

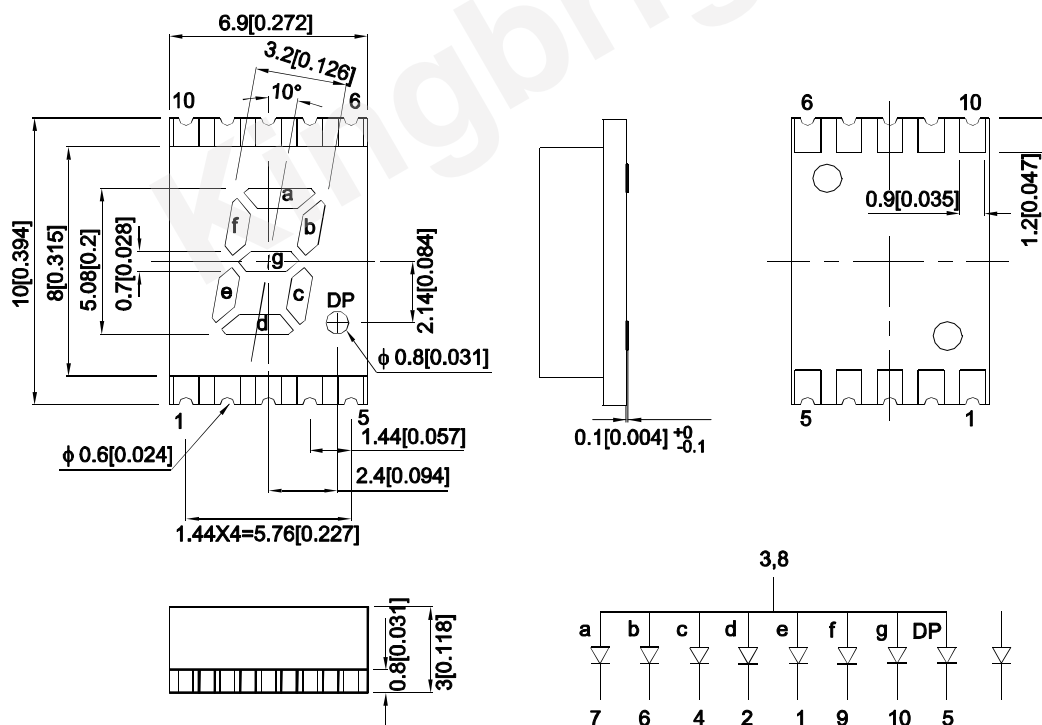
### Features

- 0.2inch digit height.
- Low current operation.
- Excellent character appearance.
- Mechanically rugged.
- Gray face,white segment.
- Package : 650pcs / reel.
- Moisture sensitivity level : level 2a.
- RoHS compliant.

### Description

The Hyper Red source color devices are made with Al-GaN on GaAs substrate 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. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
3. The gap between the reflector and PCB shall not exceed 0.25mm.



## Selection Guide

Part No.	Emitting Color (Material)	Lens Type	Iv (ucd) [1] @ 10mA		Description
			Min.	Typ.	
KCSA02-105	Hyper Red (AlGaInP)	White Diffused	14000	30000	Common Anode, Rt. Hand Decimal.
			*3600	*8100	

Note:

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

\* Luminous intensity value is traceable to CIE127-2007 standards.

## Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Emitting Color	Typ.	Max.	Units	Test Conditions
$\lambda_{peak}$	Peak Wavelength	Hyper Red	645		nm	IF=10mA
$\lambda_D$ [1]	Dominant Wavelength	Hyper Red	630		nm	IF=10mA
$\Delta\lambda_{1/2}$	Spectral Line Half-width	Hyper Red	28		nm	IF=10mA
C	Capacitance	Hyper Red	35		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Hyper Red	1.85	2.5	V	IF=10mA
IR	Reverse Current	Hyper Red		10	uA	VR=5V

Notes:

1.Wavelength: +/-1nm.

2.Forward Voltage: +/-0.1V.

3.Wavelength value is traceable to CIE127-2007 standards.

4.Excess driving current and/or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

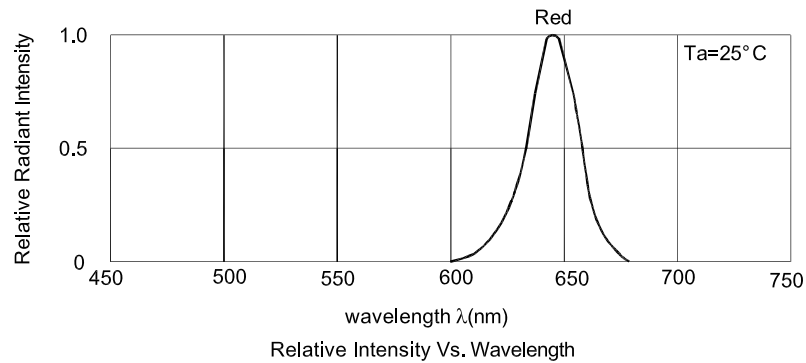
## Absolute Maximum Ratings at TA=25°C

Parameter	Values	Units
Power dissipation	75	mW
DC Forward Current	30	mA
Peak Forward Current [1]	185	mA
Reverse Voltage	5	V
Operating / Storage Temperature	-40°C To +85°C	

Notes:

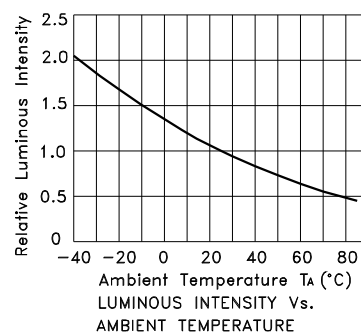
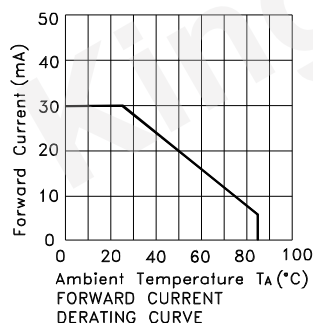
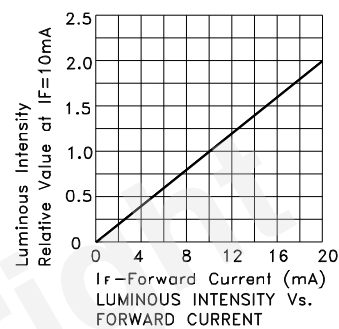
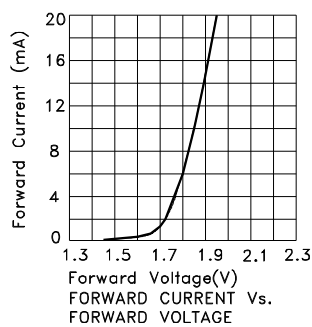
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.



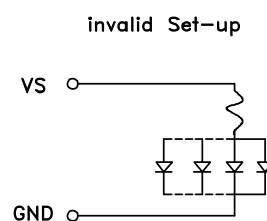
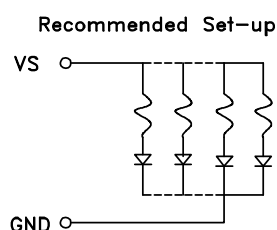
## Hyper Red

### KCSA02-105



## CIRCUIT DESIGN NOTES

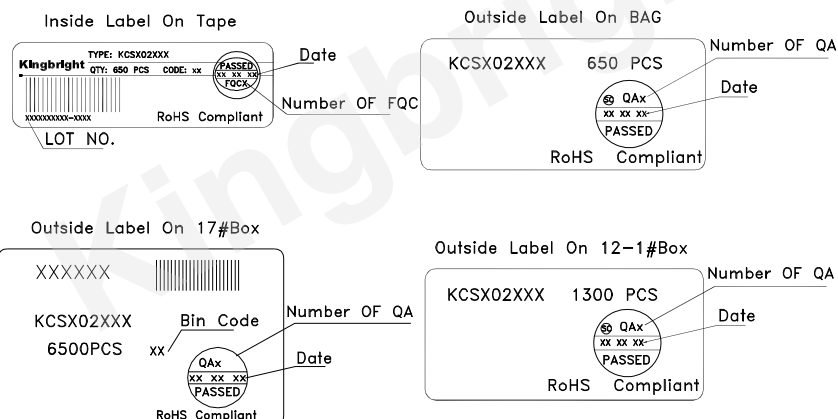
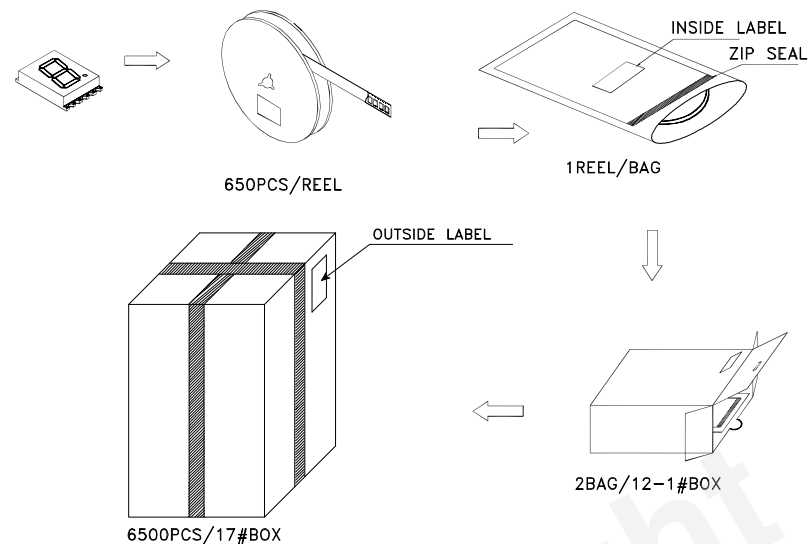
1. Protective current-limiting resistors may be necessary to operate the Displays.
2. LEDs mounted in parallel should each be placed in series with its own current-limiting resistor.





## PACKING & LABEL SPECIFICATIONS

## KCSA02-105



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