

# Kingbright®

## LED LIGHT BARS

KB-A100SRW,-B100SRW,-C100SRW,-D100SRW,-E100SRW,  
-F100SRW,-G100SRW,-H100SRW  
KB-2300EW,-2350EW,-2655EW,-2600EW,-2620EW,-2635EW,-2670EW  
-2685EW,-2500SGD,-2550SGD,-2855SGD,-2800SGD,-2820SGD,  
-2835SGD,-2870SGD,-2885SGD,-2400YW,-2450YW,-2755YW,  
-2700YW,-2720YW,-2735YW,-2770YW,-2785YW

## Features

- UNIFORM LIGHT EMITTING AREA.
- LOW CURRENT OPERATION.
- EASILY MOUNTED ON P.C. BOARDS.
- FLUSH MOUNTABLE.
- EXCELLENT ON/OFF CONTRAST.
- CAN BE USED WITH PANELS AND LEGEND MOUNTS.
- CATEGORIZED FOR LUMINOUS INTENSITY, YELLOW AND GREEN CATEGORIZED FOR COLOR.

## Description

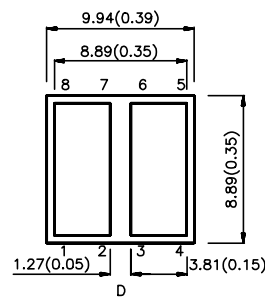
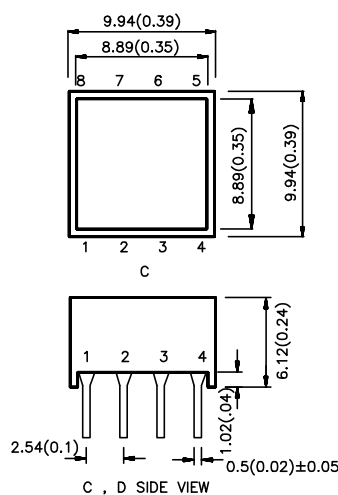
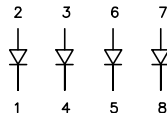
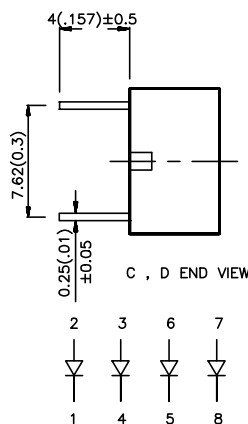
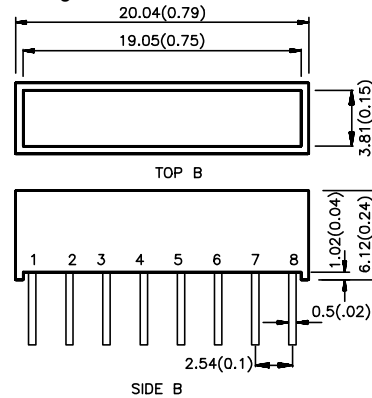
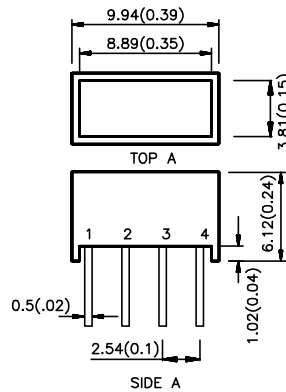
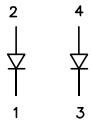
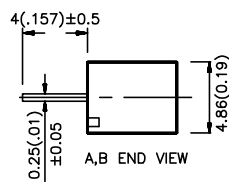
The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

The Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

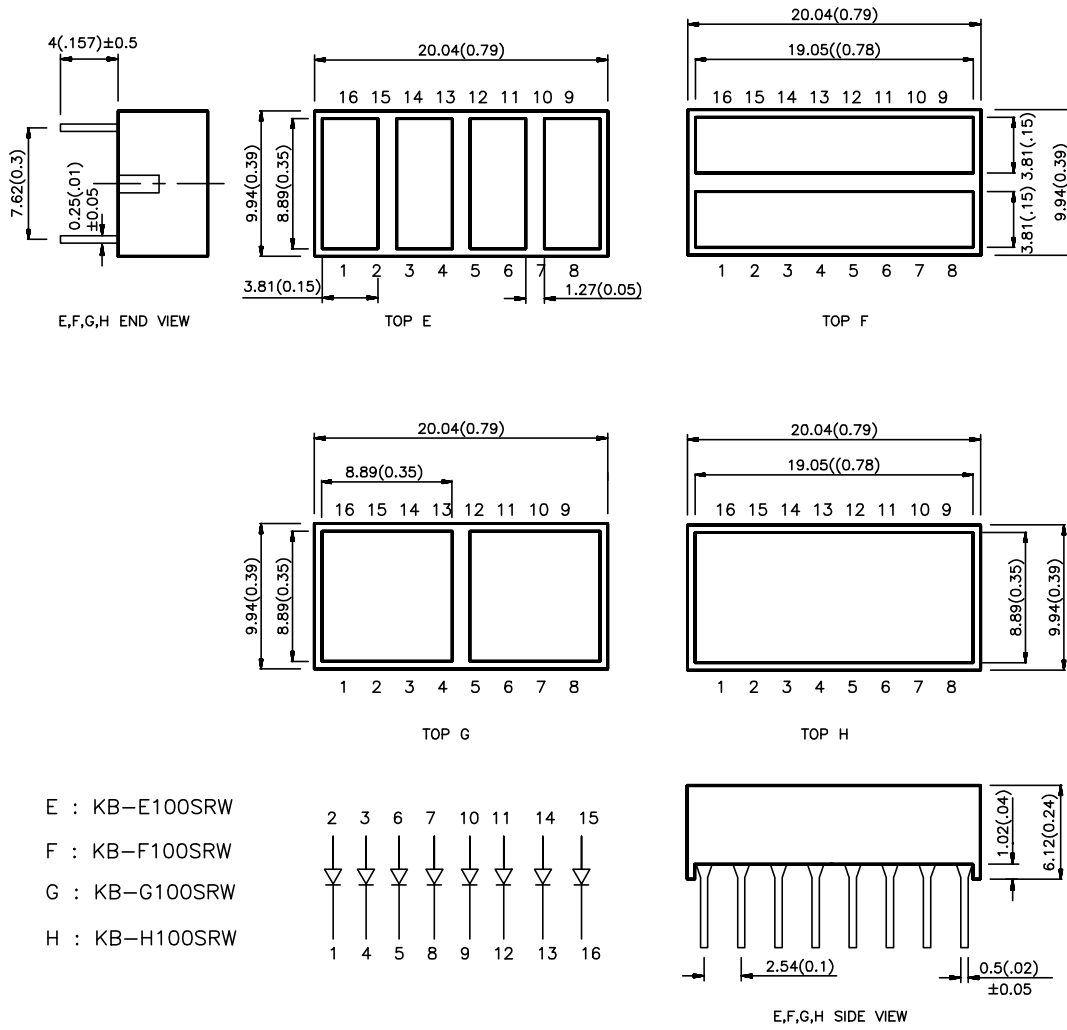
The Super Bright Red source color devices are made with Gallium Aluminum Arsenide Red Light Emitting Diode.

## Package Dimensions & Internal Circuit Diagram



A : KB-A100SRW  
B : KB-B100SRW  
C : KB-C100SRW  
D : KB-D100SRW

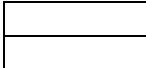
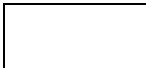
# Package Dimensions & Internal Circuit Diagram



Notes :

1. All dimensions are in millimeters (inches), Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
2. Specifications are subjected to change without notice.

## Selection Guide

| Part No.   | Dice                            | Lens Type      | Iv (mcd)<br>@ 20 mA |      | Size of<br>Light Emitting<br>Areas                                                    |
|------------|---------------------------------|----------------|---------------------|------|---------------------------------------------------------------------------------------|
|            |                                 |                | Min.                | Typ. | Package Outline                                                                       |
| KB-2300EW  | HIGH EFFICIENCY RED (GaAsP/GaP) | White Diffused | 10                  | 25   |    |
| KB-A100SRW | SUPER BRIGHT RED (GaAlAs)       | White Diffused | 40                  | 75   |                                                                                       |
| KB-2400YW  | YELLOW (GaAsP/GaP)              | White Diffused | 8                   | 18   |                                                                                       |
| KB-2500SGD | SUPER BRIGHT GREEN (GaP)        | Green Diffused | 10                  | 25   |                                                                                       |
| KB-2350EW  | HIGH EFFICIENCY RED (GaAsP/GaP) | White Diffused | 20                  | 50   |    |
| KB-B100SRW | SUPER BRIGHT RED (GaAlAs)       | White Diffused | 30                  | 80   |                                                                                       |
| KB-2450YW  | YELLOW (GaAsP/GaP)              | White Diffused | 15                  | 38   |                                                                                       |
| KB-2550SGD | SUPER BRIGHT GREEN (GaP)        | Green Diffused | 20                  | 50   |                                                                                       |
| KB-2655EW  | HIGH EFFICIENCY RED (GaAsP/GaP) | White Diffused | 20                  | 45   |    |
| KB-C100SRW | SUPER BRIGHT RED (GaAlAs)       | White Diffused | 30                  | 80   |                                                                                       |
| KB-2755YW  | YELLOW (GaAsP/GaP)              | White Diffused | 15                  | 35   |                                                                                       |
| KB-2855SGD | SUPER BRIGHT GREEN (GaP)        | Green Diffused | 20                  | 50   |                                                                                       |
| KB-2600EW  | HIGH EFFICIENCY RED (GaAsP/GaP) | White Diffused | 10                  | 25   |  |
| KB-D100SRW | SUPER BRIGHT RED (GaAlAs)       | White Diffused | 45                  | 75   |                                                                                       |
| KB-2700YW  | YELLOW (GaAsP/GaP)              | White Diffused | 8                   | 18   |                                                                                       |
| KB-2800SGD | SUPER BRIGHT GREEN (GaP)        | Green Diffused | 10                  | 25   |                                                                                       |
| KB-2620EW  | HIGH EFFICIENCY RED (GaAsP/GaP) | White Diffused | 10                  | 25   |  |
| KB-E100SRW | SUPER BRIGHT RED (GaAlAs)       | White Diffused | 40                  | 75   |                                                                                       |
| KB-2720YW  | YELLOW (GaAsP/GaP)              | White Diffused | 8                   | 18   |                                                                                       |
| KB-2820SGD | SUPER BRIGHT GREEN (GaP)        | Green Diffused | 10                  | 25   |                                                                                       |
| KB-2635EW  | HIGH EFFICIENCY RED (GaAsP/GaP) | White Diffused | 20                  | 50   |  |
| KB-F100SRW | SUPER BRIGHT RED (GaAlAs)       | White Diffused | 30                  | 80   |                                                                                       |
| KB-2735YW  | YELLOW (GaAsP/GaP)              | White Diffused | 15                  | 38   |                                                                                       |
| KB-2835SGD | SUPER BRIGHT GREEN (GaP)        | Green Diffused | 20                  | 50   |                                                                                       |
| KB-2670EW  | HIGH EFFICIENCY RED (GaAsP/GaP) | White Diffused | 20                  | 45   |  |
| KB-G100SRW | SUPER BRIGHT RED (GaAlAs)       | White Diffused | 30                  | 80   |                                                                                       |
| KB-2770YW  | YELLOW (GaAsP/GaP)              | White Diffused | 15                  | 35   |                                                                                       |
| KB-2870SGD | SUPER BRIGHT GREEN (GaP)        | Green Diffused | 20                  | 50   |                                                                                       |
| KB-2685EW  | HIGH EFFICIENCY RED (GaAsP/GaP) | White Diffused | 25                  | 80   |  |
| KB-H100SRW | SUPER BRIGHT RED (GaAlAs)       | White Diffused | 40                  | 150  |                                                                                       |
| KB-2785YW  | YELLOW (GaAsP/GaP)              | White Diffused | 25                  | 70   |                                                                                       |
| KB-2885SGD | SUPER BRIGHT GREEN (GaP)        | Green Diffused | 30                  | 100  |                                                                                       |

### Electrical Maximum Ratings at T<sub>A</sub>=25°C

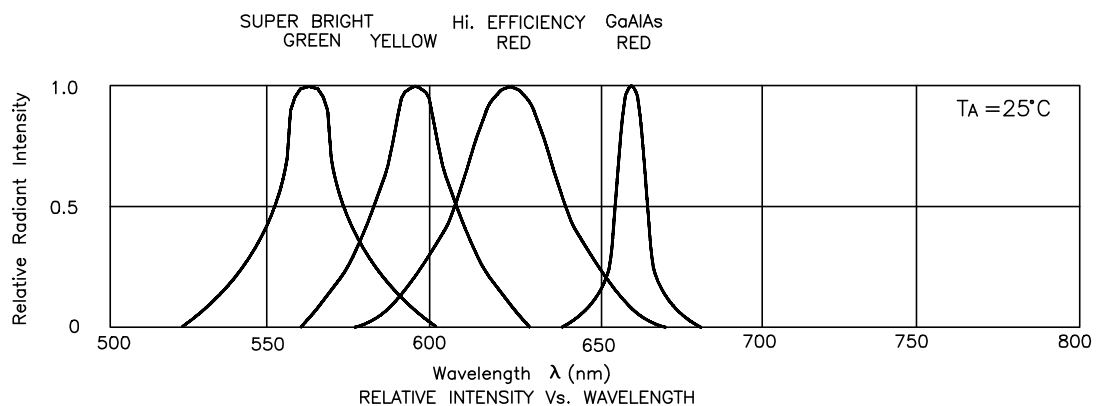
| Symbol                | Parameter               | Device                                                                  | Typ.                      | Max.                     | Units | Test Conditions |
|-----------------------|-------------------------|-------------------------------------------------------------------------|---------------------------|--------------------------|-------|-----------------|
| $\lambda_{peak}$      | Peak Wavelength         | High Efficiency Red<br>Super Bright Green<br>Yellow<br>Super Bright Red | 625<br>565<br>590<br>660  |                          | nm    | IF=20mA         |
| $\Delta\lambda_{1/2}$ | Spectral Line Halfwidth | High Efficiency Red<br>Super Bright Green<br>Yellow<br>Super Bright Red | 45<br>30<br>35<br>20      |                          | nm    | IF=20mA         |
| C                     | Capacitance             | High Efficiency Red<br>Super Bright Green<br>Yellow<br>Super Bright Red | 12<br>45<br>10<br>95      |                          | pF    | VR=0V;f=1MHz    |
| V <sub>F</sub>        | Forward Voltage         | High Efficiency Red<br>Super Bright Green<br>Yellow<br>Super Bright Red | 2.0<br>2.2<br>2.1<br>1.85 | 2.5<br>2.5<br>2.5<br>2.5 | V     | IF=20mA         |
| I <sub>R</sub>        | Reverse Current         | All                                                                     | 10                        |                          | uA    | VR = 5V         |

### Absolute Maximum Ratings at T<sub>A</sub>=25°C

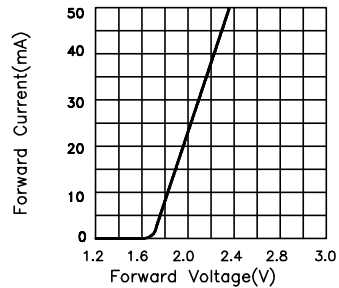
| Parameter                      | High Efficiency Red  | Yellow | Super Bright Red | Super Bright Green | Units |
|--------------------------------|----------------------|--------|------------------|--------------------|-------|
| Power dissipation              | 105                  | 105    | 100              | 105                | mW    |
| DC Forward Current             | 30                   | 30     | 30               | 25                 | mA    |
| Peak Forward Current [1]       | 150                  | 150    | 150              | 150                | mA    |
| Reverse Voltage                | 5                    | 5      | 5                | 5                  | V     |
| Operating/Storage Temperature  | -40°C To +85 °C      |        |                  |                    |       |
| Lead Soldering Temperature [2] | 260 °C For 5 Seconds |        |                  |                    |       |

Notes:

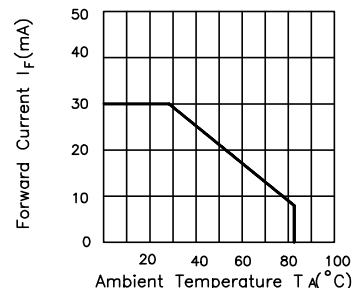
- 1/10 Duty Cycle, 0.1ms Pulse Width.
- 4mm below package base.



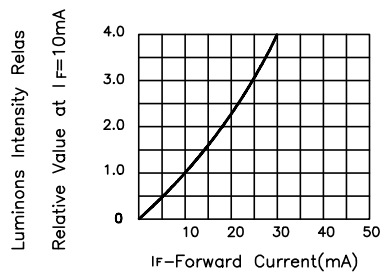
## High Efficiency Red



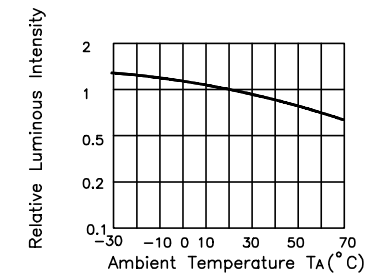
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

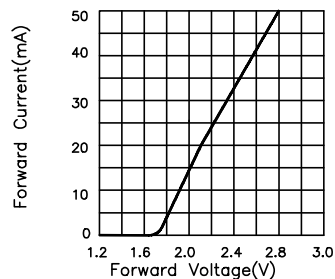


LUMINOUS INTENSITY Vs. FORWARD CURRENT

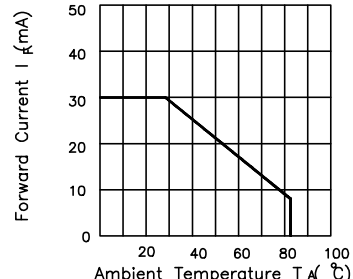


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

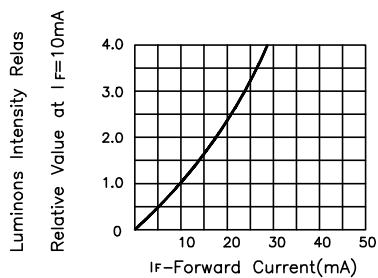
## Yellow



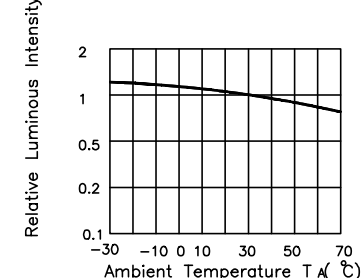
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

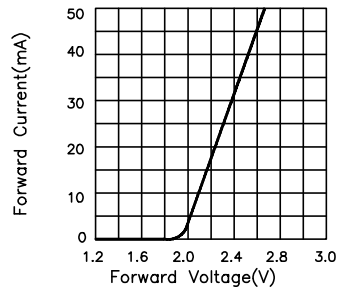


LUMINOUS INTENSITY Vs. FORWARD CURRENT

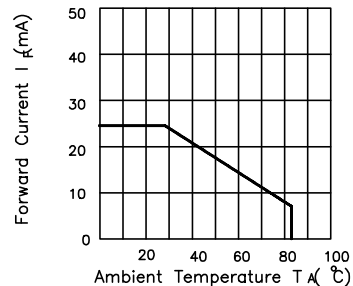


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

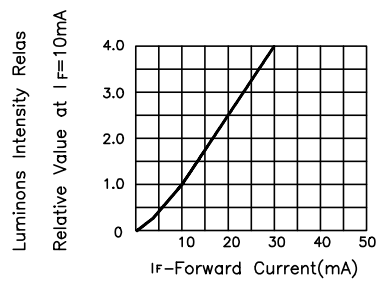
## Super Bright Green



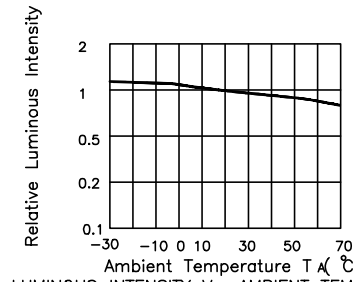
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

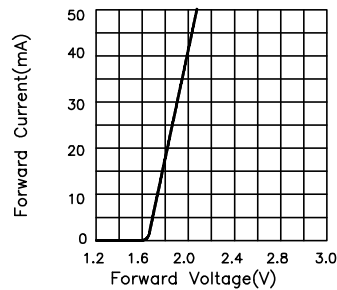


LUMINOUS INTENSITY Vs. FORWARD CURRENT

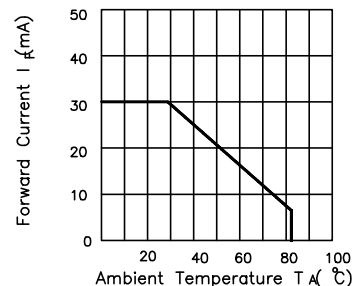


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

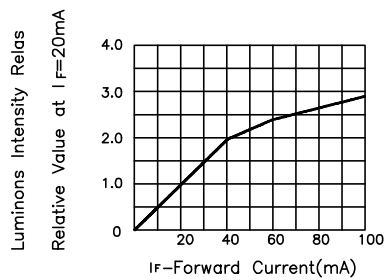
## Super Bright Red



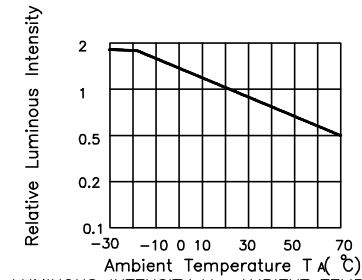
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE