

ATTENTION **OBSERVE PRECAUTIONS** FOR HANDLING ELECTROSTATIC DISCHARGE SENSITIVE DEVICES

#### **Features**

- 1.6mmX1.6mm SMT LED, 0.7mm thickness.
- Low power consumption.
- Can produce any color in visible spectrum, including white light.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- · RoHS compliant.

### 1.6x1.6mm FULL-COLOR SURFACE MOUNT LED

Part Number: KPTF-1616RGBC-11

Hyper Red Green Blue

#### Description

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

The Green source color devices are made with InGaN on Sapphire Light Emitting Diode.

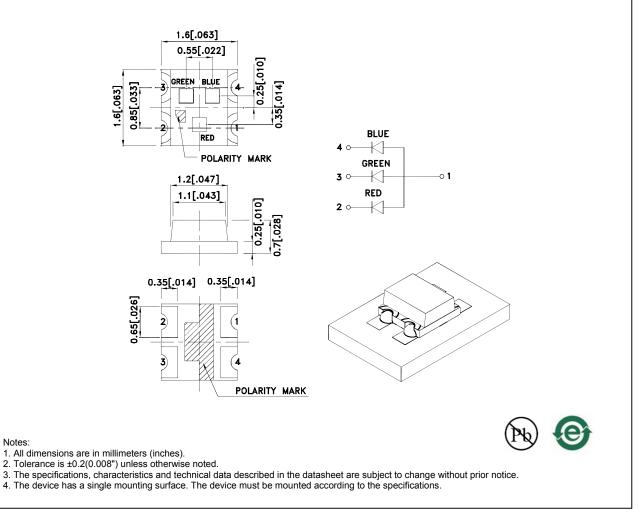
The Blue source color devices are made with InGaN Light Emitting Diode.

Static electricity and surge damage the LEDS.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

### **Package Dimensions**



SPEC NO: DSAM5137 **APPROVED: WYNEC** 

Notes:

**REV NO: V.2B CHECKED: Allen Liu**  DATE: DEC/04/2013 DRAWN: Q.M.Chen

PAGE: 1 OF 7 ERP: 1203013277

#### **Selection Guide** lv (mcd) [2] Viewing @ 20mA Angle [1] Part No. Dice Lens Type 201/2 Min. Тур. Hyper Red (AlGaInP) 55 110 KPTF-1616RGBC-11 Green (InGaN) Water Clear 120° 120 280 Blue (InGaN) 40 70

Notes:

1.  $\theta$ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.

2. Luminous intensity/ luminous Flux: +/-15%.

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

Symbol	Parameter	Device	Тур.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Hyper Red Green Blue	630 515 460		nm	IF=20mA
λD [1]	Dominant Wavelength	Hyper Red Green Blue	621 525 465		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Hyper Red Green Blue	20 30 25		nm	I⊧=20mA
С	Capacitance	Hyper Red Green Blue	25 45 100		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Hyper Red Green Blue	2 3.3 3.3	2.5 4.1 4	V	I⊧=20mA
lr	Reverse Current	Hyper Red Green Blue		10 50 50	uA	VR=5V

#### Electrical / Optical Characteristics at TA=25°C

Notes:

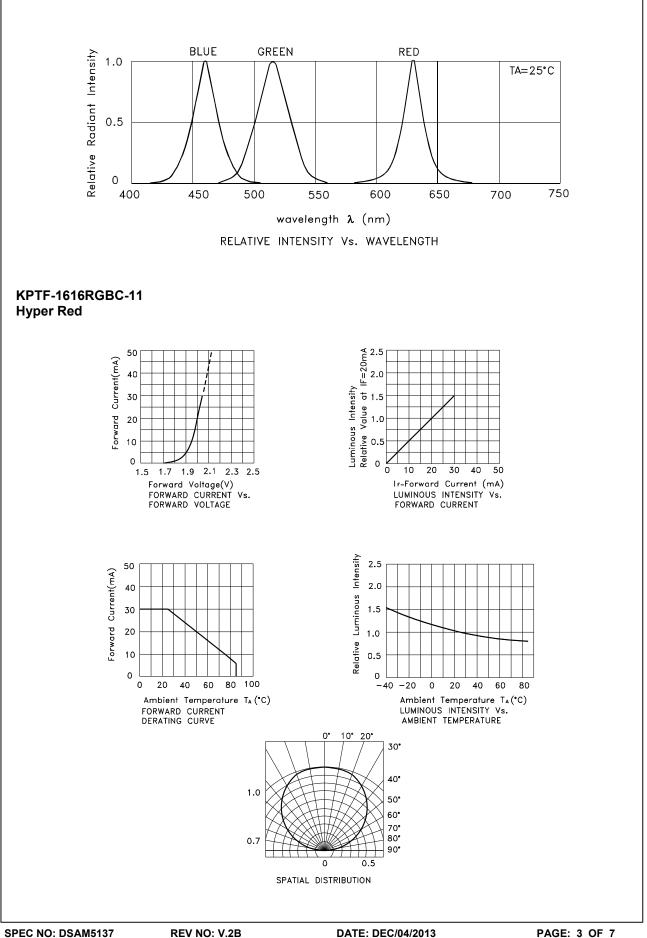
1.Wavelength: +/-1nm. 2. Forward Voltage: +/-0.1V.

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

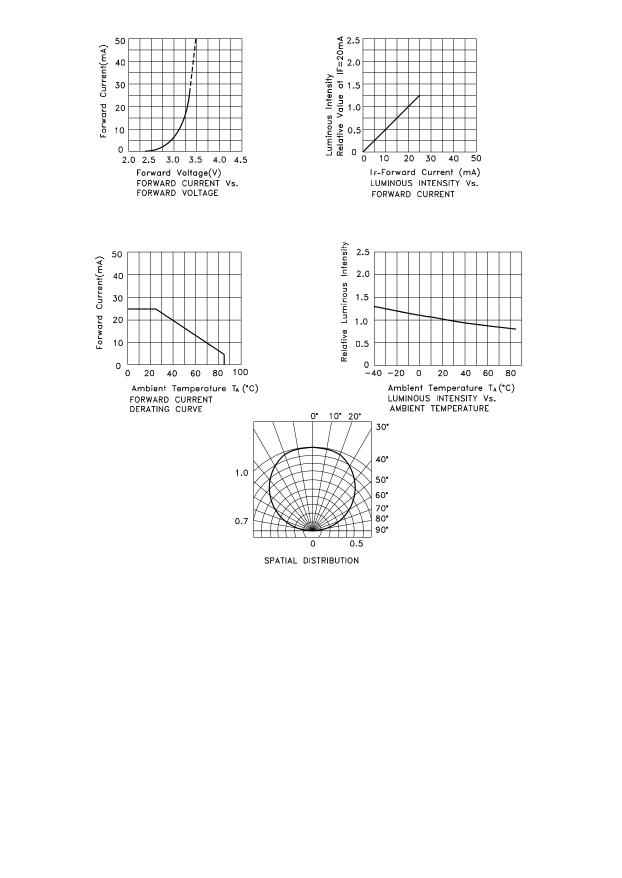
#### Absolute Maximum Ratings at TA=25°C

Parameter	Hyper Red	Green	Blue	Units			
Power dissipation	75	102.5	120	mW			
DC Forward Current	30	25	30	mA			
Peak Forward Current [1]	195	150	150	mA			
Reverse Voltage		V					
Operating Temperature	-40°C To +85°C						
Storage Temperature	-40°C To +85°C						

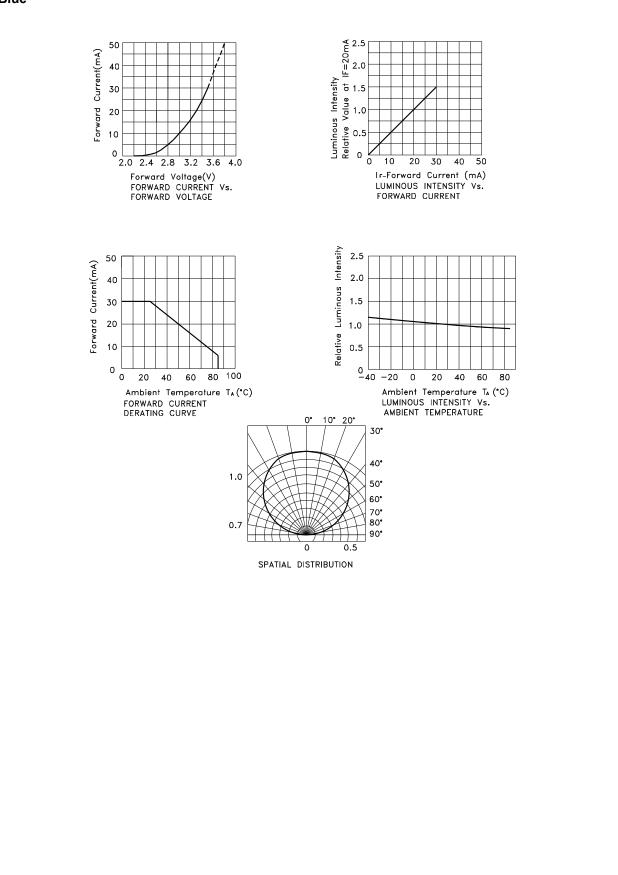
Notes: 1. 1/10 Duty Cycle, 0.1ms Pulse Width.



