KW1-S391AAA/KW1-S391CAA

0.39inch (10.0mm), Orange

Single Digit 7-segment SMD LED Display

Technical Data Sheet

Features

- 0.39inch (10.00mm) digit height.
- The thickness is thinness than tradition display.
- Packaged in tape and reel for SMT manufacturing.
- Low current operation.
- Excellent characters appearance.
- Categorized for luminous intensity.
- Available in CA and CC.
- The product itself will remain within RoHS compliant Version.

Descriptions

- The KW1-S391AAA / KW1-S391CAA is a 0.39inch (10.00mm) 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 appliances
- Game machine
- Instrument panels
- Digital readout displays

Device Selection Guide

Part No.	Emitting Color	Polarity
KW1-S391AAA	Orange	Common Anode
KW1-S391CAA	Orange	Common Cathode

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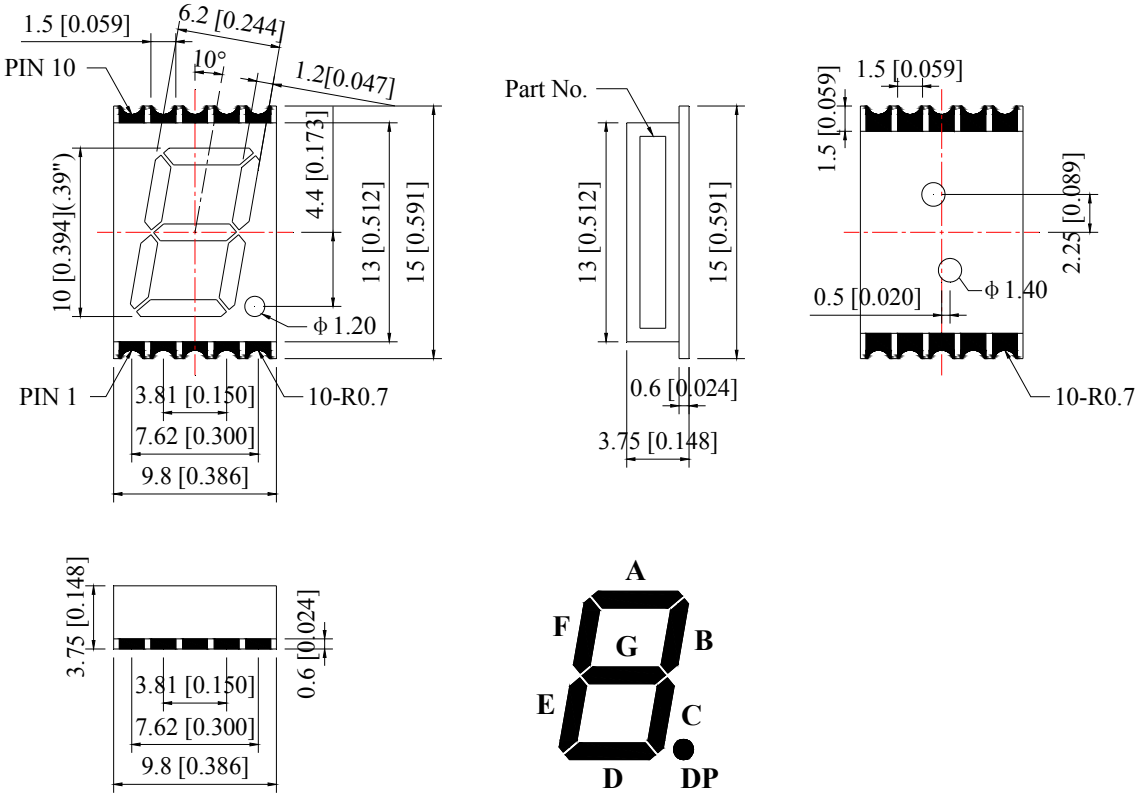
Package Dimension



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 mm (.010″) unless otherwise noted.
3. The gap between the reflector and PCB shall not exceed 0.25mm.

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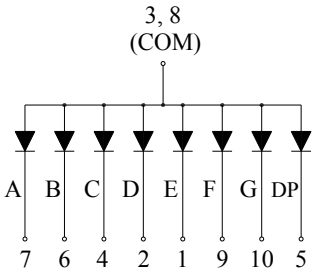
Internal Circuit Diagram:

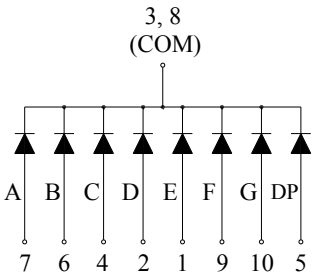
Internal Circuit Diagram (Common Anode)

KW1-S391AAA



Internal Circuit Diagram (Common Cathode)

KW1-S391CAA



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Absolute Maximum Ratings at Ta=25℃

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℃ to +100℃	
Storage Temperature Range	T_{stg}	-40℃ to +105℃	
Soldering Temperature	T_{sld}	260℃ for 5 Seconds	

Electrical Optical Characteristics at Ta=25℃

Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	Iv	10.0	20.0	---	mcd	IF=10mA (Note a)
Luminous Intensity Matching Ratio	I_{v-m}	---	---	2:1		IF=10mA
Peak Emission Wavelength	λp	---	610	---	nm	IF=20mA
Dominant Wavelength	λd	---	605	---	nm	IF=20mA (Note b)
Spectral Line Half-Width	△λ	---	20	---	nm	IF=20mA
Forward Voltage Per Segment	V_F	---	2.1	2.4	V	IF=20mA
Reverse Current Per Segment	I_R	---	---	50	μA	VR=5V

Notes:

a. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.

b. The dominant wavelength (λd) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

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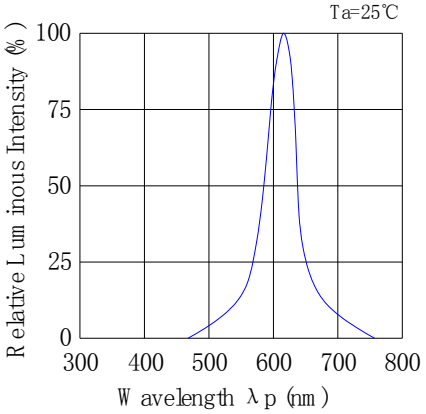
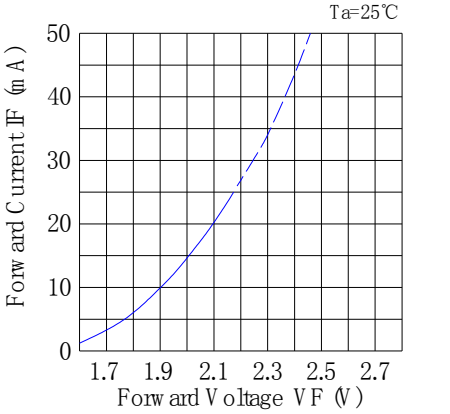
Typical Electrical / Optical Characteristics Curves
(25℃ Ambient Temperature Unless Otherwise Noted)

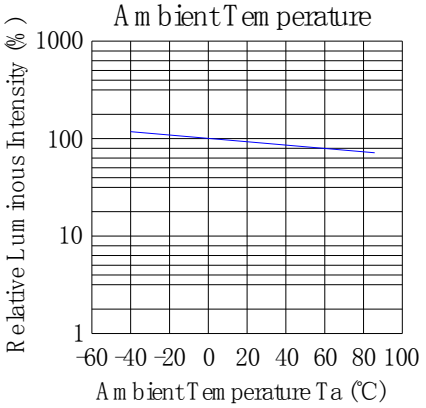
Spectrum Distribution



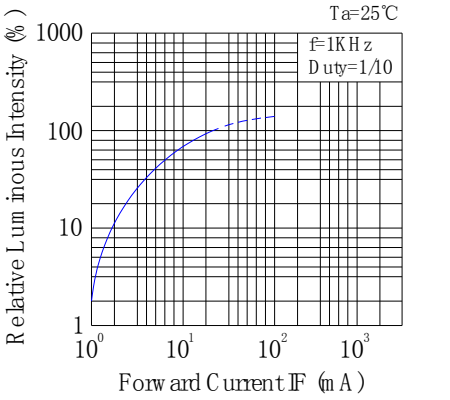
Forward Current& Forward Voltage



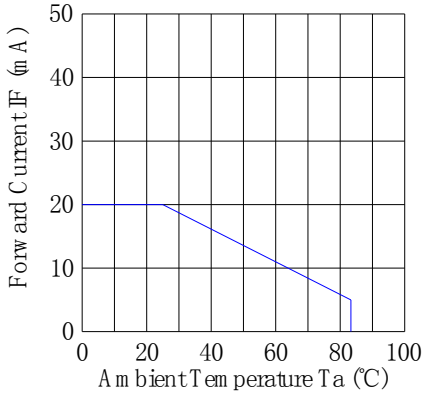
Luminous Intensity & Ambient Temperature



Luminous Intensity & Forward Current



Forward Current Derating Curve



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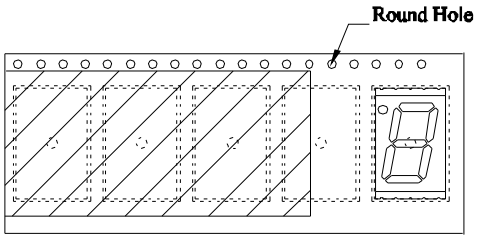
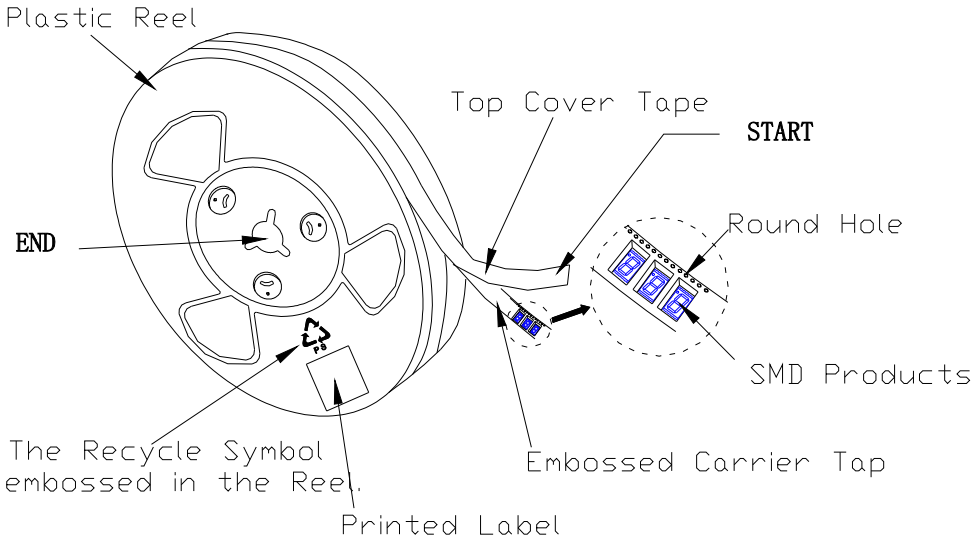
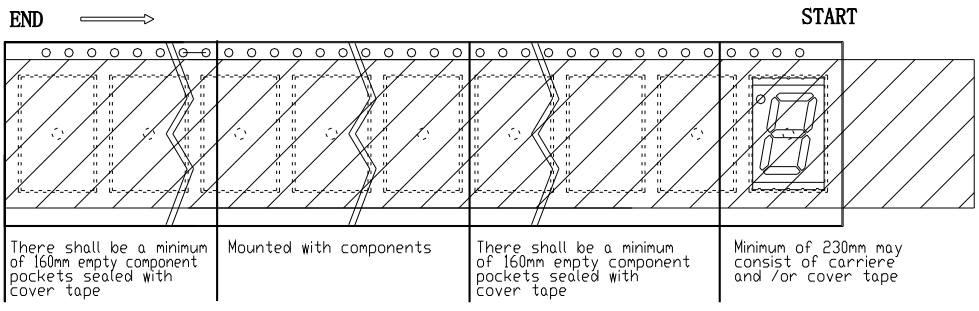
The Products In The Reel Of Direction



Label Direction & Content In The Roll



User Feed Direction



Package Criteria

1. Total unit per reel is 1000PCS.
2. Max 5 reels/5000PCS are packaged in each carton.

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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.

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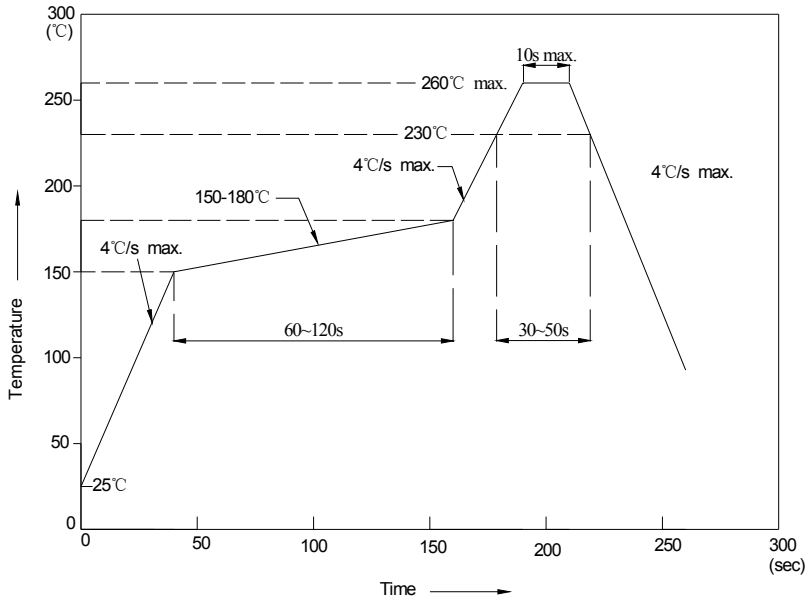
Precautions for Use

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.

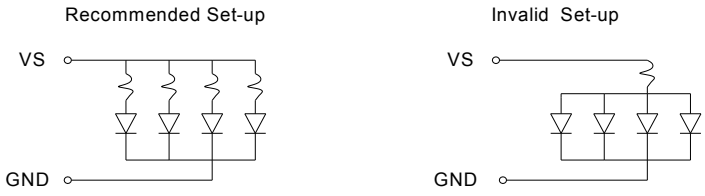
2. SMT Soldering Condition



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

3. 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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