V</sub>	2300	4200		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, and Chip	V <sub>F</sub>		2.0	2.6	V	I <sub>F</sub> = 20 mA
Reverse Current, and Chip	I <sub>R</sub>			100	μA	V <sub>R</sub> = 5 V

#### GREEN (UVB-54173G)

@ T<sub>A</sub>=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>V</sub>	2300	4200		μcd	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, and Chip	V <sub>F</sub>		2.1	2.6	V	I <sub>F</sub> = 20 mA
Reverse Current, and Chip	I <sub>R</sub>			100	μA	V <sub>R</sub> = 5 V

#### YELLOW (UVB-53173Y)

@ T<sub>A</sub>=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>V</sub>	2300	4200		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, and Chip	V <sub>F</sub>		2.1	2.6	V	I <sub>F</sub> = 20 mA
Reverse Current, and Chip	I <sub>R</sub>			100	μA	V <sub>R</sub> = 5 V

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## TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES

( Ambient Temperature =25°C Unless Otherwise Noted )

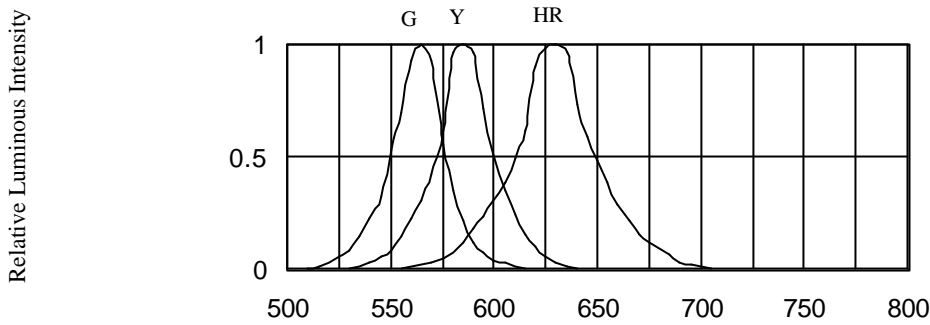


Fig 1. RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH

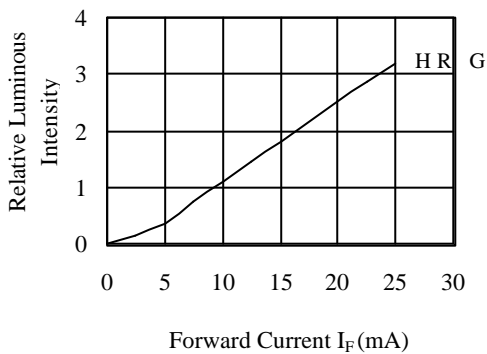


Fig 2. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

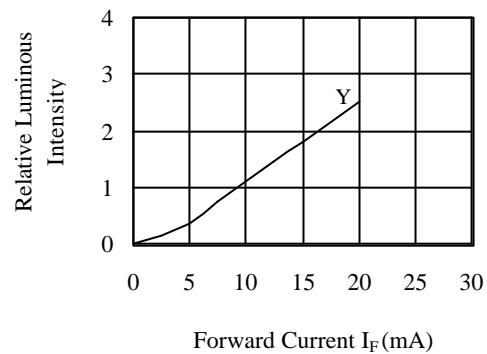


Fig 3. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

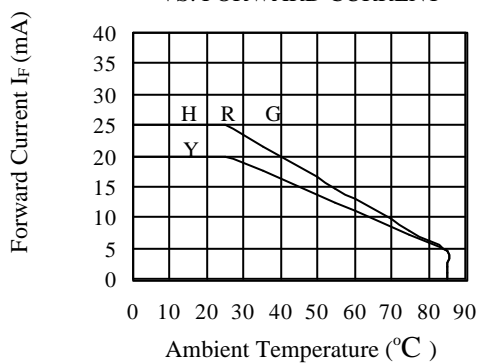


Fig 3. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

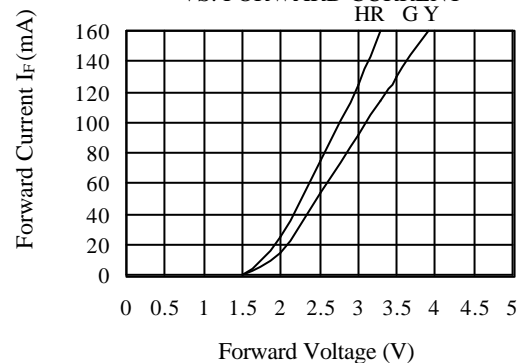


Fig 4. FORWARD CURRENT VS. FORWARD VOLTAGE