

# Kingbright®

## 10mm (0.4INCH) DUAL DIGIT NUMERIC DISPLAYS

DA04-11

DA04-11

DA04-14

DC04-14

### Features

- 0.4 INCH DIGIT HEIGHT.
- LOW CURRENT OPERATION.
- EXCELLENT CHARACTER APPEARANCE.
- EASY MOUNTING ON P.C. BOARDS OR SOCKETS.
- TWO DIGIT PACKAGE SIMPLIFIES ALIGNMENTS & ASSEMBLY.
- 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.

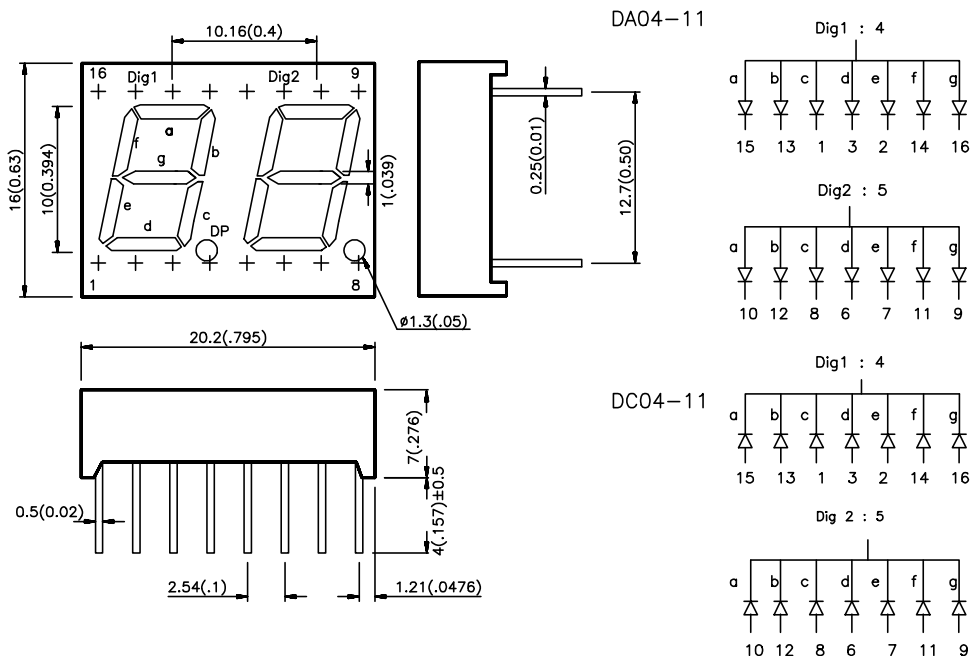
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

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

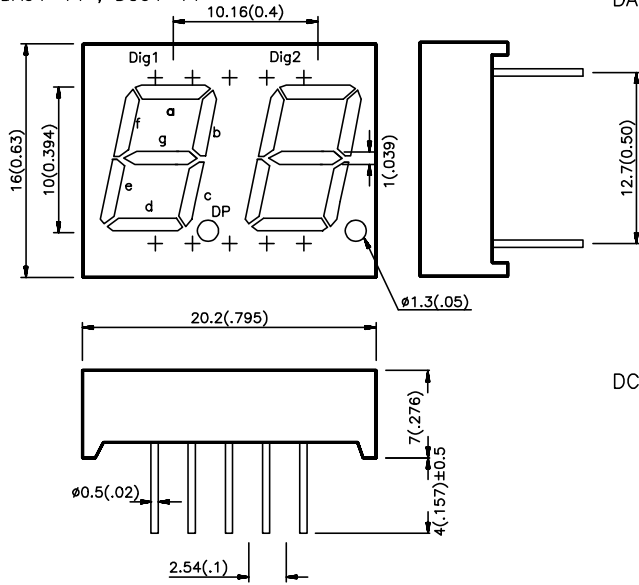


#### Notes:

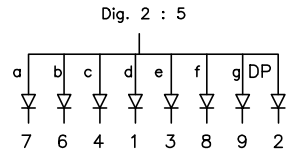
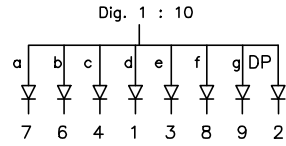
1. All dimensions are in millimeters (inches). Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
2. Specifications are subjected to change without notice.

Package Dimensions & Internal Circuit Diagram

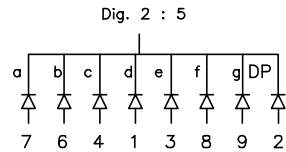
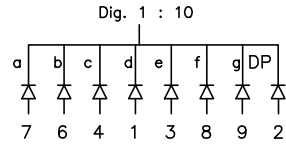
DA04-14 , DC04-14



DA04-14



DC04-14



Selection Guide

Part No.	Dice	Iv (ucd) @ 10 mA		Description
		Min.	Max.	
DA04-11HWA DA04-14HWA	BRIGHT RED (GaP)	560	1400	Common Anode
DC04-11HWA DC04-14HWA				Common Cathode
DA04-11EWA DA04-14EWA	HIGH EFFICIENCY RED (GaAsP/GaP)	2200	5600	Common Anode
DC04-11EWA DC04-14EWA				Common Cathode
DA04-11GWA DA04-14GWA	GREEN (GaP)	2200	5600	Common Anode
DC04-11GWA DC04-14GWA				Common Cathode
DA04-11YWA DA04-14YWA	YELLOW (GaAsP/GaP)	2200	5600	Common Anode
DC04-11YWA DC04-14YWA				Common Cathode
DA04-11SRWA DA04-14SRWA	SUPER BRIGHT RED (GaAlAs)	3600	9000	Common Anode
DC04-11SRWA DC04-14SRWA				Common Cathode

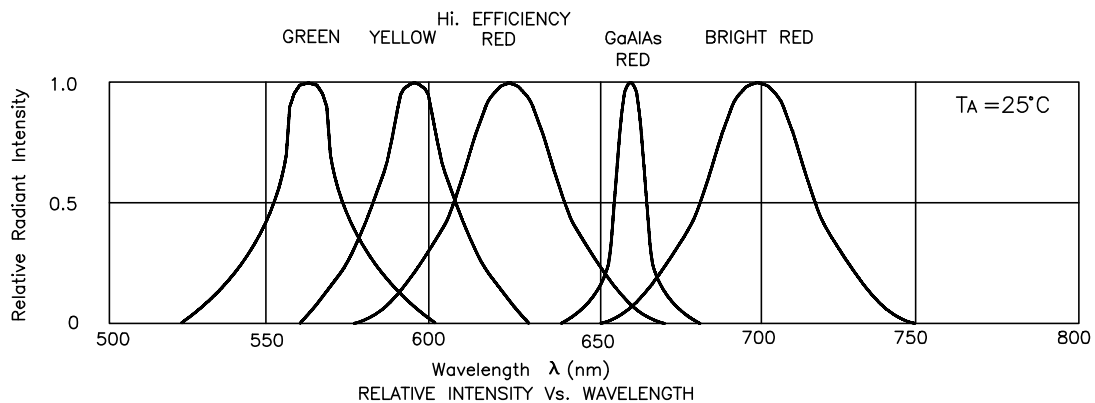
### Electrical / Optical Characteristics at T<sub>A</sub>=25°C

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	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	Bright Red High Efficiency Red Green Yellow Super Bright Red	45 45 30 35 20		nm	IF=20mA
C	Capacitance	Bright Red High Efficiency Red Green Yellow Super Bright Red	40 12 45 10 95		pF	VF=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	IF=20mA
I <sub>R</sub>	Reverse Current	All	10		uA	VR = 5V

