

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



# Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China









## **DATASHEET**

# Display Surface-mount EADSS056RA1



#### **Features**

- Industrial standard size.
- Packaged in tape and reel for SMT manufacturing.
- The thickness is thinness than tradition display.
- Low power consumption.
- · Categorized for luminous intensity.
- Pb free and RoHS compliant.

## **Description**

- The EADSS056RA1 is a 14.22mm (0.56") digit height seven-segment display.
- The display provides excellent reliability in bright ambient light.
- The device is made with white segments and gray surface.

## **Applications**

- · Home appliances
- · Instrument panels
- · Digital readout displays

ı



## **Device Selection Guide**

Chip Materials	Emitted Color	Resin Color
AlGalnP	Brilliant Red	White Diffusion

## Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	$V_{R}$	5	V
Forward Current	I <sub>F</sub>	25	mA
Peak Forward Current (Duty 1/10 @1KHz)	I <sub>FP</sub>	60	mA
Power Dissipation	Pd	60	mW
Operating Temperature	$T_{opr}$	-40 ~ +105	$^{\circ}\mathbb{C}$
Storage Temperature	T <sub>stg</sub>	-40 ~ +105	$^{\circ}$
Soldering Temperature (Soldering time≦5 seconds)	$T_{sol}$	260	$^{\circ}$ C

## **Electro-Optical Characteristics (Ta=25℃)**

Parameter	Symbol	Min.	Тур.	Max.	Unit	Condition
Luminous Intensity <sup>*1</sup>	lv	15.0	34.0		mcd	I <sub>F</sub> =10mA
Peak Wavelength	λр		632		nm	$I_F=20mA$
Dominant Wavelength	λd		624		nm	$I_F=20mA$
Spectrum Radiation Bandwidth	Δλ		20		nm	$I_F=20mA$
Forward Voltage	$V_{F}$		2.0	2.4	V	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>			10	μΑ	$V_R=5V$

#### Note

- 1. Luminous Intensity is a average value which is measured one 7-segment.
- 2. Tolerance of Luminous Intensity: ± 10 %
- 3. Tolerance of Forward Voltage: ± 0.1V

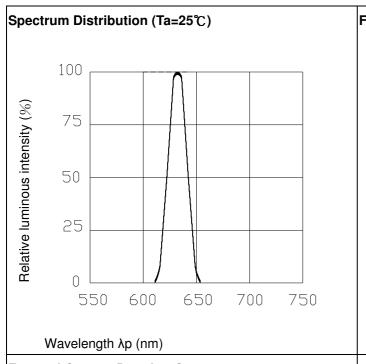


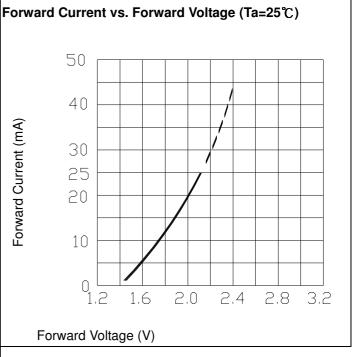
## **Bin Range of Luminous Intensity**

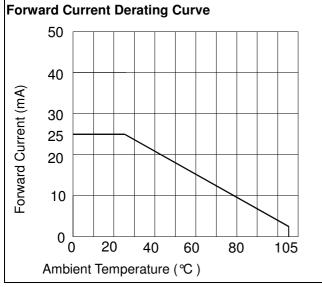
Bin Code	Min.	Max.	Unit	Condition
S	15.0	24.0		I <sub>F</sub> =10mA
Т	21.0	34.0	_	
U	30.0	48.0		
V	42.0	67.0	- mcd	
W	59.0	94.0		
X	83.0	133.0		



## **Typical Electro-Optical Characteristics Curves**

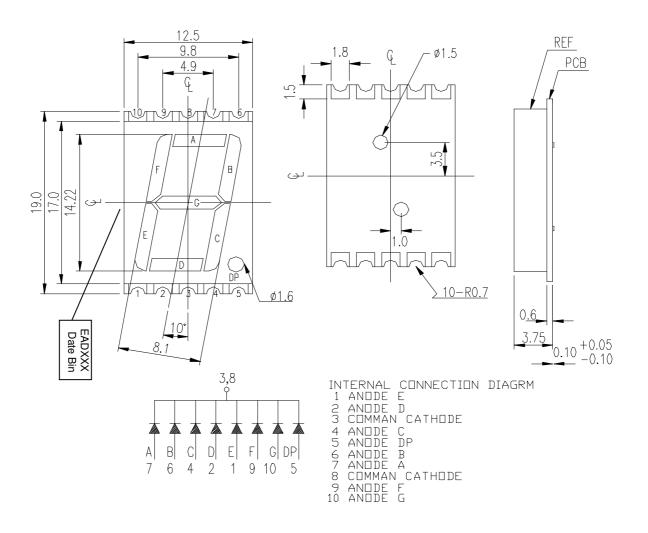








## **Package Dimension & Internal Circuit Diagram**

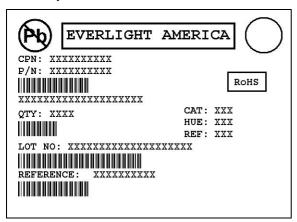


Note: Tolerances unless mentioned ±0.25mm. Unit = mm



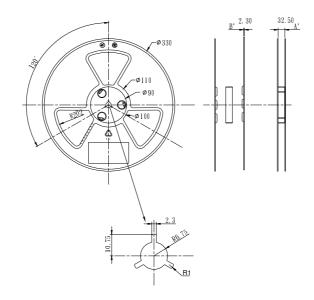
## **Packing Materials**

#### **Label Explanation**

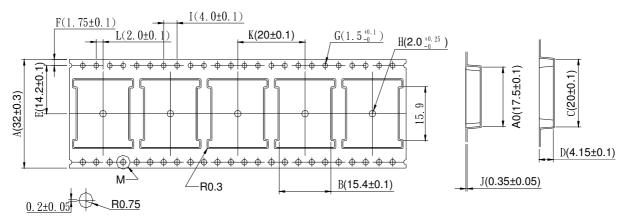


- · CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Reference
- · REF: Reference
- LOT No: Lot Number
- DC: Year and Weekly
- · REFERENCE: Volume Label code

#### **Reel Dimensions**



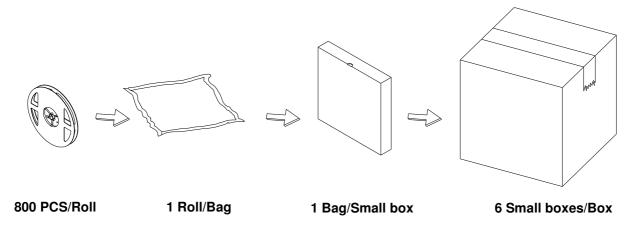
#### Carrier Tape Dimensions: Loaded Quantity 800 PCS Per Reel



Note: Tolerances unless mentioned ±0.25mm. Unit = mm

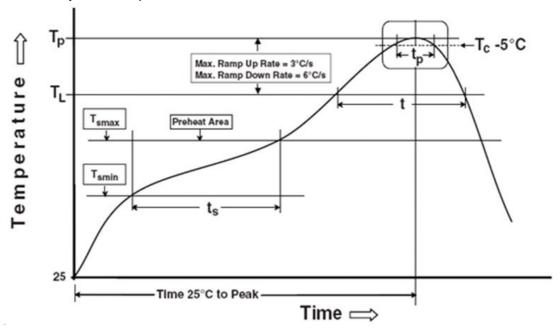


## **Packing Process**



#### **Precautions for Use**

- 1. Soldering Condition
  - 1.1 (A) Maximum Body Case Temperature Profile for evaluation of Reflow Profile



Note: Reference: IPC/JEDEC J-STD-020D

#### **Preheat**

 $\begin{array}{lll} \text{Temperature min } (T_{smin}) & 150 \ ^{\circ}\text{C} \\ \text{Temperature max } (T_{smax}) & 200 \ ^{\circ}\text{C} \\ \text{Time } (T_{smin} \text{ to } T_{smax}) \ (t_s) & 60\text{-}120 \text{ seconds} \\ \text{Average ramp-up rate } (T_{smax} \text{ to } T_p) & 3 \ ^{\circ}\text{C/second max}. \end{array}$ 

#### Other

Liquidus Temperature ( $T_L$ ) 217  $^{\circ}$ C



Time above Liquidus Temperature (t L)

Peak Temperature (T<sub>P</sub>)

Time within 5 °C of Actual Peak Temperature: T<sub>P</sub> - 5 °C

Ramp- Down Rate from Peak Temperature

Time 25 °C to peak temperature

Reflow times

60-150 seconds

260 ℃

30 seconds

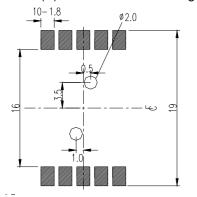
6 °C/second max.

8 minutes max.

1 time

All parameters are maximum body case temperature values and cannot be considered as a soldering profile. The body case temperature was measured by soldering a thermal couple to the soldering point of LEDs.

#### 1.2 (B) Recommend soldering pad



Note: Suggested pad dimension is just for reference only. Please modify the pad dimension based on individual need.

## **Application Restrictions**

- 1. specification described in this document. Above specification may be changed without notice. EVERLIGHT Americas will reserve authority on material change for above specification.
- 2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT Americas assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
- 3. These specification sheets include materials protected under copyright of EVERLIGHT Americas Corporation.

  Please don't reproduce or cause anyone to reproduce them without EVERLIGHT Americas' consent.
- 4. ESD (Electrostatic Discharge)
  - The products are sensitive to static electricity or surge voltage. ESD can damage a die and its reliability. When handling the products, the following measures against electrostatic discharge are strongly recommended:

Eliminating the charge

Grounded wrist strap, ESD footwear, clothes, and floors



Grounded workstation equipment and tools

ESD table/shelf mat made of conductive materials

- Proper grounding is required for all devices, equipment, and machinery used in product assembly.Surge protection should be considered when designing of commercial products.
- If tools or equipment contain insulating materials such as glass or plastic, the following measures against electrostatic discharge are strongly recommended:

Dissipating static charge with conductive materials

Preventing charge generation with moisture

Neutralizing the charge with ionizers

5. The LEDs should be operated with forward bias. The driving circuit must be designed so that the LEDs are not subjected to forward or reverse voltage while it is off. If reverse voltage is continuously applied to the LEDs, it may cause migration resulting in LED damage.