

## LED Displays

Order code	Manufacturer code	Description
57-1440	SA56-11LEWA	0.56IN CA HE RED L/C DISPLAY
57-1445	SC56-11LEWA	0.56IN CC HE RED L/C DISPLAY

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The enclosed information is believed to be correct, Information may change 'without notice' due to product improvement. Users should ensure that the product is suitable for their use. E. & O. E.	Revision A 04/07/2003

# Kingbright®

## 14.2mm (0.56INCH) LOW CURRENT SINGLE DIGIT NUMERIC DISPLAYS

SA56-11L

SC56-11L

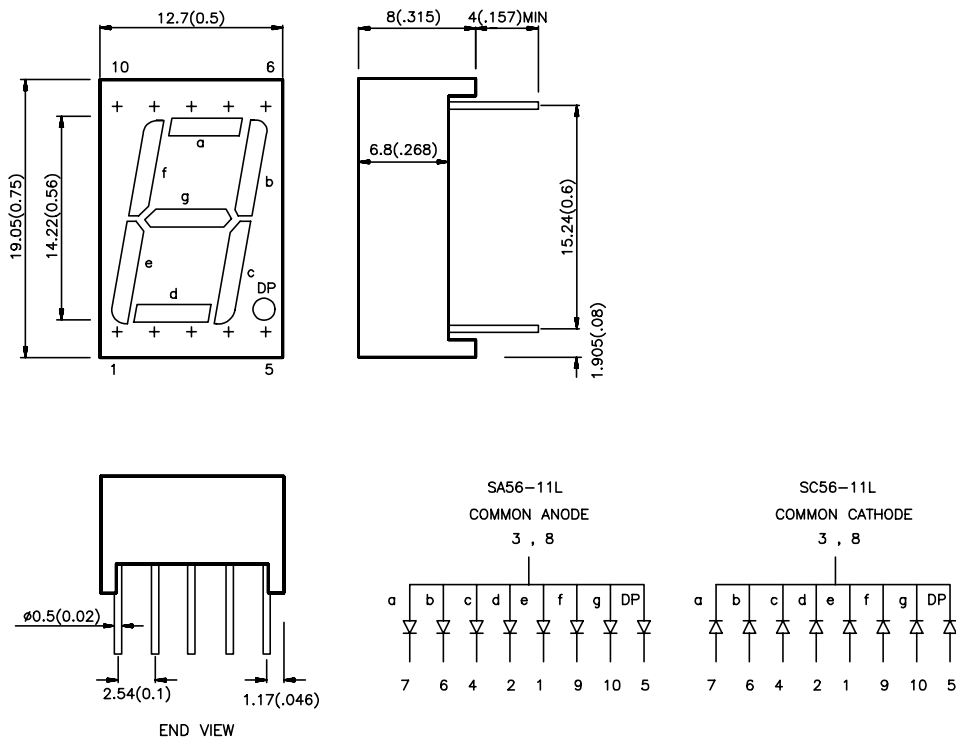
### Features

- 0.56 INCH DIGIT HEIGHT.
- MINIMUM LUMINOUS INTENSITY SPECIFIED AT 2mA.
- HIGH LIGHT OUTPUT AT LOW CURRENT.
- 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 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	Iv (ucd) @ 2mA		Description
		Min.	Max.	
SA56-11LEWA	HIGH EFFICIENCY RED (GaAsP/GaP)	360	900	Common Anode, Rt Hand Decimal
SC56-11LEWA				Common Cathode, Rt. Hand Decimal
SA56-11LGWA	GREEN (GaP)	360	1400	Common Anode, Rt Hand Decimal
SC56-11LGWA				Common Cathode, Rt. Hand Decimal
SA56-11LYWA	YELLOW (GaAsP/GaP)	240	560	Common Anode, Rt Hand Decimal
SC56-11LYWA				Common Cathode, Rt. Hand Decimal
SA56-11LSRWA	SUPER BRIGHT RED (GaAIAs)	2200	5600	Common Anode, Rt Hand Decimal
SC56-11LSRWA				Common Cathode, Rt. Hand Decimal

