

Selection Guide

Part No.	Dice	Lens Type	Iv (ucd) [1] @ 10mA		Description
			Min.	Typ.	
SC40-19SURKWA	Hyper Red (AlGaInP)	White Diffused	88000	250000	Common Cathode, Rt. Hand Decimal.
			*31000	*74000	

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
λ_{peak}	Peak Wavelength	Hyper Red	645		nm	I _F =20mA
λ_D [1]	Dominant Wavelength	Hyper Red	630		nm	I _F =20mA
$\Delta\lambda_{1/2}$	Spectral Line Half-width	Hyper Red	28		nm	I _F =20mA
C	Capacitance	Hyper Red	35		pF	V _F =0V;f=1MHz
V _F [2]	Forward Voltage (DP)	Hyper Red	7.8 (3.9)	10.0 (5.0)	V	I _F =20mA
I _R	Reverse Current (Per chip)	Hyper Red		20 (10)	uA	V _R =5V (V _R =5V)

Notes:

1.Wavelength: +/-1nm.

2.Forward Voltage: +/-0.1V.

3.Wavelength value is traceable to the CIE127-2007 compliant national standards.

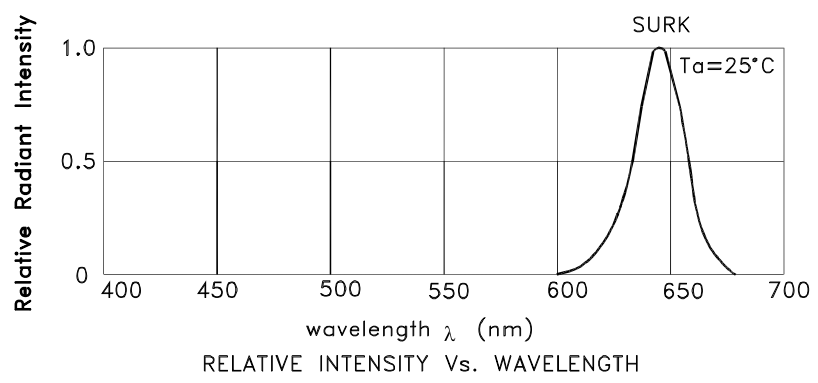
Absolute Maximum Ratings at TA=25°C

Parameter	Hyper Red	Units
Power dissipation (DP)	600 (150)	mW
DC Forward Current (DP)	60 (30)	mA
Peak Forward Current [1] (DP)	370 (185)	mA
Reverse Voltage (Per chip)	5 (5)	V
Operating / Storage Temperature	-40°C To +85°C	
Lead Solder Temperature[2]	260°C For 3-5 Seconds	

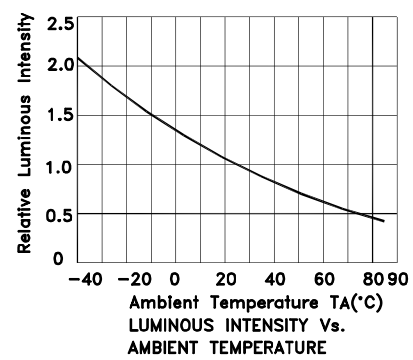
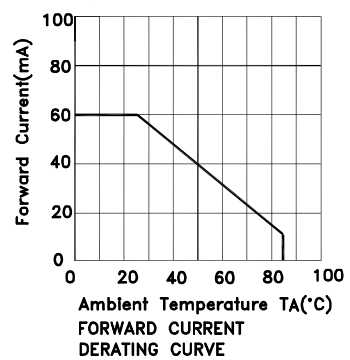
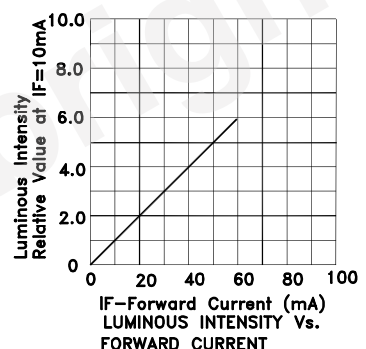
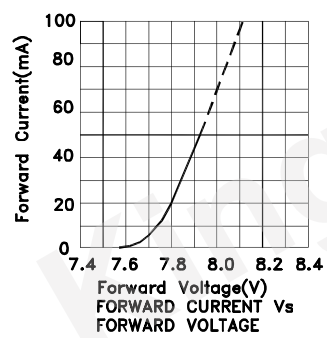
Notes:

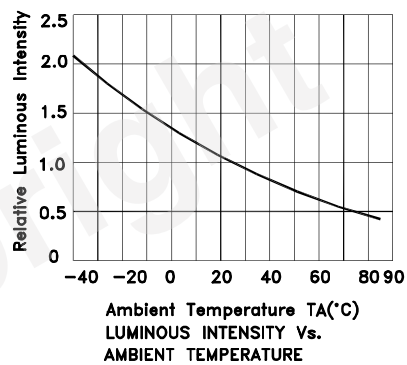
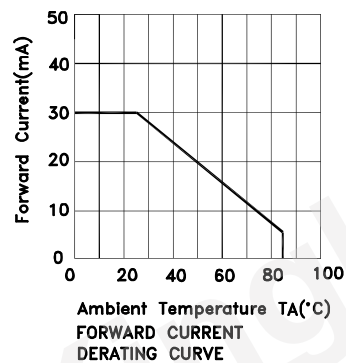
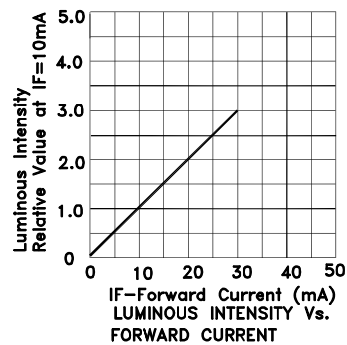
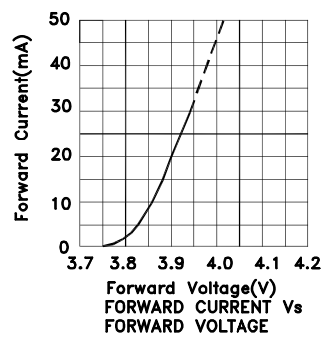
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

2. 2mm below package base.



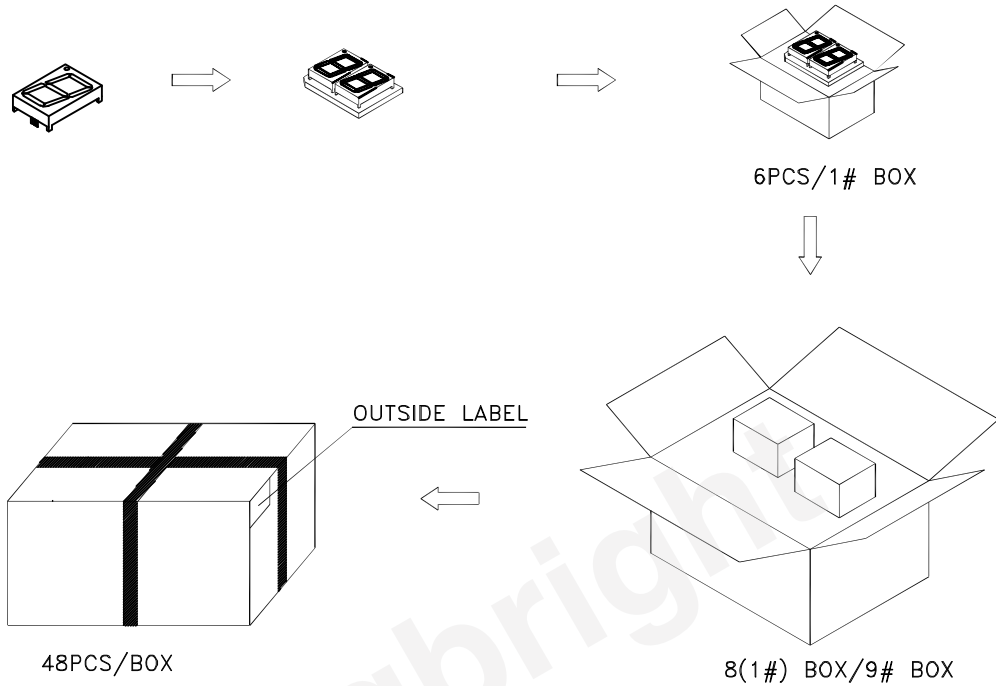
Hyper Red SC40-19SURKWA





PACKING & LABEL SPECIFICATIONS

SC40-19SURKWA



Inside Label on 1#BOX

Kingbright	TYPE: SX40-19XXX	DATE
QTY: 6 PCS	CODE: xx	PASSED xx xx xx FQCX
XXXXXXXXXX-XXXX	RoHS Compliant	Number OF FQC
LOT NO.		

Outside Label on Box

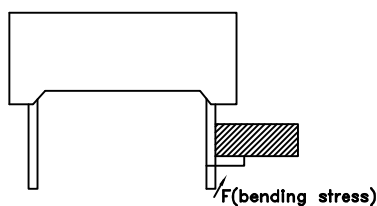
XXXXXX	XXXXXXXXXX	
SX40-19XXX	Bin Code	Number OF QA
48 PCS	XX	DATE
	QA xx xx xx PASSED	
	RoHS Compliant	

THROUGH HOLE DISPLAY MOUNTING METHOD

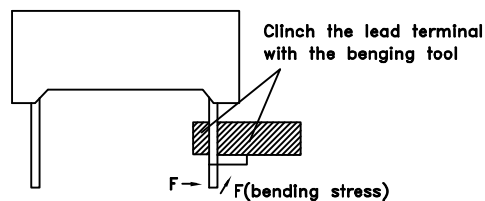
Lead Forming

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.



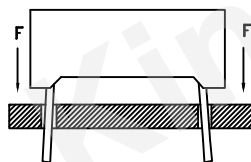
Not Recommended



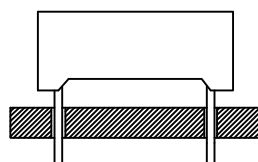
Recommended

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.

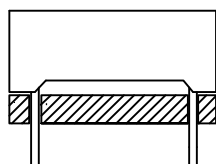


Not Recommended

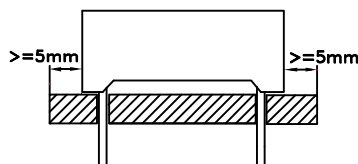


Recommended

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



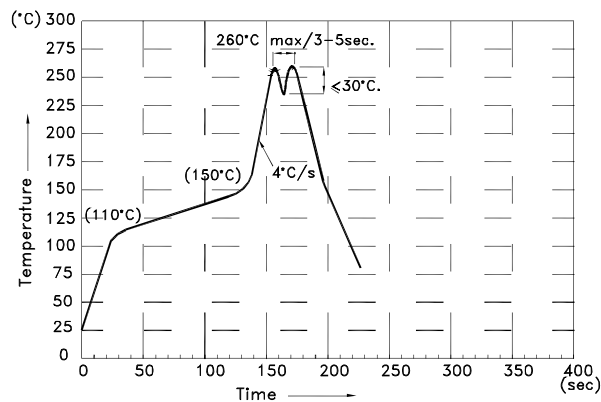
Not Recommended



Recommended

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:

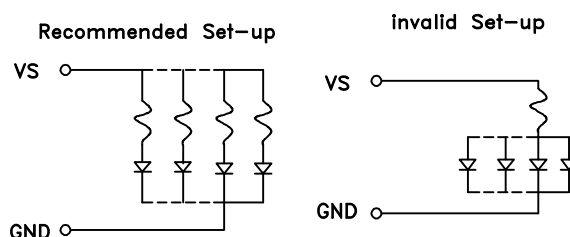
1. Through-hole displays are incompatible with reflow soldering.
2. If components will undergo multiple soldering processes, or other processes where the components may be subjected to intense heat, please check with Kingbright for compatibility.

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