Kingbright

Part Number: PDA54-11CGKWA   Green

Features

● 0.54 inch character height.

● Low current operation.

● High contrast and light output.

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

● Categorized for luminous intensity.

● Mechanically rugged.

● Standard : gray face, white segment.

● RoHS compliant.

Description

The Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.

Package Dimensions& Internal Circuit Diagram

RECOMMENDED PCB LAYOUT

Dig 1 : 16

Dig 2 : 11
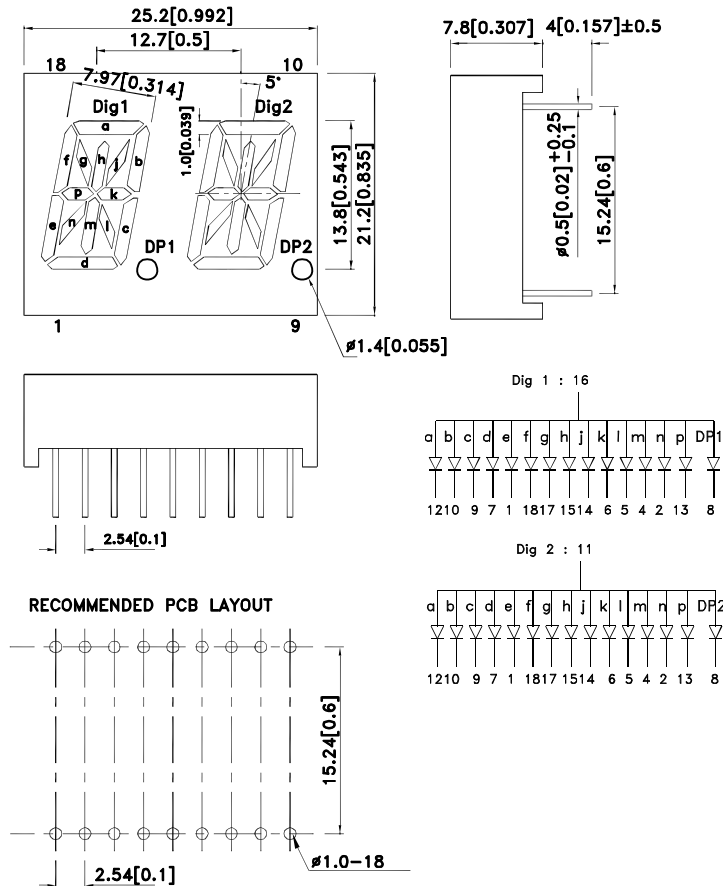
Notes:
1. All dimensions are in millimeters (inches), Tolerance is ±0.25(0.01")unless otherwise noted.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

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Selection Guide

Part No.	Dice	Lens Type	Iv (ucd) [1] @ 10mA Min.	Iv (ucd) [1] @ 10mA Typ.	Description
PDA54-11CGKWA	Green (AlGaInP)	White Diffused	9000	22000	Common Anode, Rt. Hand Decimal.
			*3600	*8000	

Note:
1. Luminous intensity/ luminous Flux: +/-15%.
 * Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Green	574		nm	I_F=20mA
λD [1]	Dominant Wavelength	Green	570		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	Green	20		nm	I_F=20mA
C	Capacitance	Green	15		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	Green	2.1	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.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.
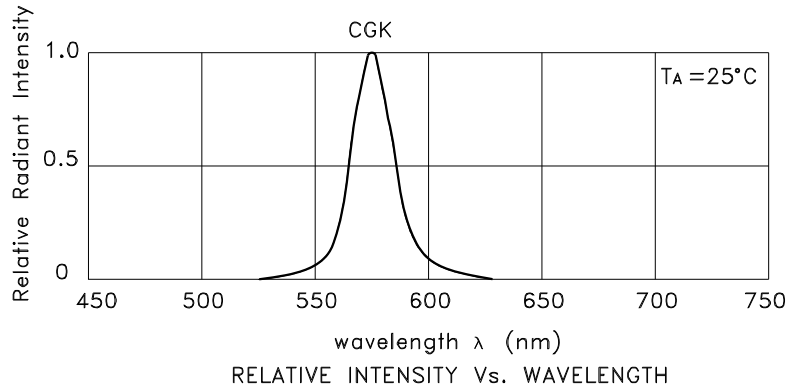
Absolute Maximum Ratings at TA=25°C

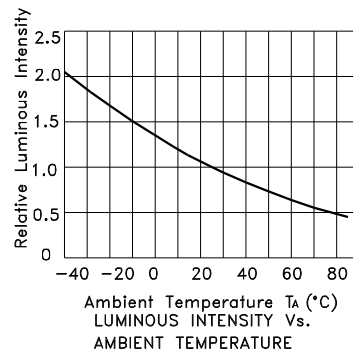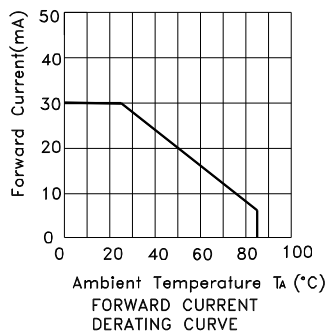| Parameter	Green	Units
Power dissipation	75	mW
DC Forward Current	30	mA
Peak Forward Current [1]	150	mA
Reverse Voltage	5	V
Operating / Storage Temperature	-40°C To +85°C	
Lead Solder Temperature[2]	260°C For 3-5 Seconds	

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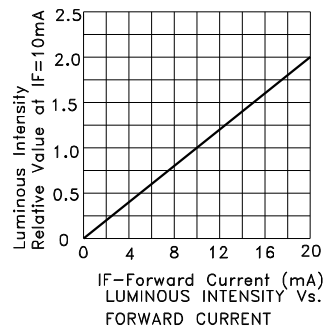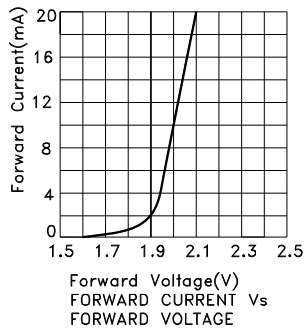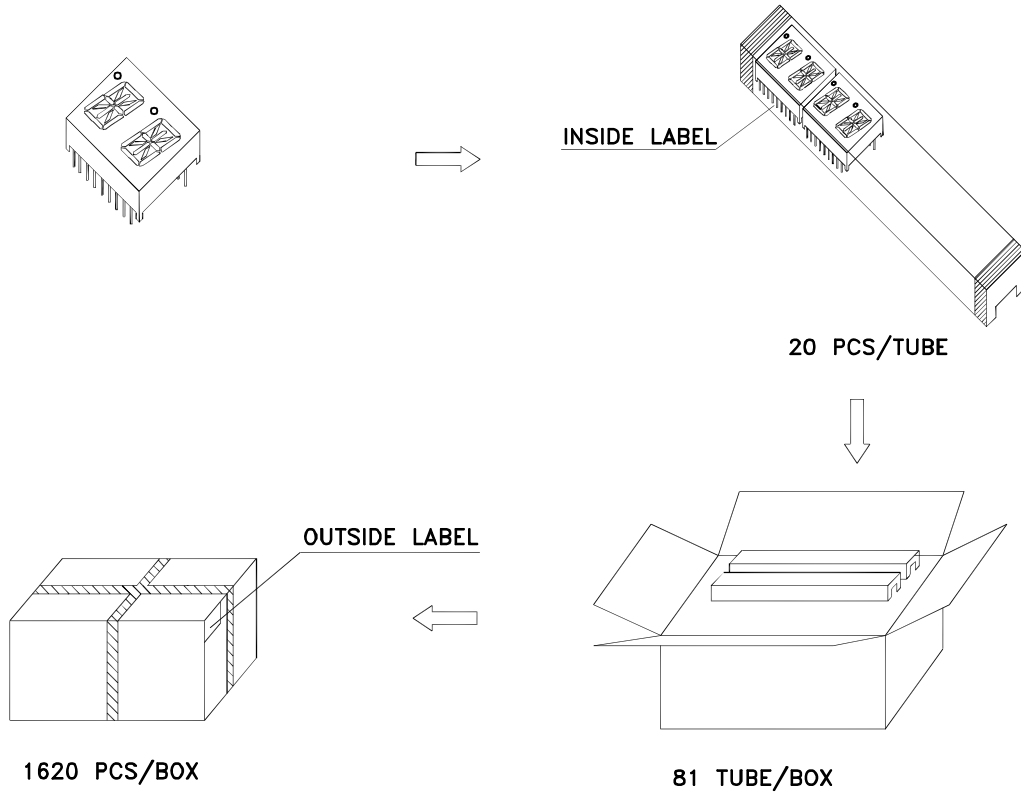1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.

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CGK

Relative Radiant Intensity

$T_A = 25°C$

wavelength λ (nm)
RELATIVE INTENSITY Vs. WAVELENGTH

Green **PDA54-11CGKWA**

Forward Current(mA)

Forward Voltage(V)
FORWARD CURRENT Vs
FORWARD VOLTAGE

Luminous Intensity
Relative Value at IF=10mA

IF–Forward Current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT

Forward Current(mA)

Ambient Temperature T_A (°C)
FORWARD CURRENT
DERATING CURVE

Relative Luminous Intensity

Ambient Temperature T_A (°C)
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

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PACKING & LABEL SPECIFICATIONS
PDA54-11CGKWA

INSIDE LABEL

20 PCS/TUBE

OUTSIDE LABEL

1620 PCS/BOX

81 TUBE/BOX

Inside Label On IC-tube

Kingbright TYPE: PDx54-11xxx
QTY: 20 PCS   CODE: xx

PASSED
xx xx xx
FQCX

Date

Number OF FQC

XXXXXXXXX-XXXX   RoHS Compliant

LOT NO.

Outside Label On Box

XXXXXX

PDx54-11xxx   Bin Code

1620 PCS   XX

Number OF QA

QAx
xx xx xx
PASSED

Date

RoHS Compliant

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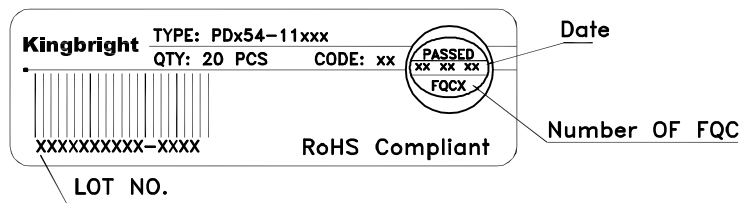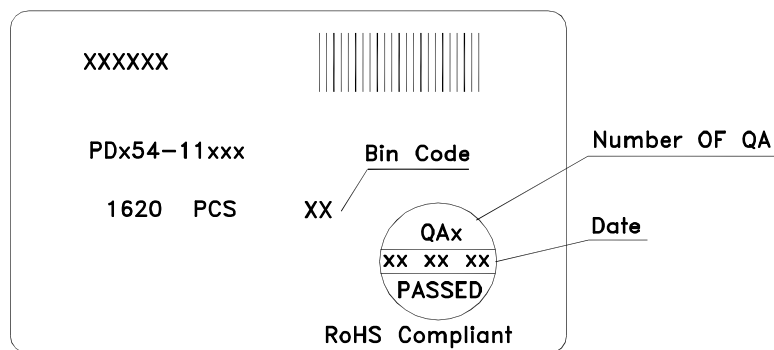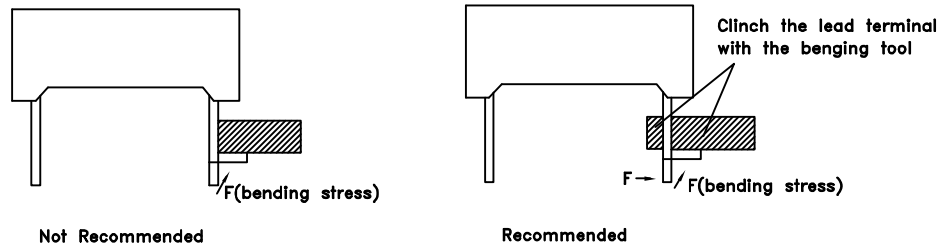
## THROUGH HOLE DISPLAY MOUNTING METHOD

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.

F(bending stress)

Not Recommended

Clinch the lead terminal with the benging tool

F→ F(bending stress)

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.
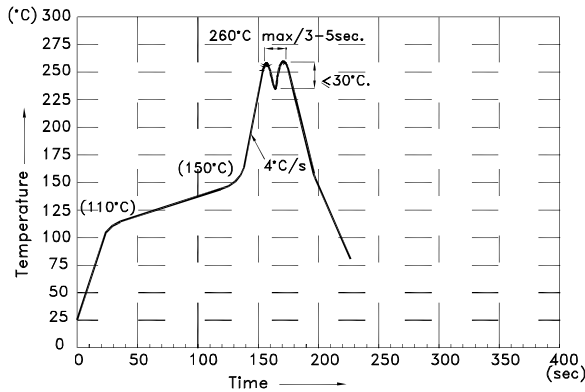
F   F

Not Recommended
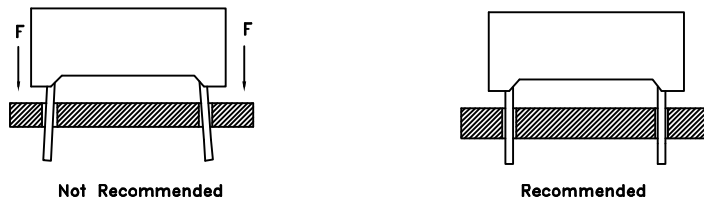
Recommended

3. The component shall be placed at least 5mm from edge of PCB to avoid damage caused excessive heat during wave soldering.

Not Recommended

>=5mm   >=5mm

Recommended

Kingbright
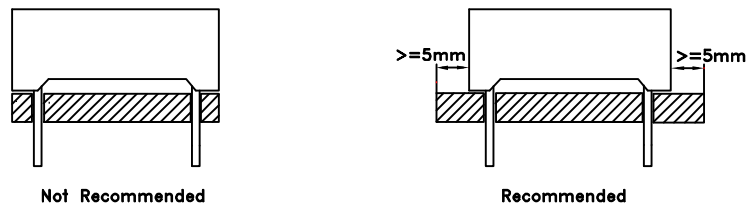
DISPLAY SOLDERING CONDITIONS

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

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.

Soldering General Notes:

1. Through-hole displays are incompatible with reflow soldering.
2. 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.
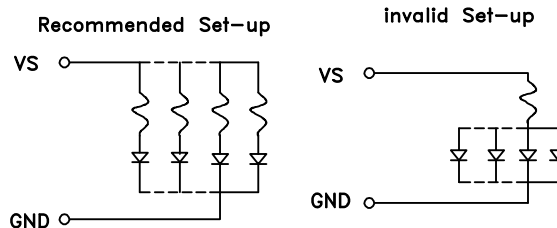
Detailed application notes are listed on our website.
http://www.kingbright.com/application_notes