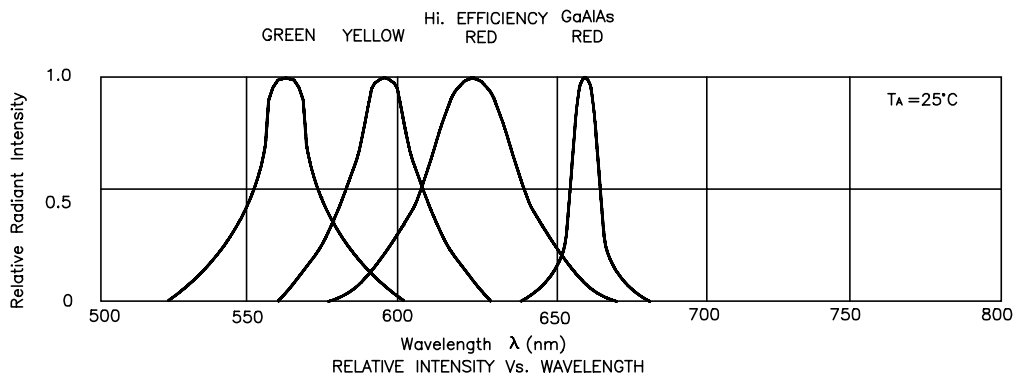
## Electrical / Optical Characteristics at T<sub>A</sub>=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
$\lambda_{peak}$	Peak Wavelength	High Efficiency Red Green Yellow Super Bright Red	625 565 590 660		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	High Efficiency Red Green Yellow Super Bright Red	45 30 35 20		nm	IF=20mA
C	Capacitance	High Efficiency Red Green Yellow Super Bright Red	12 45 10 95		pF	VF=0V;f=1MHz
V <sub>F</sub>	Forward Voltage	High Efficiency Red Green Yellow Super Bright Red	1.7 1.9 1.8 1.65	2.0 2.2 2.1 1.95	V	IF=2mA
I <sub>R</sub>	Reverse Current	All	10		uA	VR = 5V

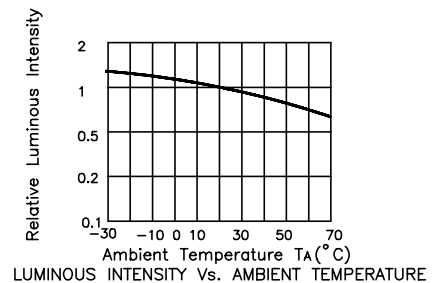
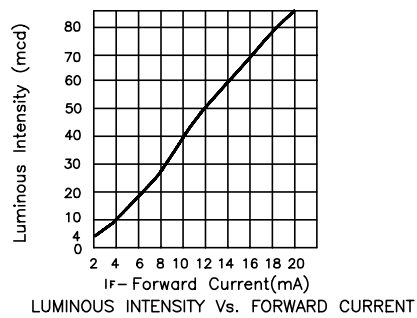
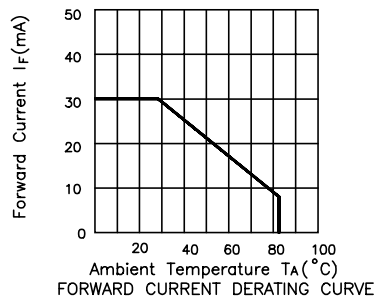
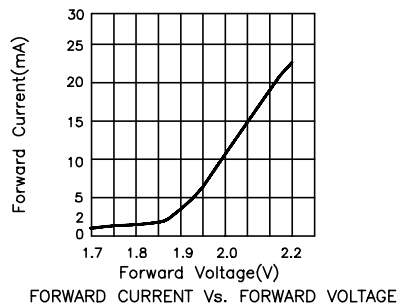
## Absolute Maximum Ratings at T<sub>A</sub>=25°C

Parameter	High Efficiency Red	Green	Yellow	Super Bright Red	Units
Power dissipation	105	105	105	100	mW
DC Forward Current	30	25	30	30	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				

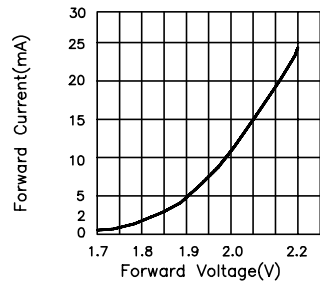
Notes:  
 1. 1/10 Duty Cycle, 0.1ms Pulse Width.  
 2. 4mm below package base



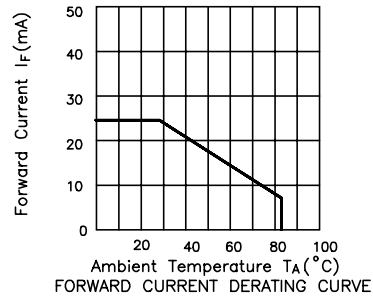
### High Efficiency Red



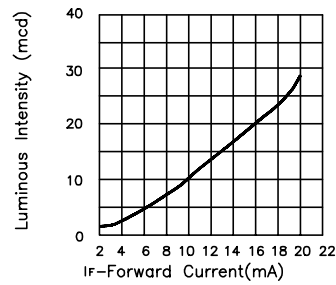
## Green



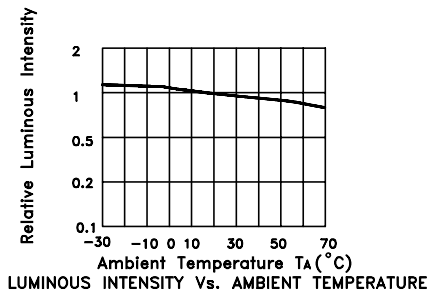
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

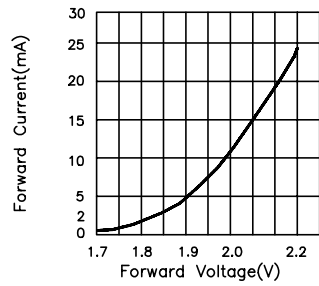


LUMINOUS INTENSITY Vs. FORWARD CURRENT

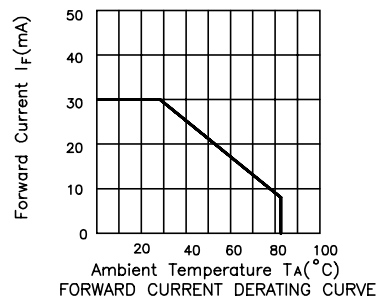


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

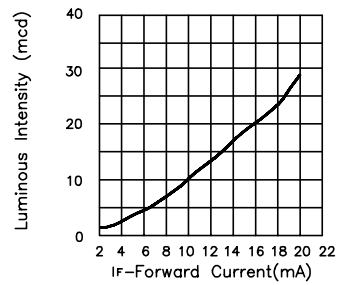
## Yellow



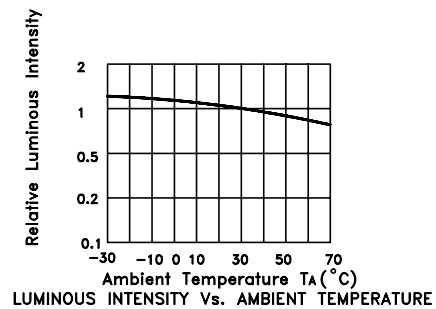
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

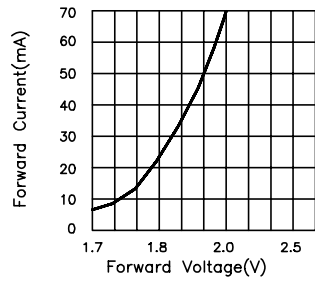


LUMINOUS INTENSITY Vs. FORWARD CURRENT

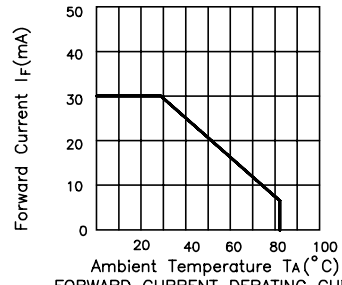


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

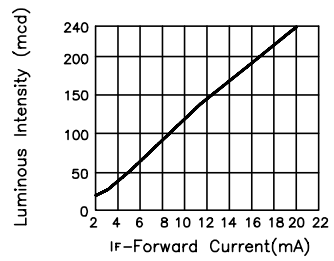
## Super Bright Red



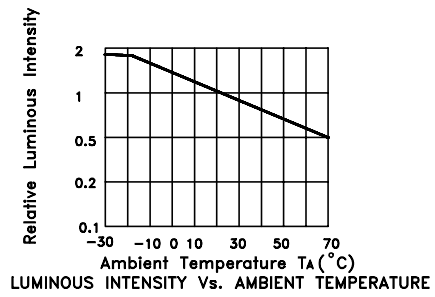
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE