Kingbright

56.9mm (2.3INCH) SINGLE DIGIT NUMERIC DISPLAY

Part Number: SBA23-11EGWA

High Efficiency Red
Green

Features

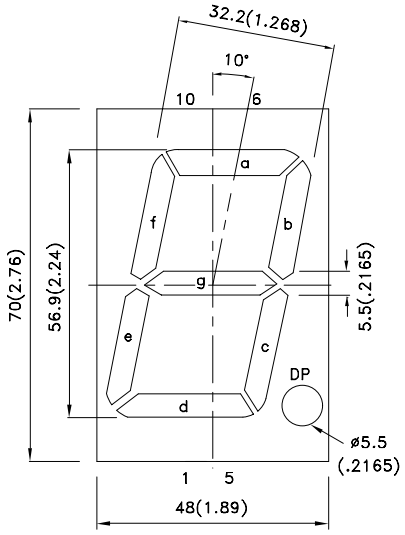
- 2.3 INCH DIGIT HEIGHT.
- LOW CURRENT OPERATION.
- EXCELLENT CHARACTER APPEARANCE.
- HIGH LIGHT OUTPUT.
- EASY MOUNTING ON P.C. BOARDS OR SOCKETS.
- MULTICOLOR AVAILABLE.
- MECHANICALLY RUGGED.
- STANDARD : GRAY FACE, WHITE SEGMENT.
- RoHS COMPLIANT.

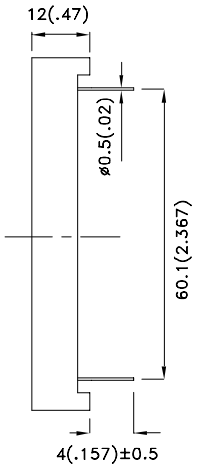
Description

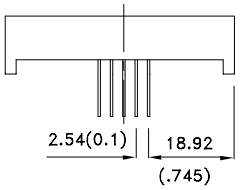
The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

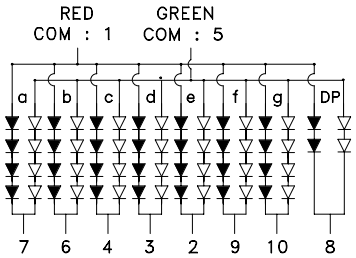
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

Package Dimensions & Internal Circuit Diagram









Notes:
1. All dimensions are in millimeters (inches), Tolerance is ±0.25(0.01")unless otherwise noted.
2. Specifications are subject to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (ucd) [1] @ 10mA		Description
			Min.	Typ.	
SBA23-11EGWA	High Efficiency Red (GaAsP/GaP)	WHITE DIFFUSED	12000	55500	Common Anode, Rt. Hand Decimal
	Green (GaP)		12000	53000	

Note:
1. Luminous intensity/ luminous Flux: +/-15%.

Electrical / Optical Characteristics at TA=25°C

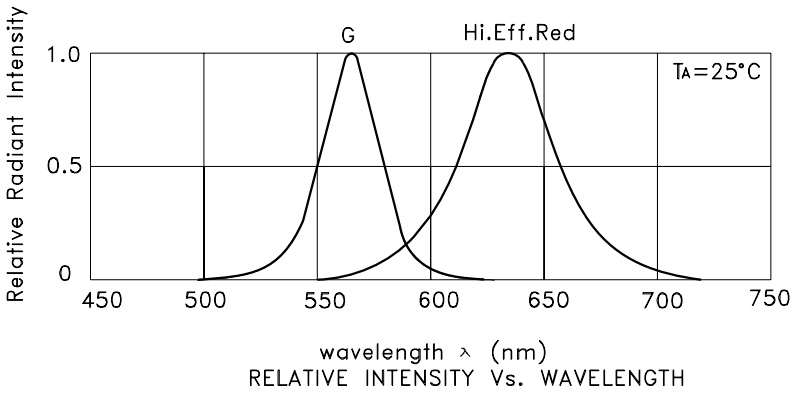
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red Green	627 565		nm	I_F=20mA
λD [1]	Dominant Wavelength	High Efficiency Red Green	625 568		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	High Efficiency Red Green	45 30		nm	I_F=20mA
C	Capacitance	High Efficiency Red Green	15 15		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage Per Segment Or (DP)	High Efficiency Red Green	8.0 (4.0) 8.8 (4.4)	10.0 (5.0) 10.0 (5.0)	V	I_F=20mA
I_R	Reverse Current Per Segment Or (DP)	High Efficiency Red Green		10 (10)	uA	V_R=20V (V_R=10V)

Notes:
1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

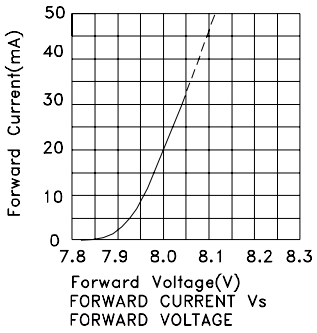
Parameter	High Efficiency Red	Green	Units
Power dissipation Per Segment Or (DP)	300 (150)	250 (125)	mW
DC Forward Current Per Segment Or (DP)	30 (30)	25 (25)	mA
Peak Forward Current [1] Per Segment Or (DP)	160 (160)	140 (140)	mA
Reverse Voltage Per Segment Or (DP)	20 (10)		V
Operating/Storage Temperature	-40°C To +85°C		
Lead Solder Temperature [2]	260°C For 3-5 Seconds		

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

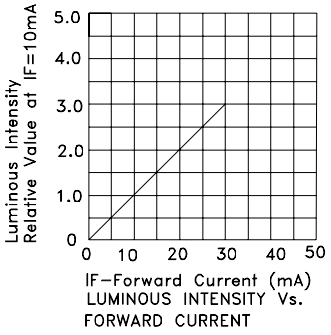


RELATIVE INTENSITY Vs. WAVELENGTH

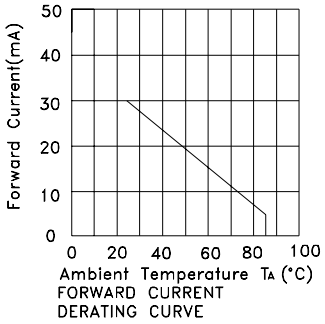
SBA23-11EGWA
High Efficiency Red



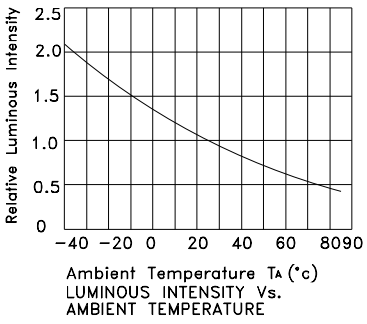
FORWARD CURRENT Vs
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

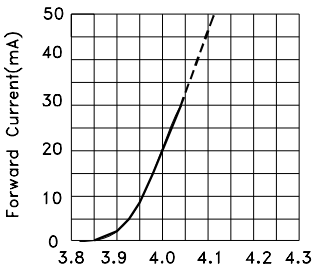


FORWARD CURRENT
DERATING CURVE

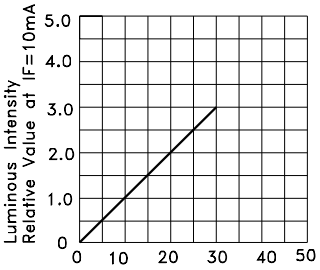


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

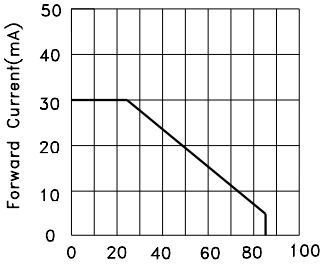
High Efficiency Red



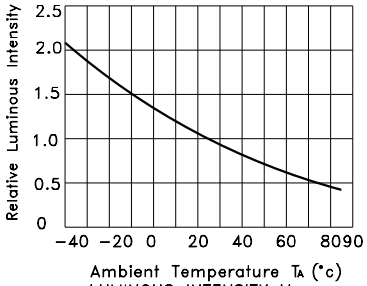
FORWARD CURRENT Vs
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

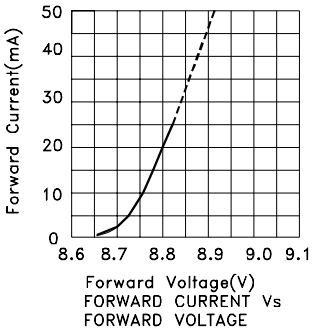


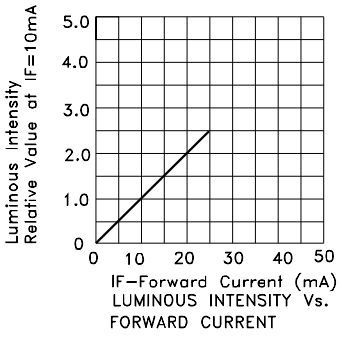
FORWARD CURRENT
DERATING CURVE

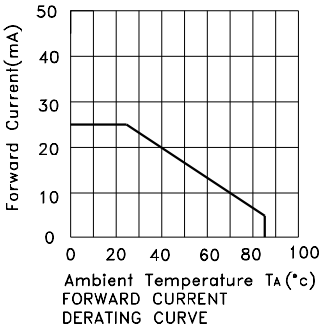


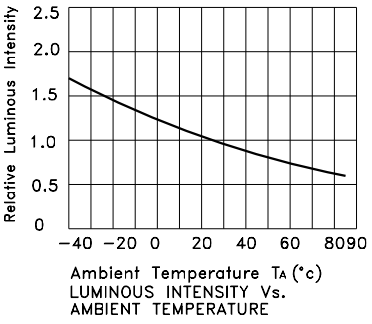
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

Green

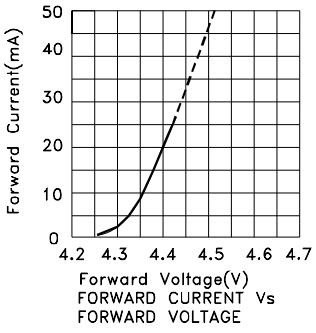

Forward Current(mA)
50
40
30
20
10
0
8.6 8.7 8.8 8.9 9.0 9.1
Forward Voltage(V)
FORWARD CURRENT Vs
FORWARD VOLTAGE

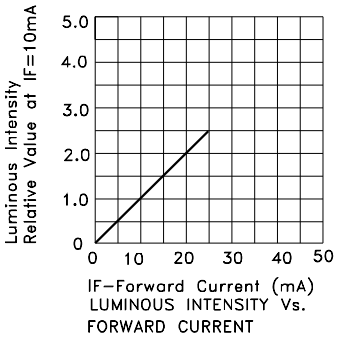

Luminous Intensity
Relative Value at IF=10mA
5.0
4.0
3.0
2.0
1.0
0
0 10 20 30 40 50
IF-Forward Current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT

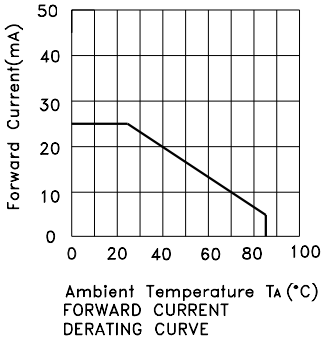

Forward Current(mA)
50
40
30
20
10
0
0 20 40 60 80 100
Ambient Temperature TA (°c)
FORWARD CURRENT
DERATING CURVE

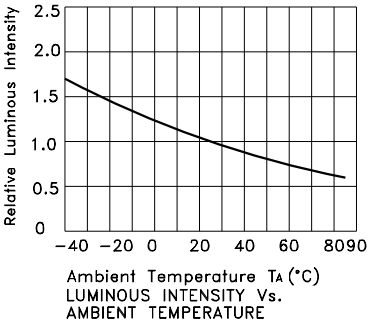

Relative Luminous Intensity
2.5
2.0
1.5
1.0
0.5
0
-40 -20 0 20 40 60 8090
Ambient Temperature TA (°c)
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

Green


Forward Current(mA)
50
40
30
20
10
0
4.2 4.3 4.4 4.5 4.6 4.7
Forward Voltage(V)
FORWARD CURRENT Vs
FORWARD VOLTAGE

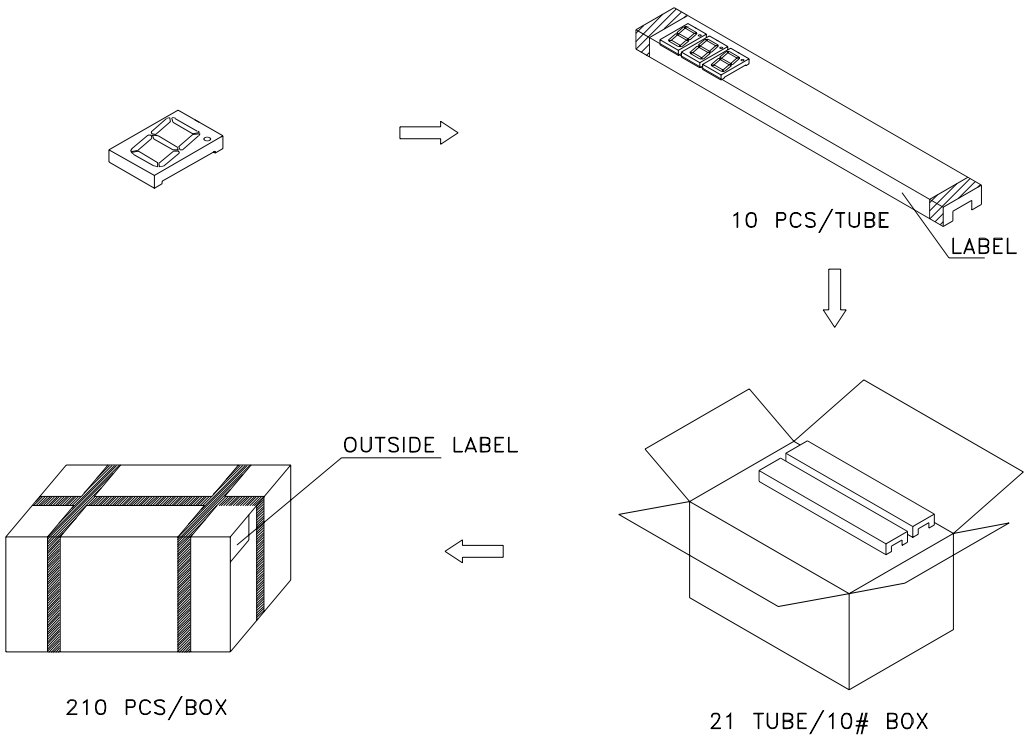

Luminous Intensity
Relative Value at IF=10mA
5.0
4.0
3.0
2.0
1.0
0
0 10 20 30 40 50
IF-Forward Current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT


Forward Current(mA)
50
40
30
20
10
0
0 20 40 60 80 100
Ambient Temperature TA (°C)
FORWARD CURRENT
DERATING CURVE

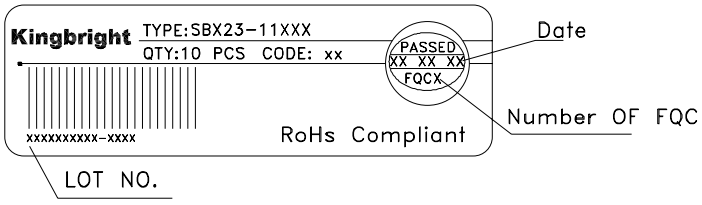

Relative Luminous Intensity
2.5
2.0
1.5
1.0
0.5
0
-40 -20 0 20 40 60 8090
Ambient Temperature TA (°C)
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

Kingbright

PACKING & LABEL SPECIFICATIONS **SBA23-11EGWA**



Inside LABEL Paste On The IC-tube



Outside LABEL Paste On The Box

