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

Kingbright

Part Number: SC05-11GWA   Green

Features

● 0.5 inch digit height.

● Low current operation.

● Excellent character appearance.

● Easy mounting on P.C. boards or sockets.

● Mechanically rugged.

● Standard : gray face, white segment.

● RoHS compliant.

Description

The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

Package Dimensions& Internal Circuit Diagram
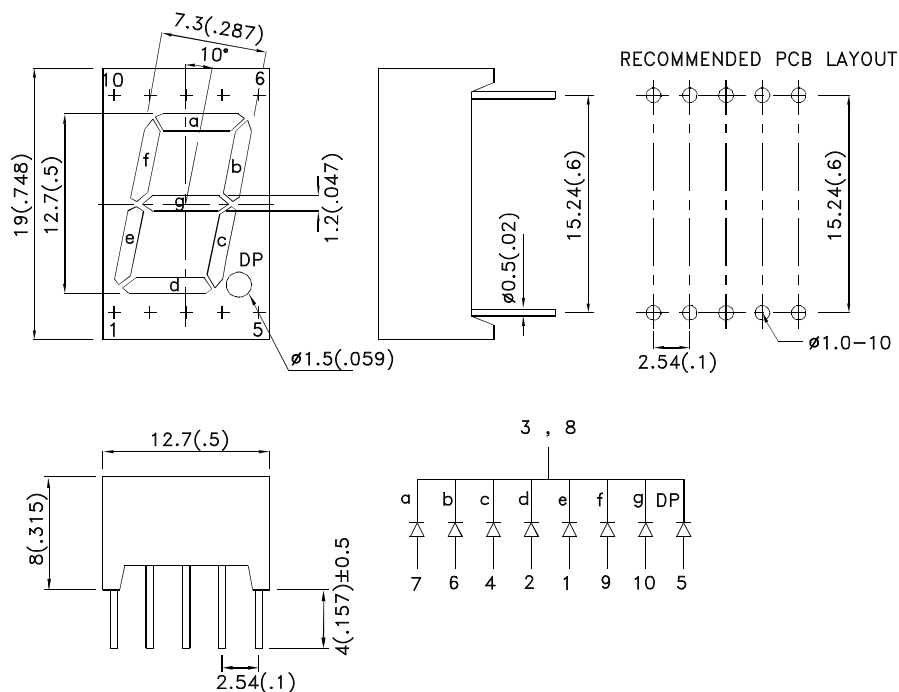
Notes:
1. All dimensions are in millimeters (inches), Tolerance is ±0.25(0.01")unless otherwise noted.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

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Part No.	Dice	Lens Type	Iv (ucd) [1] @ 10mA		Description
			Min.	Typ.	
SC05-11GWA	Green (GaP)	White Diffused	3600	10000	Common Cathode, Rt. Hand Decimal.

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

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Green	565		nm	I$_F$=20mA
λD [1]	Dominant Wavelength	Green	568		nm	I$_F$=20mA
Δλ1/2	Spectral Line Half-width	Green	30		nm	I$_F$=20mA
C	Capacitance	Green	15		pF	V$_F$=0V;f=1MHz
V$_F$ [2]	Forward Voltage	Green	2.2	2.5	V	I$_F$=20mA
I$_R$	Reverse Current	Green		10	uA	V$_R$=5V

Notes:
1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

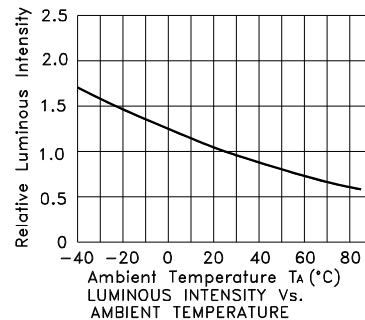| Parameter	Green	Units
Power dissipation	62.5	mW
DC Forward Current	25	mA
Peak Forward Current [1]	140	mA
Reverse Voltage	5	V
Operating / Storage Temperature	-40°C To +85°C	
Lead Solder Temperature[2]	260°C For 3-5 Seconds	

Notes:
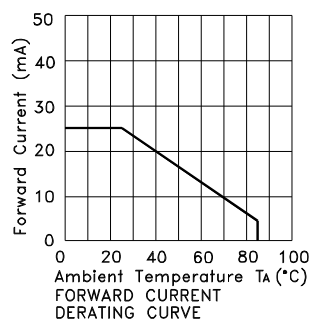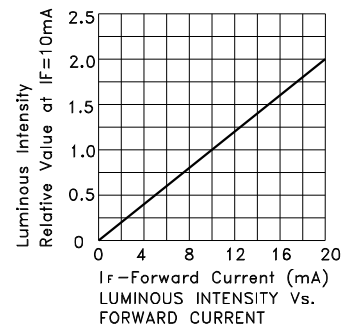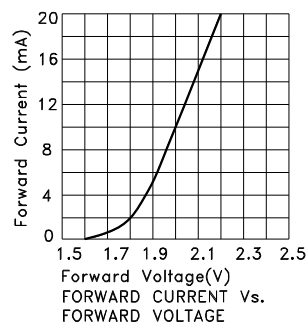1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.

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GREEN

$T_A=25°C$

Relative Radiant Intensity

1.0

0.5

0

450   500   550   600   650   700   750

wavelength λ (nm)

RELATIVE INTENSITY Vs. WAVELENGTH

Green   **SC05-11GWA**

Forward Current (mA)

20
16
12
8
4
0

1.5 1.7 1.9 2.1 2.3 2.5
Forward Voltage(V)
FORWARD CURRENT Vs.
FORWARD VOLTAGE

Luminous Intensity
Relative Value at IF=10mA

2.5
2.0
1.5
1.0
0.5
0

0   4   8   12   16   20
IF—Forward Current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT

Forward Current (mA)

50
40
30
20
10
0

0   20   40   60   80   100
Ambient Temperature TA (°C)
FORWARD CURRENT
DERATING CURVE

Relative Luminous Intensity

2.5
2.0
1.5
1.0
0.5
0

-40 -20   0   20   40   60   80
Ambient Temperature TA (°C)
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

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PACKING & LABEL SPECIFICATIONS   **SC05-11GWA**

INSIDE LABEL   40 PCS / TUBE

OUTSIDE LABEL

3600 PCS/BOX   SHIPPING MARK   90 TUBE/ BOX

Inside Label On IC-tube

Kingbright TYPE: SX05-11XXX
QTY: 40 PCS CODE: xx   PASSED xx xx xx FQCX   Date

XXXXXXXXX-XXXX   RoHS Compliant   Number OF FQC

LOT NO.

Outside Label On Box

XXXXXX

SX05-11XXX

3600   PCS   XX   **Bin Code**   **Number OF QA**

QAx xx xx xx PASSED   **Date**

RoHS Compliant

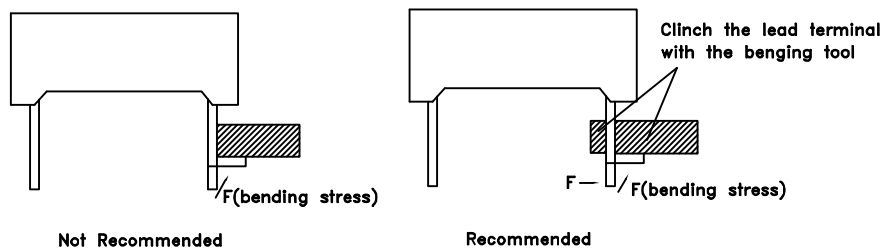# Kingbright
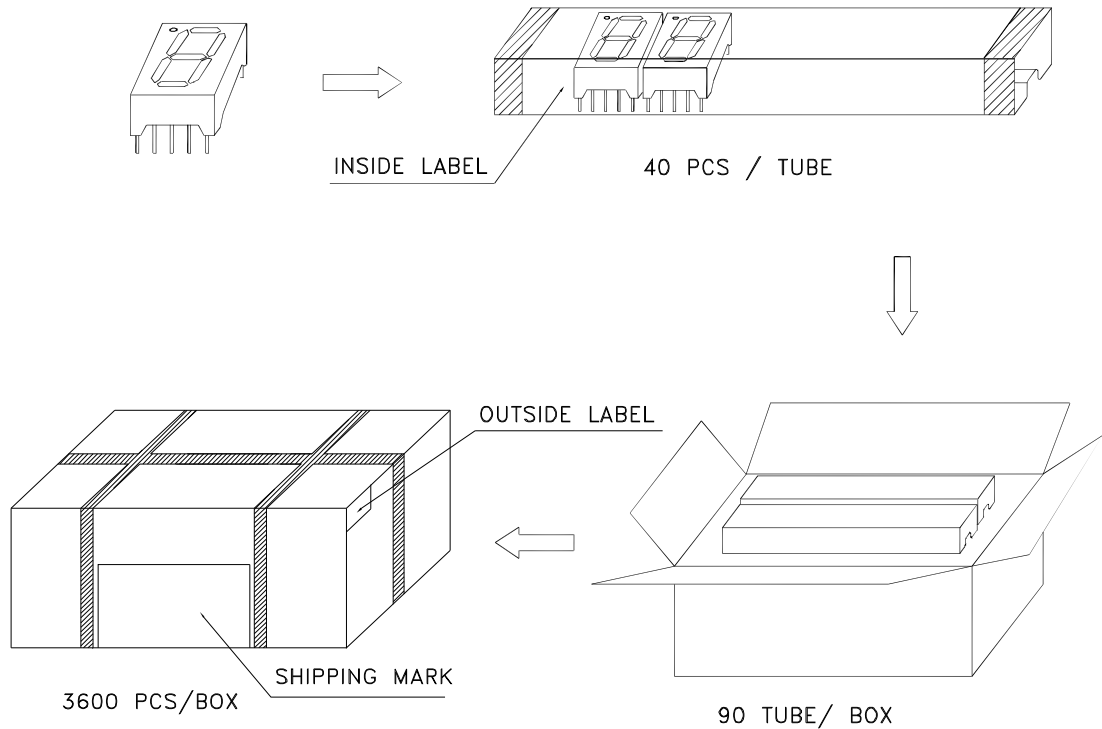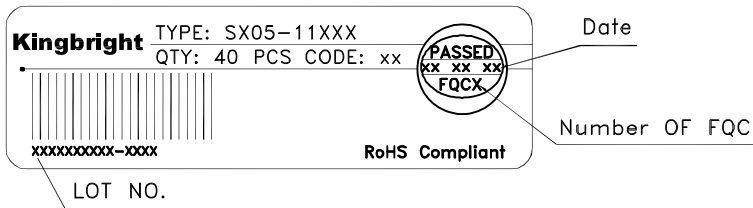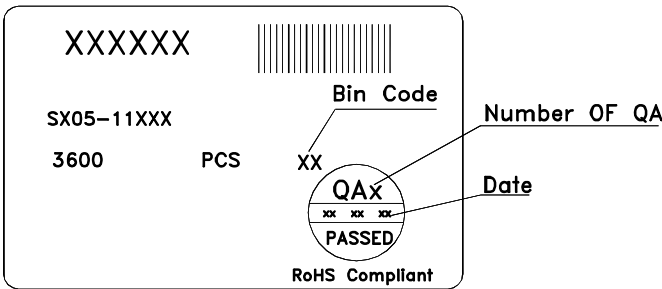
## THROUGH HOLE DISPLAY MOUNTING METHOD

Lead Forming

Do not bend the component leads by hand without proper tools.
The leads should be bent by clinching the upper part of the lead
firmly such that the bending force is not exerted on the plastic body.

Clinch the lead terminal
with the benging tool

F(bending stress)

F — F(bending stress)
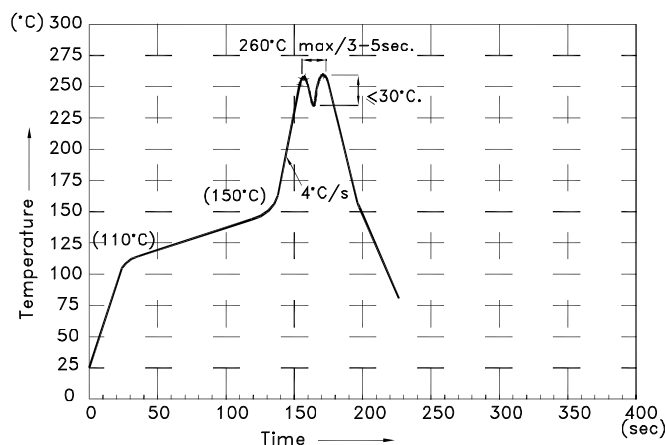
Not Recommended

Recommended

Installation

1. The installation process should not apply stress to the lead terminals.
2. When inserting for assembly, ensure the terminal pitch matches the substrate board's hole pitch to prevent spreading or pinching the lead terminals.

F   F

Not Recommended
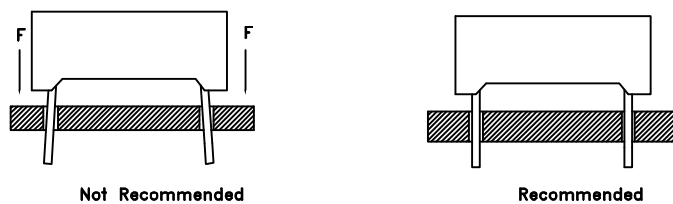
Recommended

DISPLAY SOLDERING CONDITIONS

Wave Soldering Profile For Lead-free Through-hole LED.

(°C) 300
275
250
225
200
175
150
125
100
75
50
25
0

Temperature

260°C max/3-5sec.
<30°C.
(150°C)   4°C/s
(110°C)

0   50   100   150   200   250   300   350   400
(sec)
Time

NOTES:
1. Recommend the wave temperature 245°C~260°C.The maximum soldering temperature should be less than 260°C.
2. Do not apply stress on epoxy resins when temperature is over 85°C.
3. The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
4. During wave soldering , the PCB top-surface temperature should be kept below 105°C
5. No more than once.

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Soldering General Notes:

a. Through-hole displays are incompatible with reflow soldering.

b. If components will undergo multiple soldering processes, or other processes where the components may be subjected to intense heat, please check with Kingbright for compatibility.

CLEANING

1. Mild "no-clean" fluxes are recommended for use in soldering.

2. If cleaning is required, Kingbright recommends to wash components with water only. Do not use harsh organic solvents for cleaning, because they may damage the plastic parts .And the devices should not be washed for more than one minute.

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.

Recommended Set-up   invalid Set-up