

18mm (0.7INCH) SINGLE COLOR DOT MATRIX DISPLAY

Part Number: TA07-11SURKWA Hyper Red

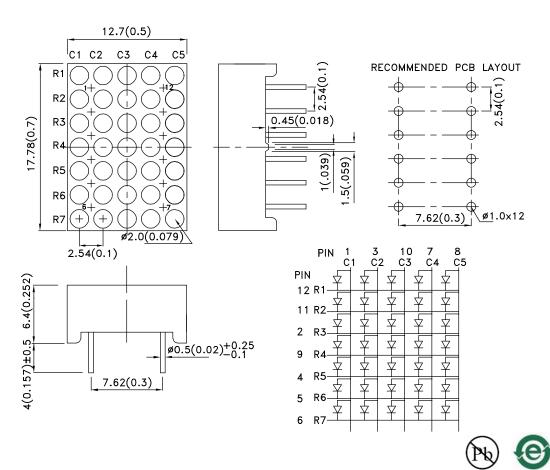
Features

- 0.7 inch matrix height.
- Dot size 2mm.
- Low current operation.
- Stackable vertically and horizontally.
- Easy mounting on P.C. boards or sockets.
- Mechanically rugged.
- Standard: gray face, white dot.
- RoHS compliant.

Description

The Hyper Red source color devices are made with Al-GaInP on GaAs substrate Light Emitting Diode.

Package Dimensions& Internal Circuit Diagram





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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 APPROVED: WYNEC
 CHECKED: Joe Lee
 DRAWN: P.Cheng
 ERP: 1332000995

Kingbright

Selection Guide

Part No.	Dice	Lens Type	lv (ucd) [1] @ 10mA		Description
			Min.	Тур.	·
TA07-11SURKWA	Hyper Red (AlGaInP)	White Diffused	31000	90000	Column Anode
			*14000	*24000	

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Тур.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Hyper Red	645		nm	IF=20mA
λD [1]	Dominant Wavelength	Hyper Red	630		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Hyper Red	28		nm	IF=20mA
С	Capacitance	Hyper Red	35		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Hyper Red	1.95	2.5	V	IF=20mA
lr	Reverse Current	Hyper Red		10	uA	VR=5V

Notes:

- 1. Wavelength: +/-1nm.
- 2. Forward Voltage: +/-0.1V.
- 3. Wavelength value is traceable to the CIE127-2007 compliant national standards.
- 4. Excess driving current and/or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

Absolute Maximum Ratings at TA=25°C

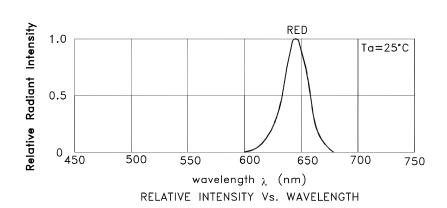
Parameter	Hyper Red	Units	
Power dissipation	75	mW	
DC Forward Current	30	mA	
Peak Forward Current [1]	185	mA	
Reverse Voltage	5	V	
Operating / Storage Temperature	erating / Storage Temperature -40°C To +85°C		
ead Solder Temperature[2] 260°C For 3-5 Seconds			

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

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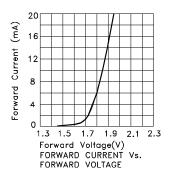
^{1.} Luminous intensity/ luminous Flux: +/-15%.
*Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

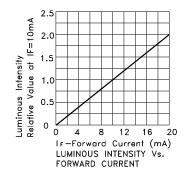
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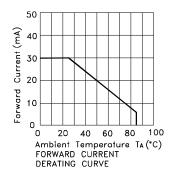


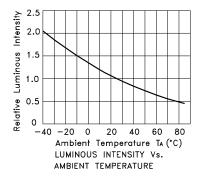
Hyper Red

TA07-11SURKWA



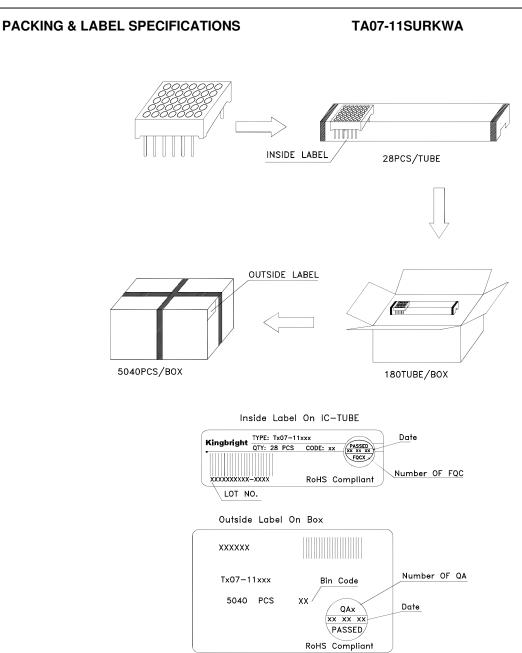






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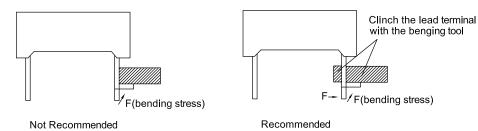


THROUGH HOLE DISPLAY MOUNTING METHOD

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.

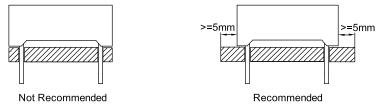


Installation

- 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.



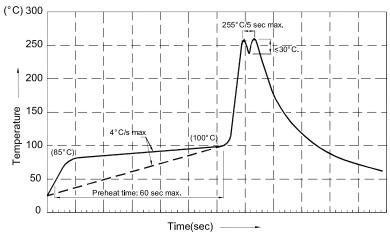
3.The component shall be placed at least 5mm from edge of PCB to avoid damage caused excessive heat during wave soldering.



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Recommended Wave Soldering Profiles:



Notes:

- 1.Recommend pre-heat temperature of 105° C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260° C
- 2.Peak wave soldering temperature between 245° C ~ 255° C for 3 sec (5 sec max).
- 3.Do not apply stress to the epoxy resin while the temperature is above 85°C.
- 4. Fixtures should not incur stress on the component when mounting and during soldering process.
- 5.SAC 305 solder alloy is recommended.
- 6.No more than one wave soldering pass.
- 7. During wave soldering, the PCB top-surface temperature should be kept below 105°C.

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.

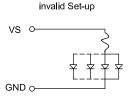
Do not use harsh organic solvents for cleaning because they may damage the plastic parts .

- 3.The cleaning process should take place at room temperature and the devices should not be washed for more than one minute.
- 4. When water is used in the cleaning process, immediately remove excess moisture from the component with forced-air drying afterwards.

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.

Recommended Set-up
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- The driving circuit should be designed to protect the LED against reverse voltages and transient voltage spikes when the circuit is powered up or shut down.
- The safe operating current should be chosen after considering the maximum ambient temperature of the operating environment.
- 5. Prolonged reverse bias should be avoided, as it could cause metal migration, leading to an increase in leakage current or causing a short circuit.

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