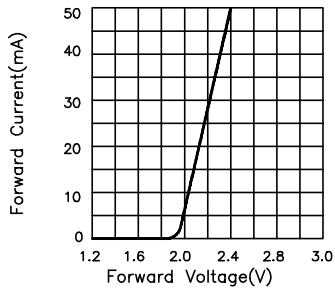
### Absolute Maximum Ratings at T<sub>A</sub>=25°C

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 °C To +85 °C					
Lead Soldering Temperature [2]	260 °C For 5 Seconds					

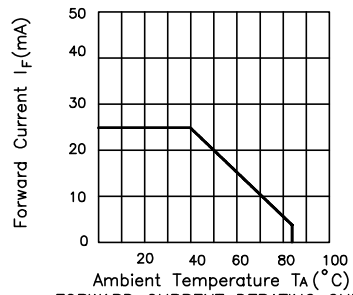
Notes:  
 1. 1/10 Duty Cycle, 0.1ms Pulse Width.  
 2. 4mm below package base



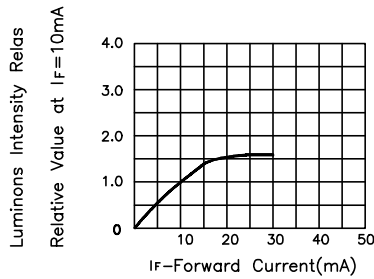
## Bright Red



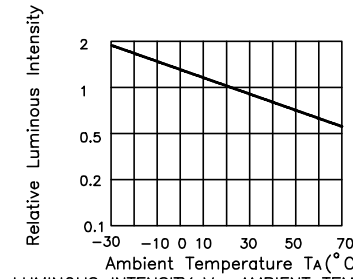
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

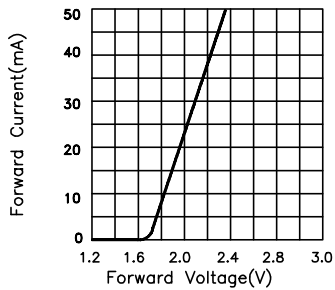


LUMINOUS INTENSITY Vs. FORWARD CURRENT

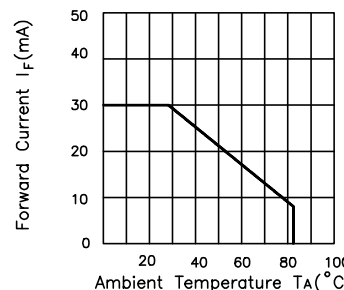


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

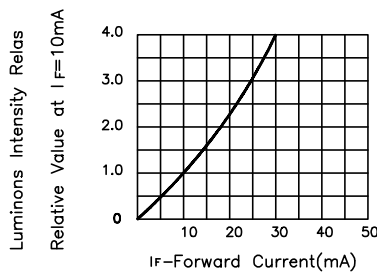
## High Efficiency Red



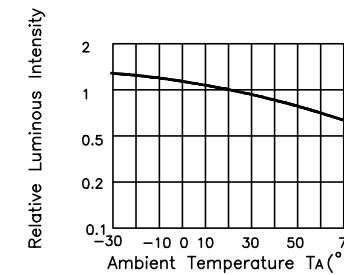
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

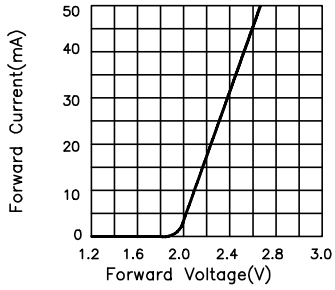


LUMINOUS INTENSITY Vs. FORWARD CURRENT

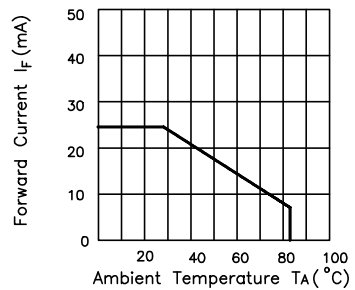


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

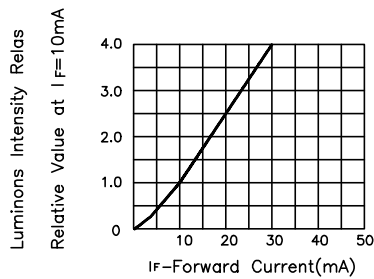
## Green



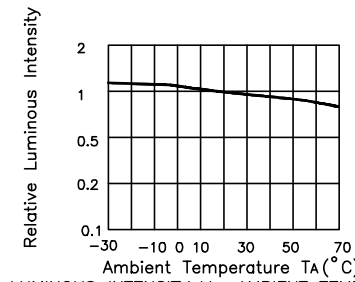
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

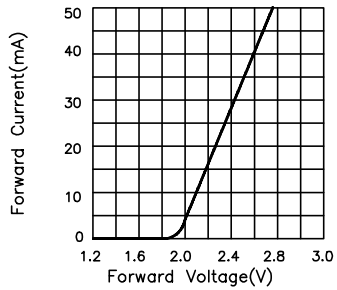


LUMINOUS INTENSITY Vs. FORWARD CURRENT

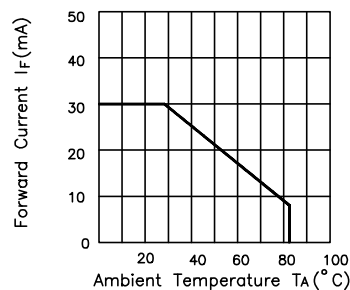


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

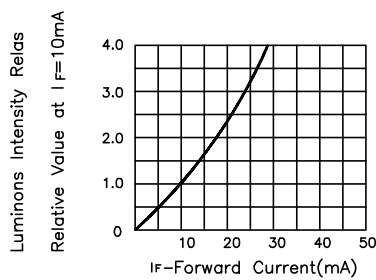
## Yellow



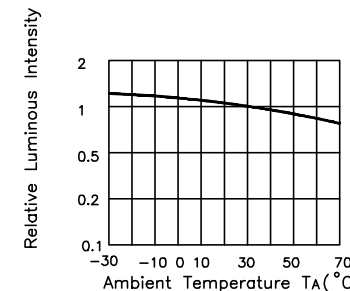
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

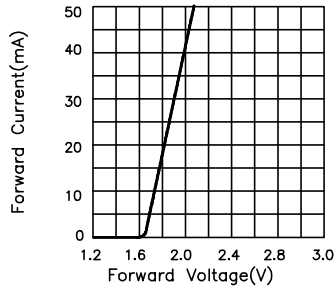


LUMINOUS INTENSITY Vs. FORWARD CURRENT

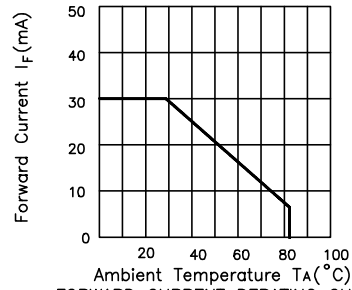


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

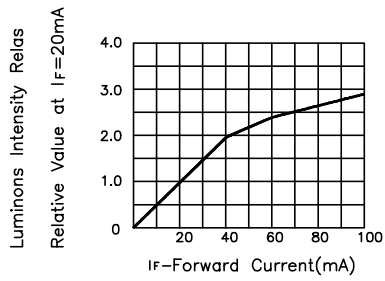
## Super Bright Red



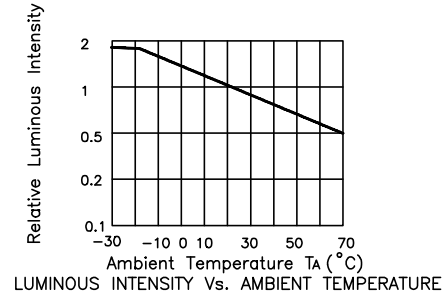
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE