Part Number:KCSA02-101 HIGH EFFICIENCY RED

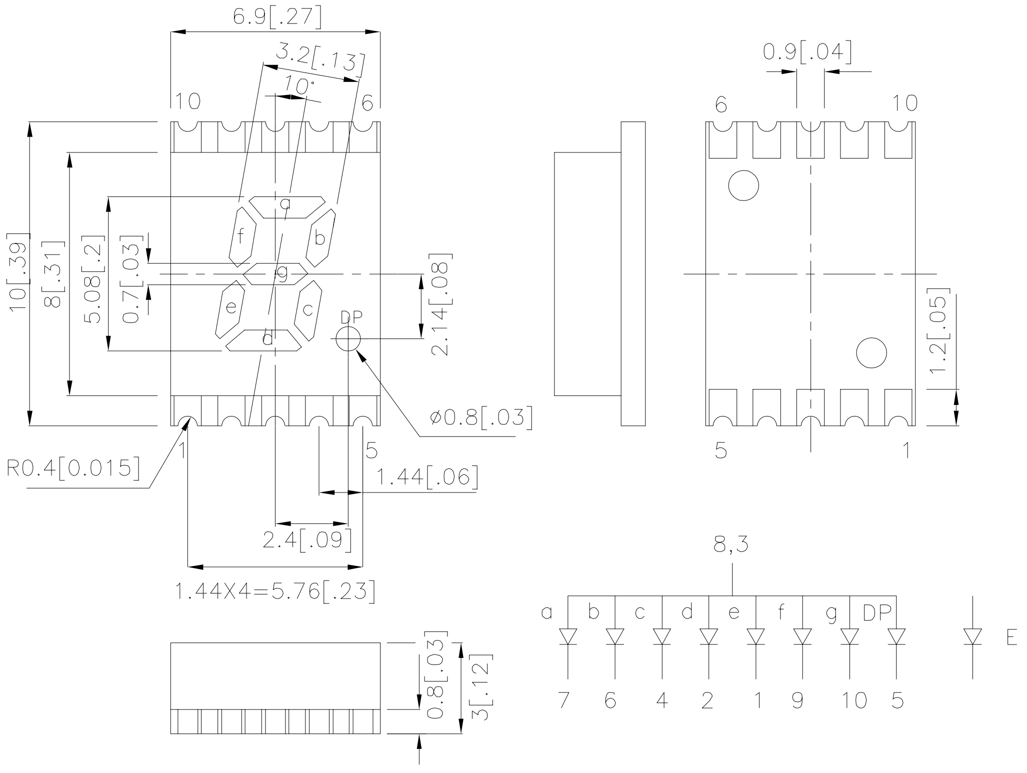
## Features

- 0.2INCH DIGIT HEIGHT.
- LOW CURRENT OPERATION.
- EXCELLENT CHARACTER APPEARANCE.
- I.C. COMPATIBLE
- MECHANICALLY RUGGED.
- GRAY FACE,WHITE SEGMENT.
- PACKAGE : 650PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 4.
- 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



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.
3. The gap between the reflector and PCB shall not exceed 0.25mm.

## Selection Guide

| Part No. | Dice | Lens Type | Iv (ucd) [1] @ 10mA | | Description |
|---|---|---|---|---|---|
| | | | Min. | Typ. | |
| KCSA02-101 | HIGH EFFICIENCY RED(GaAsP/GaP) | WHITE DIFFUSED | 1200 | 5800 | Common Anode, Rt. Hand Decimal. |

Note:
1. Luminous Intensity / Luminous Flux: +/-15%.

## Electrical / Optical Characteristics at $T_A$=25°C

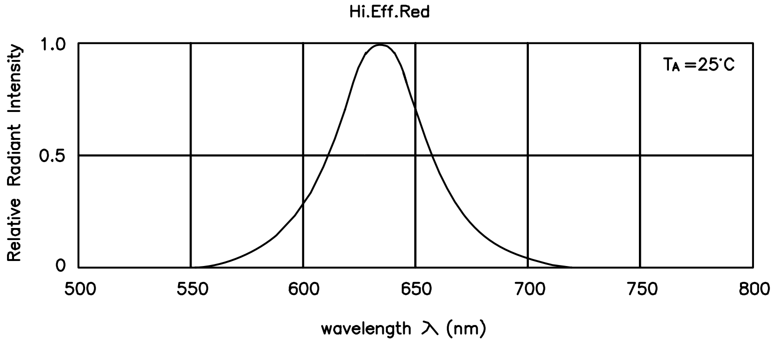
| Symbol | Parameter | Device | Typ. | Max. | Units | Test Conditions |
|---|---|---|---|---|---|---|
| $\lambda$peak | Peak Wavelength | High Efficiency Red | 627 | | nm | $I_F$=20mA |
| $\lambda$D [1] | Dominant Wavelength | High Efficiency Red | 625 | | nm | $I_F$=20mA |
| $\Delta\lambda 1/2$ | Spectral Line Half-width | High Efficiency Red | 45 | | nm | $I_F$=20mA |
| C | Capacitance | High Efficiency Red | 15 | | pF | $V_F$=0V;f=1MHz |
| $V_F$ [2] | Forward Voltage | High Efficiency Red | 2.0 | 2.5 | V | $I_F$=20mA |
| $I_R$ | Reverse Current | High Efficiency Red | | 10 | uA | $V_R$ = 5V |

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

## Absolute Maximum Ratings at $T_A$=25°C

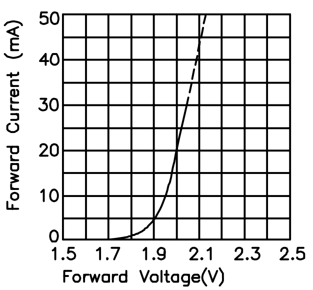
| Parameter | High Efficiency Red | Units |
|---|---|---|
| Power dissipation | 75 | mW |
| DC Forward Current | 30 | mA |
| Peak Forward Current [1] | 160 | mA |
| Reverse Voltage | 5 | V |
| Operating / Storage Temperature | -40°C To +85°C | |

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

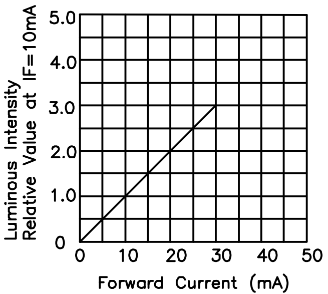


RELATIVE INTENSITY Vs. WAVELENGTH

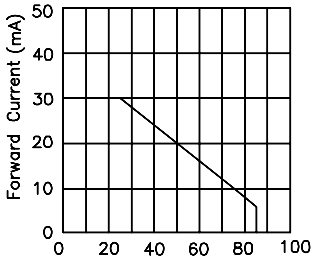
**High Efficiency Red** **KCSA02-101**



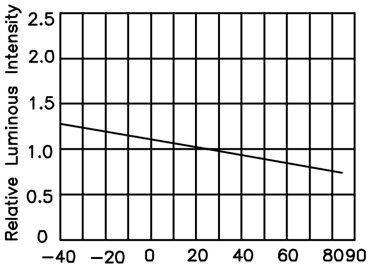
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

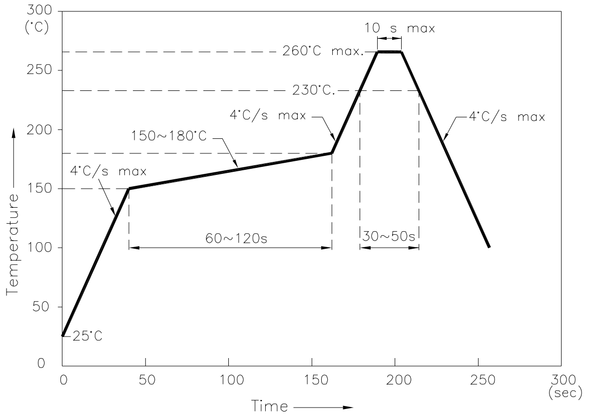


FORWARD CURRENT
DERATING CURVE



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

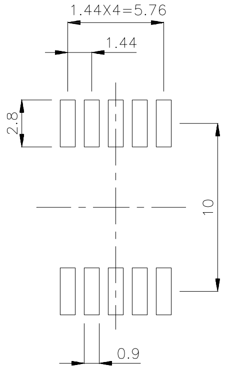
## KCSA02-101


Reflow Soldering Profile For Lead-free SMT Process.

NOTES:

1. We recommend the reflow temperature 245°C(+/−5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

## Recommended Soldering Pattern
## (Units : mm; Tolerance: ±0.15)



## Tape Specifications
## (Units : mm)