

# KW1-S201AGA/KW1-S201CGA

0.20 inch (5.08mm), Yellow Green

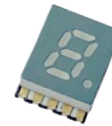
Single Digit 7-segment Surface Mount LED Display

## Technical Data Sheet

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### Features

- 0.20inch (5.08mm) digit height.
- The thickness is thinner than traditional display.
- Packaged in tape and reel for SMT manufacturing.
- Low current operation.
- Excellent character appearance.
- Categorized for luminous intensity.
- Available in CA and CC.
- The product itself will remain within RoHS compliant Version.



### Descriptions

- The KW1-S201AGA/ KW1-S201CGA is a 0.20inch (5.08mm) height single digit display.
- The display provides excellent reliability in bright ambient light.
- The device is made with white segments and gray surface.

### Applications

- Home and smart appliances
- Display time and digital combination
- Industrial and instrumental applications
- Numeric status

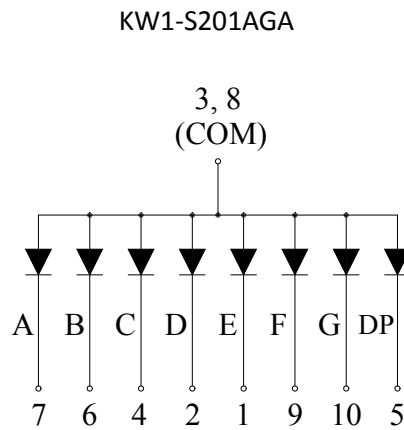
### Device Selection Guide

Part No.	Emitting Color	Polarity
KW1-S201AGA	Yellow Green	Common Anode
KW1-S201CGA	Yellow Green	Common Cathode

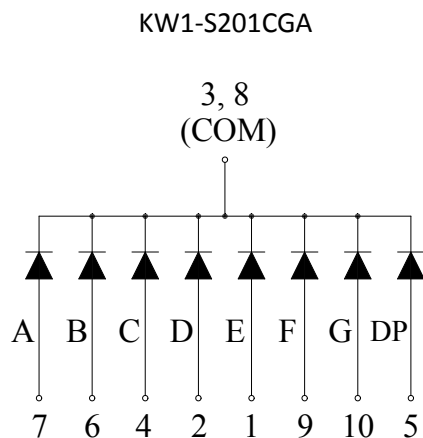


**Internal Circuit Diagram:**

**Internal Circuit Diagram (Common Anode)**



**Internal Circuit Diagram (Common Cathode)**



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### Absolute Maximum Ratings at Ta=25°C

Parameters	Symbol	Max	Unit
Power Dissipation Per Segment	$P_d$	48	mW
Peak Forward Current Per Segment (1/10 Duty Cycle, 0.1ms Pulse Width)	$I_{FP}$	100	mA
Forward Current Per Segment	$I_F$	20	mA
Reverse Voltage Per Segment	$V_R$	5	V
Operating Temperature Range	$T_{opr}$	-40°C to +100°C	
Storage Temperature Range	$T_{stg}$	-40°C to +105°C	
Soldering Temperature	$T_{sld}$	260°C for 5 Seconds	

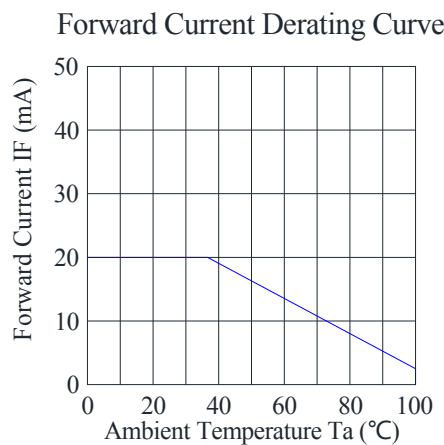
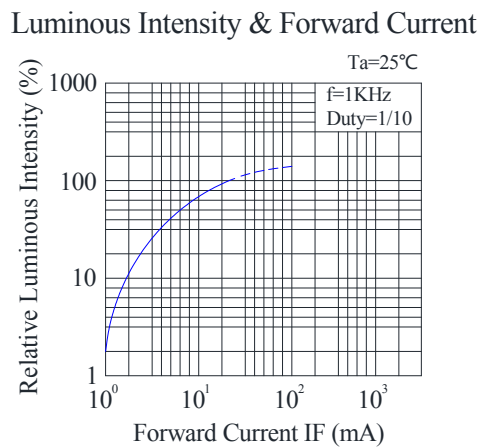
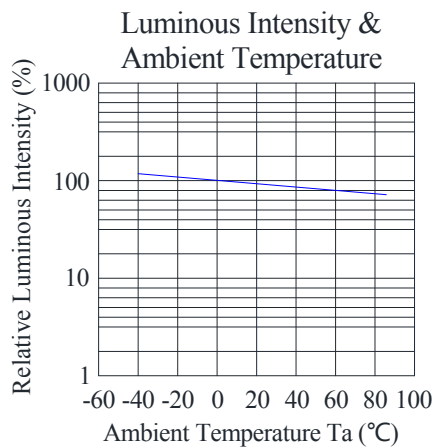
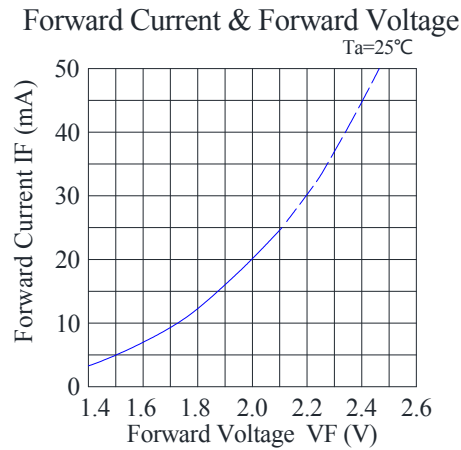
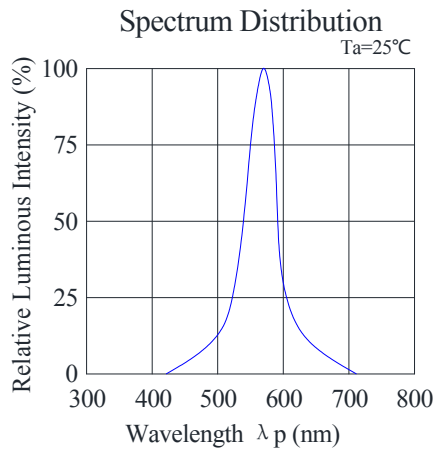
### Electrical Optical Characteristics at Ta=25°C

Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	$I_v$	4.0	8.0	---	mcd	IF=10mA (Note a)
Luminous Intensity Matching Ratio	$I_{v-m}$	---	---	2:1		IF=10mA
Peak Emission Wavelength	$\lambda_p$	---	575	---	nm	IF=20mA
Dominant Wavelength	$\lambda_d$	---	572	---	nm	IF=20mA (Note b)
Spectral Line Half-Width	$\Delta\lambda$	---	20	---	nm	IF=20mA
Forward Voltage Per Segment	$V_F$	---	2.0	2.4	V	IF=20mA
Reverse Current Per Segment	$I_R$	---	---	50	$\mu$ A	VR=5V

#### Notes:

- Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
- The dominant wavelength ( $\lambda_d$ ) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

**Typical Electrical / Optical Characteristics Curves  
(25°C Ambient Temperature Unless Otherwise Noted)**



# KW1-S201AGA/KW1-S201CGA

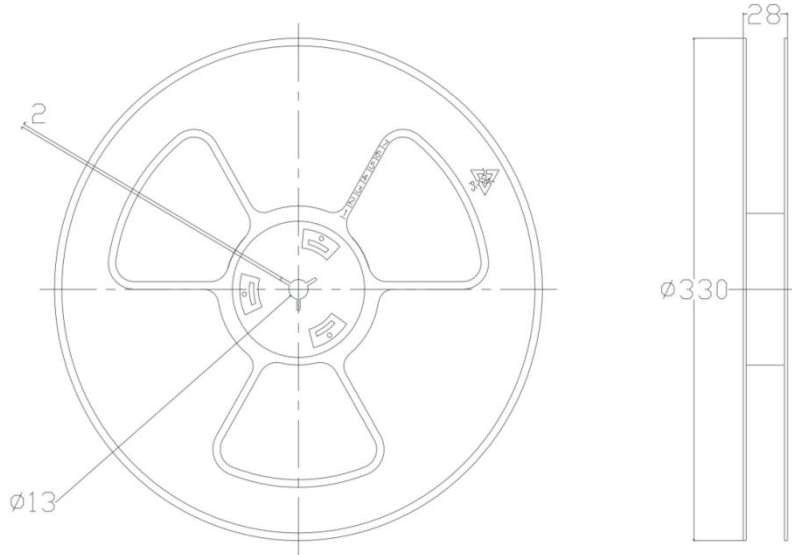


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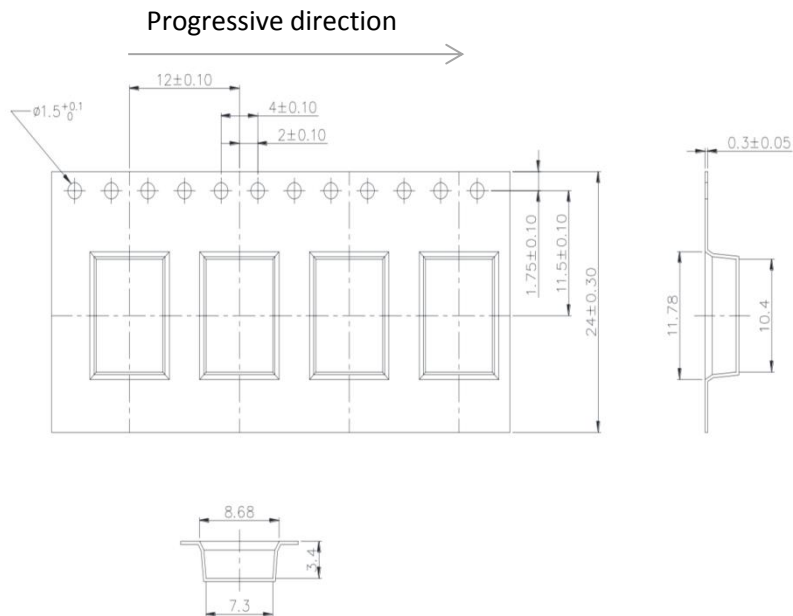
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### Reel Dimensions (units: mm)



### Carrier Tape Dimensions (units: mm)



Note: Tolerances unless mentioned  $\pm 0.25\text{mm}$ .

Spec No.: KW1-S201

Issue No.: G-001-Rev-3

LuckyLight Electronics Co., Ltd

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E-mail: sales@luckylight.cn

https:// www.luckylight.cn

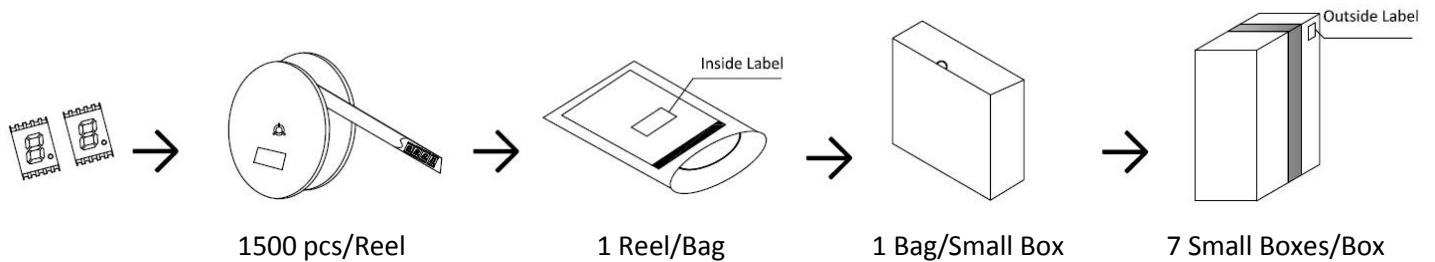
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**Technical Data Sheet**

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**Packing & Label Specifications**

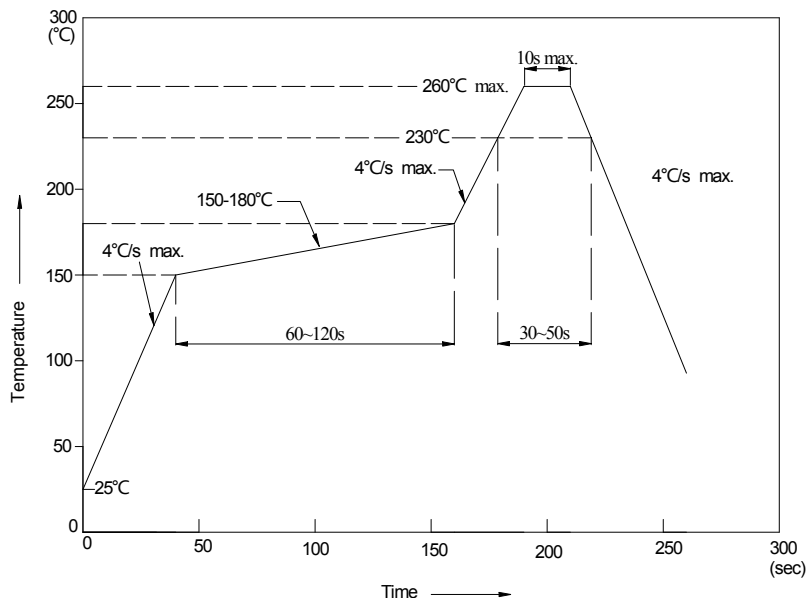


**Precautions for Use**

**1. Caution in ESD**

Static electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices equipment and machinery must be properly grounded.

**2. SMT Soldering Condition**



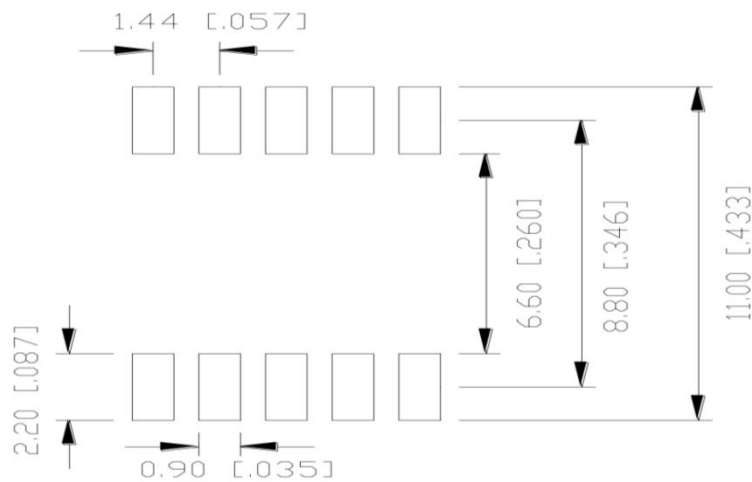
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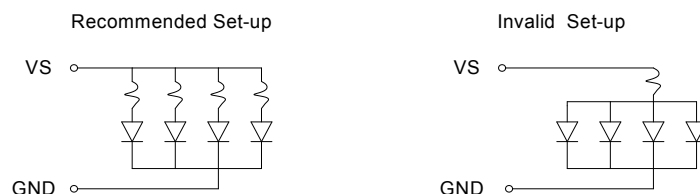
Reflow Soldering (Two times only)		Soldering Iron (One time only)	
Pre-heat	120~150°C	Temperature	300°C Max
Pre-heat time	120 sec. Max.	Soldering time	3 sec. Max.
Peak temperature	260°C Max.		
Soldering time	5 sec. Max.		

**3. Recommended Soldering Pattern**



**4. Circuit Design Notes:**

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





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6. 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.