

57mm (2.3INCH) SINGLE DIGIT NUMERIC DISPLAY

Part Number: SC23-12EWA High Efficiency Red

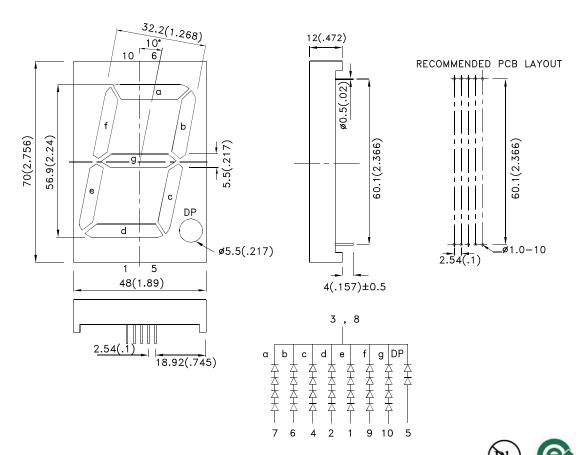
Features

- 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.

Package Dimensions& Internal Circuit Diagram





1. All dimensions are in millimeters (inches), Tolerance is ±0.25(0.01")unless otherwise noted.

2. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

 SPEC NO: DSAB8608
 REV NO: V.11A
 DATE: MAY/03/2012
 PAGE: 1 OF 7

 APPROVED: WYNEC
 CHECKED: Joe Lee
 DRAWN: F.Cui
 ERP: 1301000829

Selection Guide

Part No.	Dice	Lens Type	lv (ucd) [1] @ 10mA		Description
			Min.	Тур.	Doomption
SC23-12EWA	High Efficiency Red (GaAsP/GaP)	White Diffused	31000	57000	Common Cathode. Rt. Hand Decimal
			*9000	*17000	

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Тур.		Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red	627	*627		nm	IF=20mA
λD [1]	Dominant Wavelength	High Efficiency Red	625	*617		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	High Efficiency Red	45			nm	IF=20mA
С	Capacitance	High Efficiency Red	15			pF	VF=0V;f=1MHz
VF [2]	Forward Voltage Per Segment Or (DP)	High Efficiency Red	8.0 (4.0)		10.0 (5.0)	V	I==20mA
lR	Reverse Current Per Segment Or (DP)	High Efficiency Red			10 (10)	uA	V _R =5V

Notes:

Absolute Maximum Ratings at TA=25°C

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

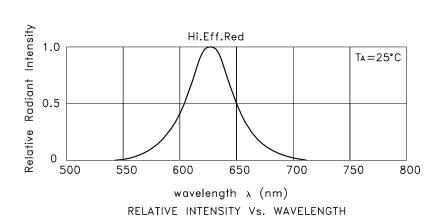
Notes: 1. 1/10 Duty Cycle, 0.1ms Pulse Width.

2. 2mm below package base.

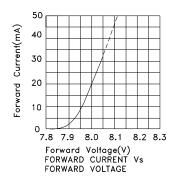
SPEC NO: DSAB8608 **REV NO: V.11A** DATE: MAY/03/2012 PAGE: 2 OF 7 APPROVED: WYNEC **CHECKED:** Joe Lee DRAWN: F.Cui ERP: 1301000829

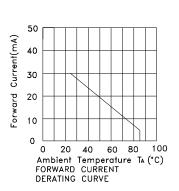
^{1.} Luminous intensity/ luminous Flux: +/-15%.
*Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

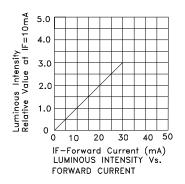
^{1.}Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
*Wavelength value is traceable to the CIE127-2007 compliant national standards.

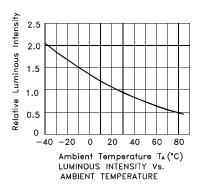


High Efficiency Red SC23-12EWA



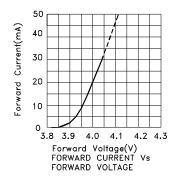


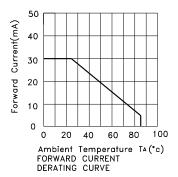


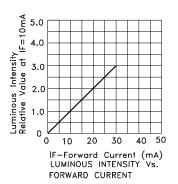


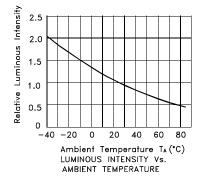
 SPEC NO: DSAB8608
 REV NO: V.11A
 DATE: MAY/03/2012
 PAGE: 3 OF 7

 APPROVED: WYNEC
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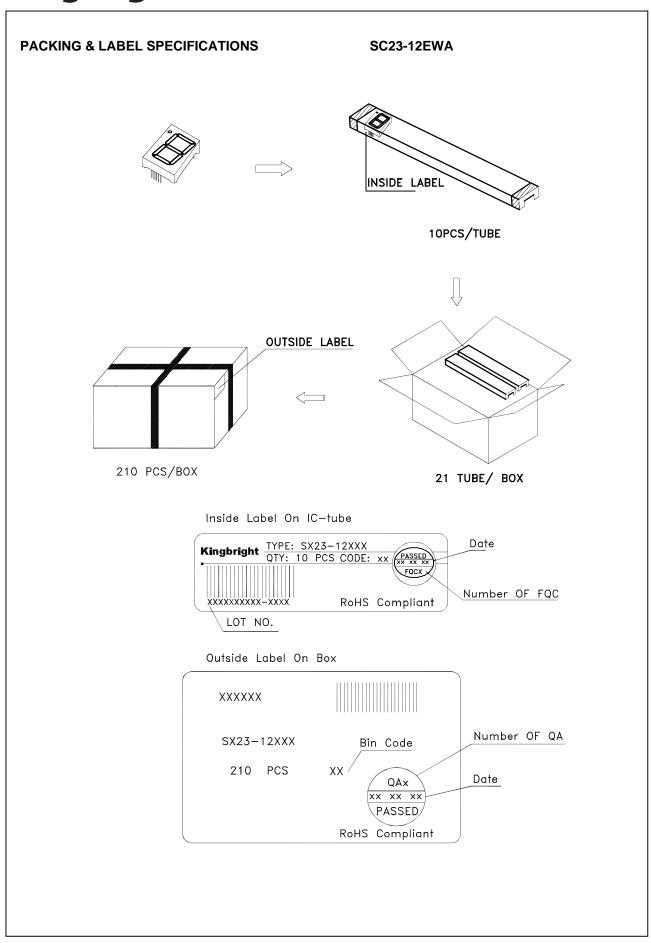






 SPEC NO: DSAB8608
 REV NO: V.11A
 DATE: MAY/03/2012
 PAGE: 4 OF 7

 APPROVED: WYNEC
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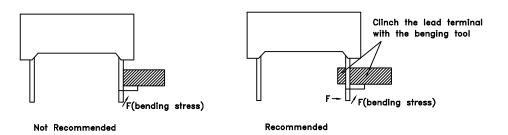


SPEC NO: DSAB8608 APPROVED: WYNEC REV NO: V.11A CHECKED: Joe Lee DATE: MAY/03/2012 DRAWN: F.Cui PAGE: 5 OF 7 ERP: 1301000829

THROUGH HOLE DISPLAY MOUNTING METHOD

Lead Forming

Do not bend the component leads by hand without proper tools. The leads should be bent by clinching the upper part of the lead firmly such that the bending force is not exerted on the plastic body.

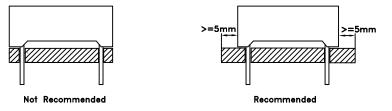


Installation

- 1. The installation process should not apply stress to the lead terminals.
- 2. When inserting for assembly, ensure the terminal pitch matches the substrate board's hole pitch to prevent spreading or pinching the lead terminals.



3. The component shall be placed at least 5mm from edge of PCB to avoid damage caused excessive heat during wave soldering.

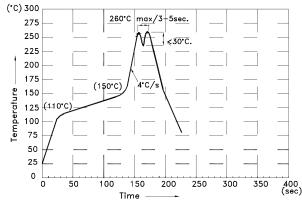


SPEC NO: DSAB8608 REV NO: V.11A DATE: MAY/03/2012 PAGE: 6 OF 7

APPROVED: WYNEC CHECKED: Joe Lee DRAWN: F.Cui ERP: 1301000829

DISPLAY SOLDERING CONDITIONS

Wave Soldering Profile For Lead-free Through-hole LED.



NOTES:

- 1.Recommend the wave temperature 245°C~260°C.The maximum soldering temperature should be less than 260°C.
- 2.Do not apply stress on epoxy resins when temperature is over 85°C.
- 3. The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
- 4.During wave soldering , the PCB top—surface temperature should be kept below 105°C 5.No more than once.

Soldering General Notes:

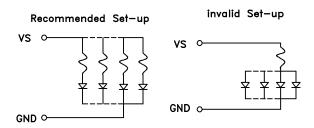
- 1. Through—hole displays are incompatible with reflow soldering.
- 2. If components will undergo multiple soldering processes, or other processes where the components may be subjected to intense heat, please check with Kingbright for compatibility.

CLEANING

- 1.Mild "no-clean" fluxes are recommended for use in soldering.
- 2. If cleaning is required, Kingbright recommends to wash components with water only. Do not use harsh organic solvents for cleaning, because they may damage the plastic parts .And the devices should not be washed for more than one minute.

CIRCUIT DESIGN NOTES

- 1.Protective current—limiting resistors may be necessary to operate the Displays.
- 2.LEDs mounted in parallel should each be placed in series with its own current—limiting resistor.



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PAGE: 7 OF 7 ERP: 1301000829