

# Kingbright®

## 45.7mm (1.8INCH) ARROWS INDICATOR DISPLAY

AA18-11

AC18-11

### Features

- | 1.8 INCH ARROW HEIGHT.
- | LOW CURRENT OPERATION.
- | EXCELLENT CHARACTER APPEARANCE.
- | EASY MOUNTING ON P.C. BOARDS OR SOCKETS.
- | I.C. COMPATIBLE.
- | CATEGORIZED FOR LUMINOUS INTENSITY, YELLOW AND GREEN CATEGORIZED FOR COLOR.
- | MECHANICALLY RUGGED.
- | STANDARD : GRAY FACE, WHITE SEGMENT.

### Description

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

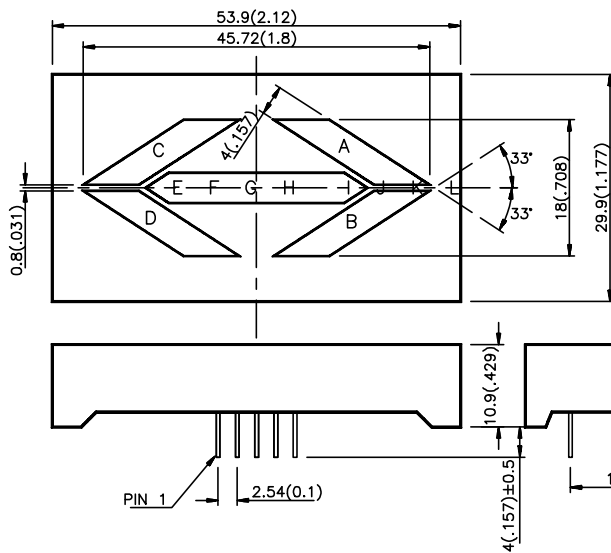
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

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

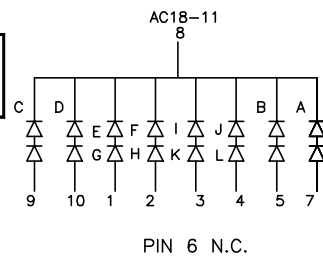
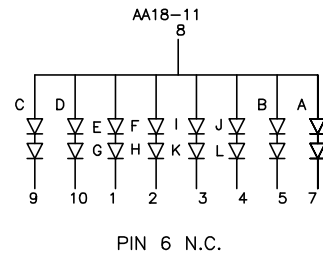
The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

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

### Package Dimensions



### Internal Circuit Diagram



### 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	I <sub>v</sub> (ucd) @ 10 mA		Description
		Min.	Max.	
AA08-11HWA	BRIGHT RED (GaP)	1800	2900	Common Anode
AC18-11HWA				Common Cathode
AA18-11EWA	HIGH EFFICIENCY RED (GaAsP/GaP)	10250	12750	Common Anode
AC18-11EWA				Common Cathode
AA18-11GWA	GREEN (GaP)	14000	22000	Common Anode
AC18-11GWA				Common Cathode
AA18-11YWA	YELLOW (GaAsP/GaP)	6300	14000	Common Anode
AC18-11YWA				Common Cathode
AA18-11SRWA	SUPER BRIGHT RED (GaAlAs)	31000	41000	Common Anode
AC018-11SRWA				Common Cathode

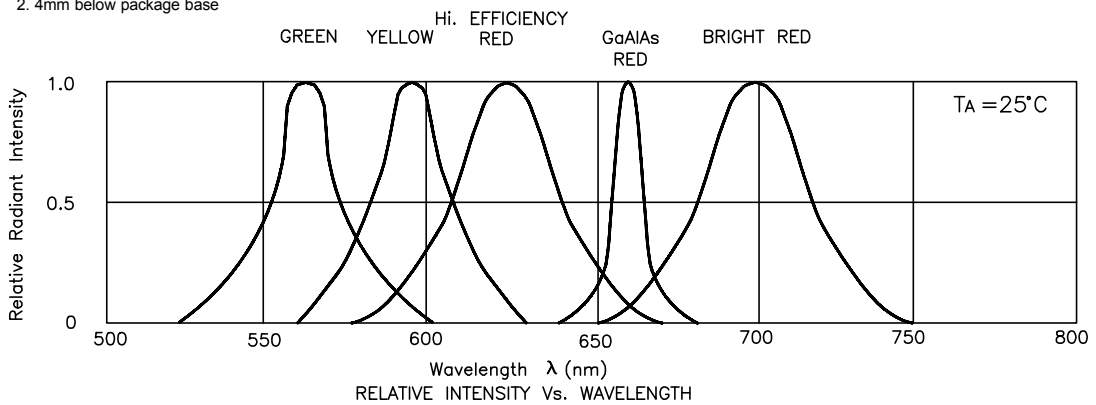
## Electrical / Optical Characteristics at T<sub>A</sub>=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
$\lambda_{peak}$	Peak Wavelength	Bright Red High Efficiency Red Green Yellow Super Bright Red	700 625 565 590 660		nm	I <sub>F</sub> =20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	Bright Red High Efficiency Red Green Yellow Super Bright Red	45 45 30 35 20		nm	I <sub>F</sub> =20mA
C	Capacitance	Bright Red High Efficiency Red Green Yellow Super Bright Red	40 12 45 10 95		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub>	Forward Voltage	Bright Red High Efficiency Red Green Yellow Super Bright Red	2.0 2.0 2.2 2.1 1.85	2.5 2.5 2.5 2.5 2.5	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	All	10		uA	V <sub>R</sub> = 5V

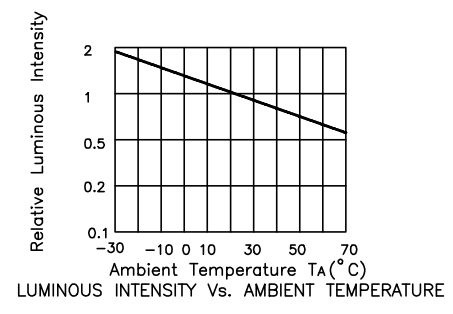
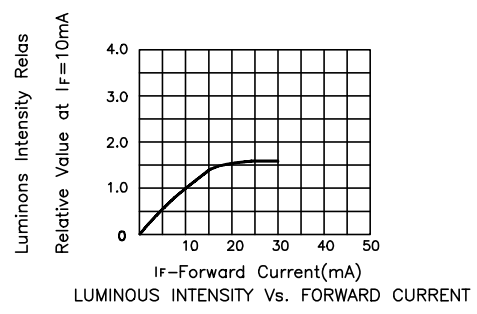
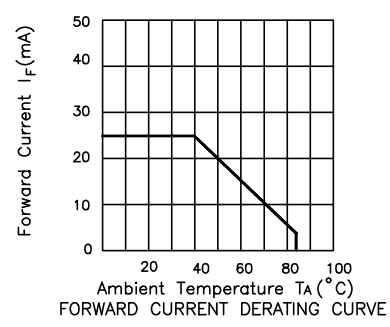
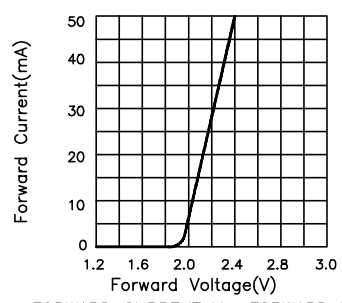
### Absolute Maximum Ratings at $T_A=25^\circ\text{C}$

Parameter	Bright Red	High Efficiency Red	Green	Yellow	Super Bright Red	Units
Power dissipation	120	105	105	105	100	mW
DC Forward Current	25	30	25	30	30	mA
Peak Forward Current [1]	150	150	150	150	150	mA
Reverse Voltage	5	5	5	5	5	V
Operating/Storage Temperature	-40 To +85					
Lead Soldering Temperature [2]	260 For 5 Seconds					

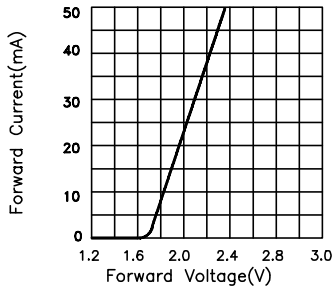
Notes:  
 1. 1/10 Duty Cycle, 0.1ms Pulse Width.  
 2. 4mm below package base



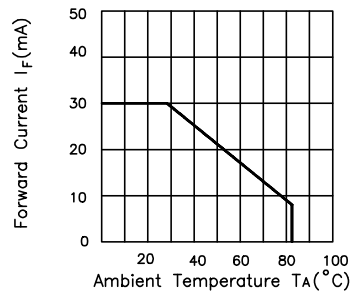
### Bright Red



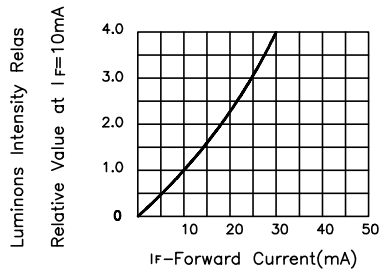
## High Efficiency Red



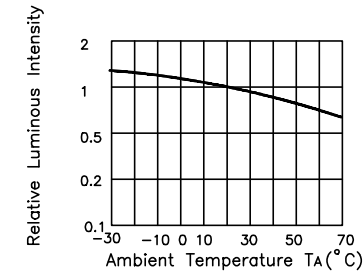
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

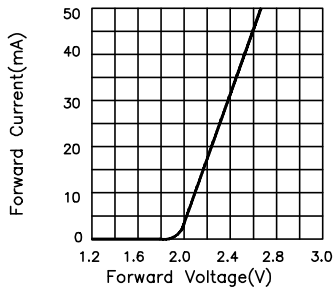


LUMINOUS INTENSITY Vs. FORWARD CURRENT

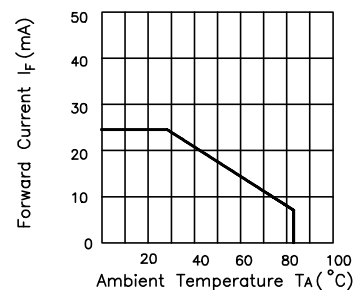


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

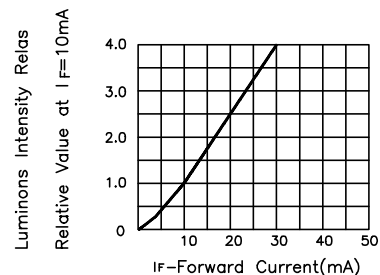
## Green



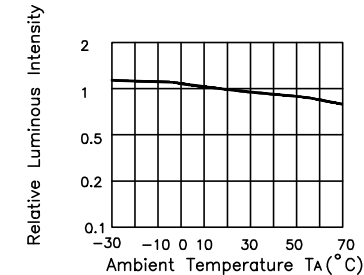
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

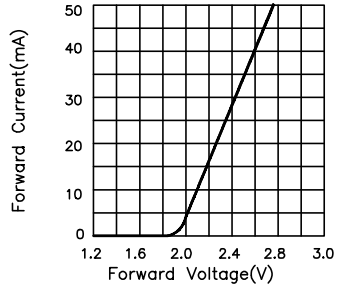


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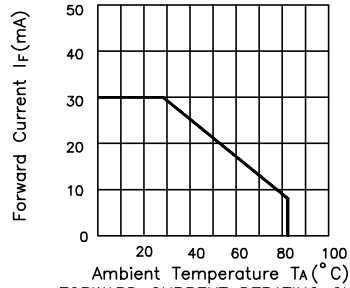


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

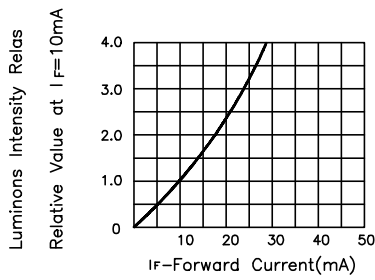
## Yellow



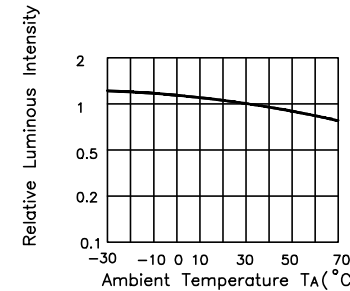
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

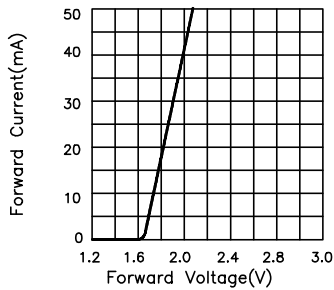


LUMINOUS INTENSITY Vs. FORWARD CURRENT

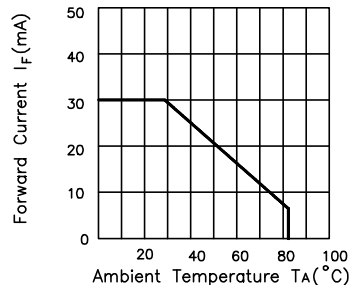


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

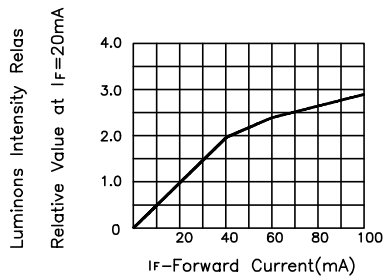
## Super Bright Red



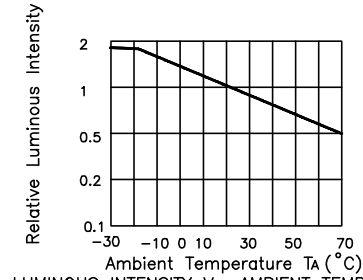
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE