Kingbright

SURFACE MOUNT DISPLAY

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: KCSA39-136 Blue

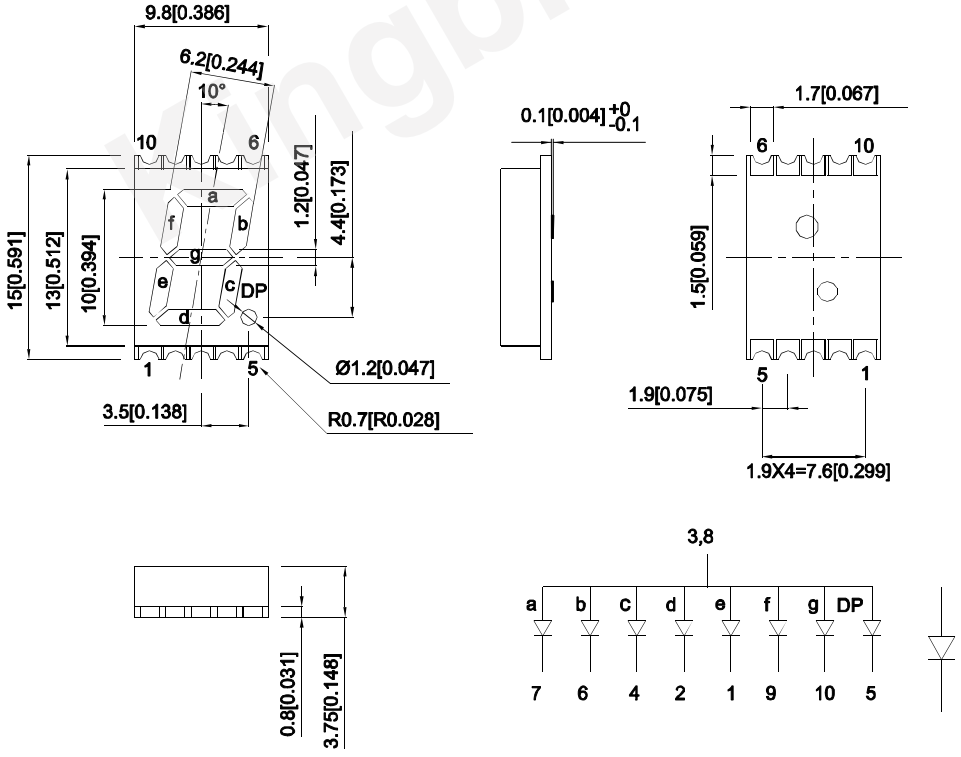
Features

- 0.39 inch digit height.
- Low current operation.
- Excellent character appearance.
- Mechanically rugged.
- Gray face,white segment.
- Package :400pcs / reel.
- Moisture sensitivity level : level 2a.
- RoHS compliant.

Descriptions

- The Blue source color devices are made with InGaN on SiC Light Emitting Diode.
- Electrostatic discharge and power surge could damage the LEDs.
- It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.
- All devices, equipments and machineries must be electrically grounded.

Package Dimensions& Internal Circuit Diagram



Notes:
1. All dimensions are in millimeters (inches), Tolerance is ±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.	
KCSA39-136	Blue (InGaN)	White Diffused	2200	5600	Common Anode, Rt. Hand Decimal.

Notes:
1. Luminous intensity / luminous Flux: +/-15%.
2. 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
λpeak	Peak Wavelength	Blue	468		nm	I_F=10mA
λD [1]	Dominant Wavelength	Blue	465		nm	I_F=10mA
Δλ1/2	Spectral Line Half-width	Blue	21		nm	I_F=10mA
C	Capacitance	Blue	100		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	Blue	3.05	4.0	V	I_F=10mA
I_R	Reverse Current	Blue		10	uA	V_R=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.

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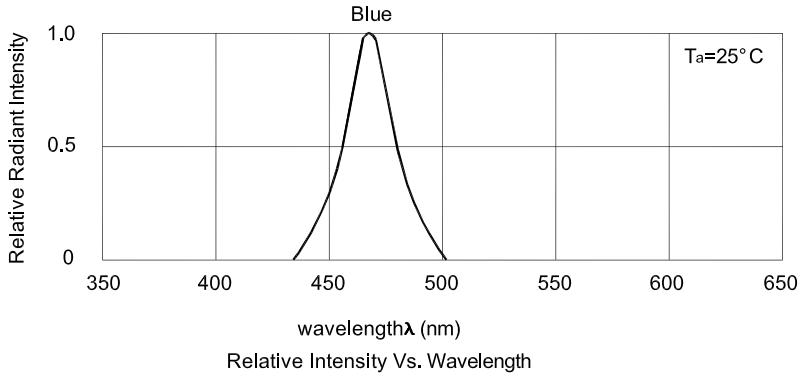
Absolute Maximum Ratings at TA=25°C

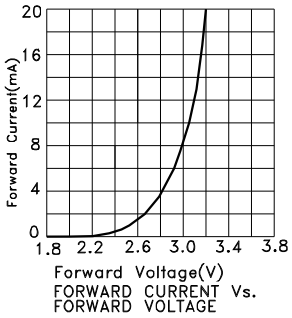
Parameter	Values	Units
Power dissipation	120	mW
DC Forward Current	30	mA
Peak Forward Current [1]	100	mA
Reverse Voltage	5	V
Electrostatic Discharge Threshold (HBM)	1000	V
Operating / Storage Temperature	-40°C To +85°C	

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.

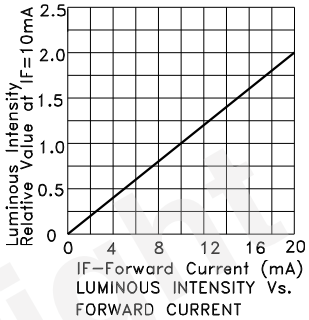


Relative Intensity Vs. Wavelength

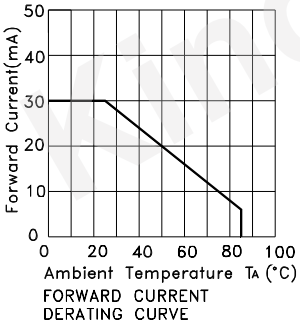
Blue **KCSA39-136**



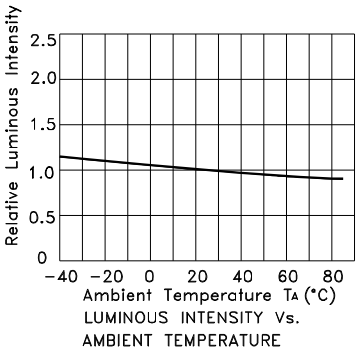
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



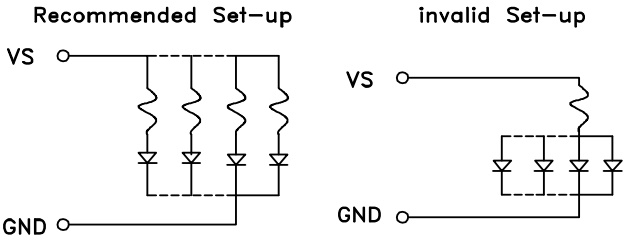
FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

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.



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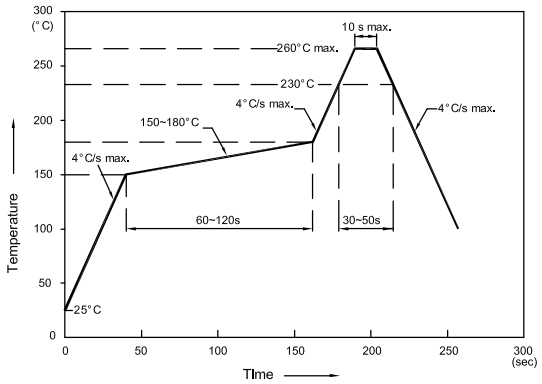
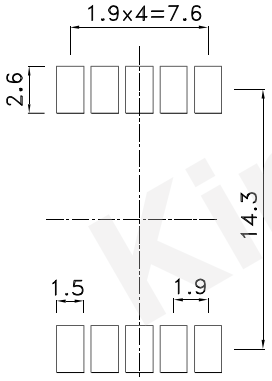
Reflow Soldering Profile For Lead-free SMT Process.

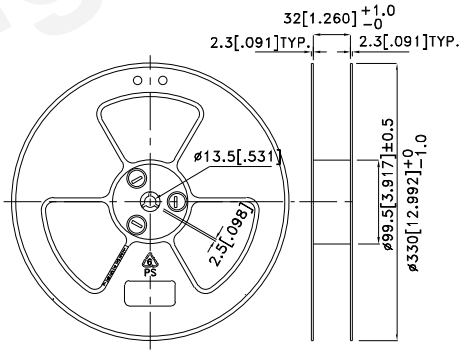


NOTES:
1. We recommend the reflow temperature 245°C(+/-5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

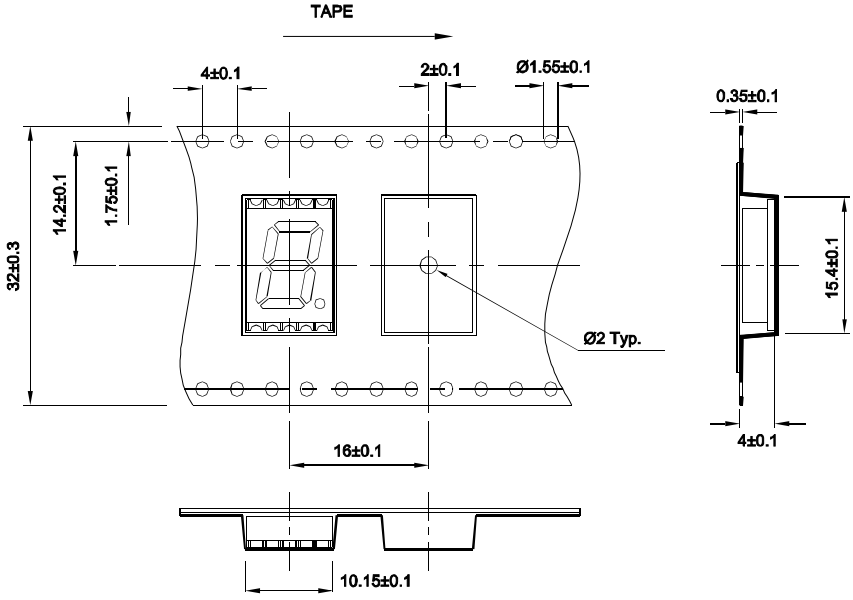
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.15)



Reel Dimension



Tape Specifications (Units : mm)



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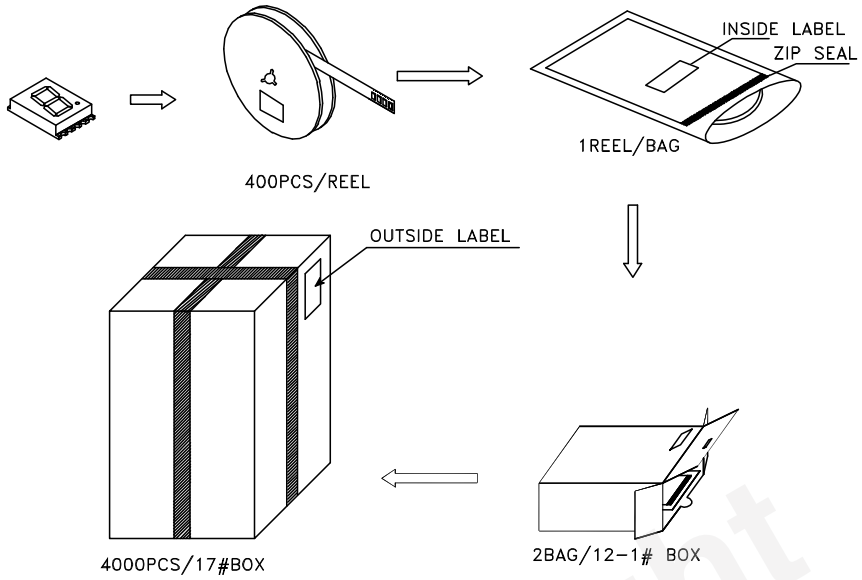
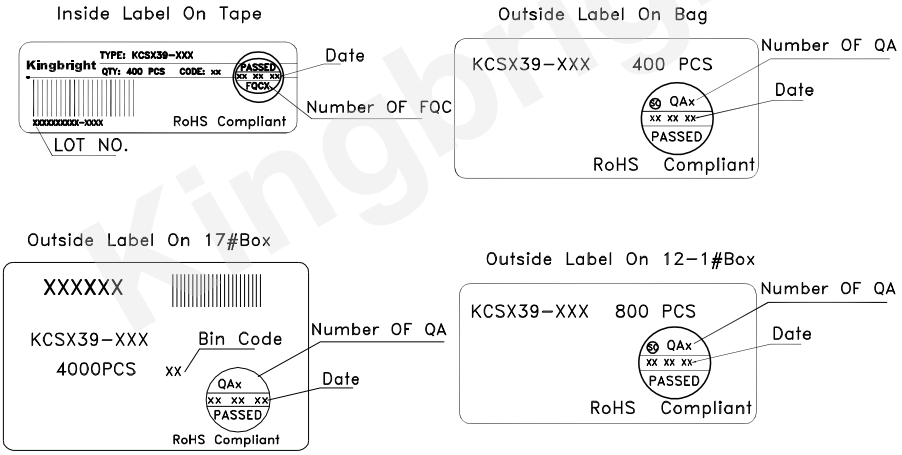
PACKING & LABEL SPECIFICATIONS KCSA39-136





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