Green

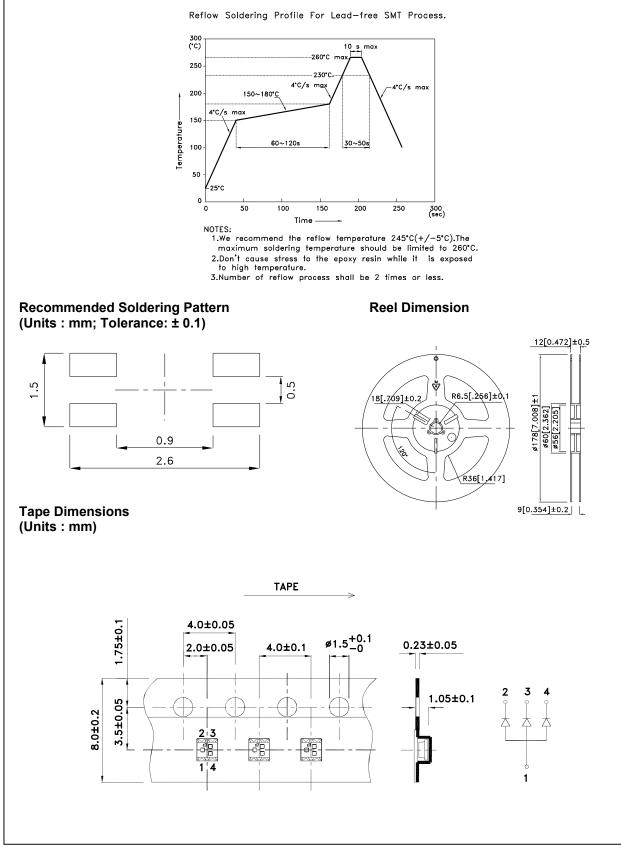


Blue

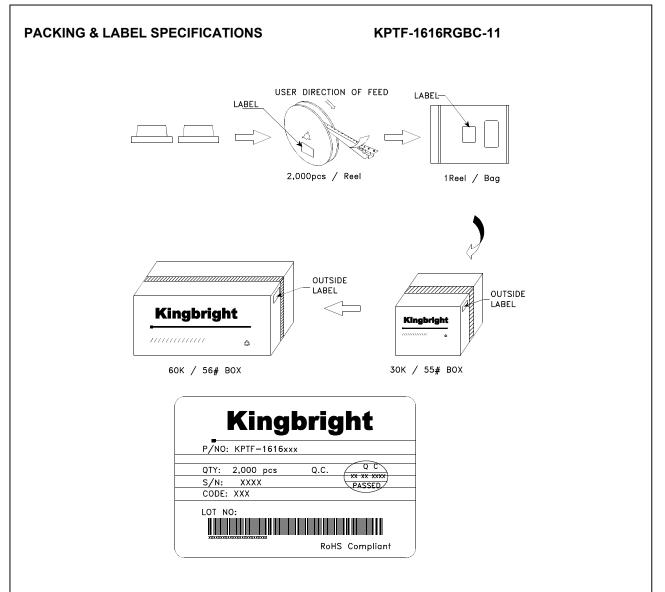


### KPTF-1616RGBC-11

Reflow soldering is recommended and the soldering profile is shown below. Other soldering methods are not recommended as they might cause damage to the product.



REV NO: V.2B CHECKED: Allen Liu DATE: DEC/04/2013 DRAWN: Q.M.Chen PAGE: 6 OF 7 ERP: 1203013277



### Terms and conditions for the usage of this document

- 1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
- 2. The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
- 3. When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Kingbright will not be responsible for any subsequent issues.
- 4. The information in this document applies to typical usage in consumer electronics applications. If customer's application has special reliability requirements or have life-threatening liabilities, such as automotive or medical usage, please consult with Kingbright representative for further assistance.
- 5. The contents and information of this document may not be reproduced or re-transmitted without permission by Kingbright.

6.All design applications should refer to Kingbright application notes available at <a href="http://www.kingbright.com/application\_notes">http://www.kingbright.com/application\_notes</a>