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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!



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## **QT-Brightek High Power Series**

### **1.0 W High Power IR LED**

**Part No.: QBHP684-IR1XU**

**U = 350mA**

**1 = 940nm**

**X = Viewing Angle (X=A:60° ; X=B:120°)**

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**Table of Contents:**

Introduction .....	3
Electrical / Optical Characteristic (Ta=25 °C) .....	4
Absolute Maximum Rating .....	4
Characteristic Curves.....	5
IR Reflow Soldering Profile .....	6
Packing .....	7
Labeling .....	8
Ordering Information .....	8
Revision History .....	9
Disclaimer .....	9

## Introduction

**Feature:**

- 1W High Bright IR LED
- Packed in tape and reel
- High radiant power output
- Viewing Angle 60° typ. (QBHP684-IR1AU)
- Viewing Angle 120° typ. (QBHP684-IR1BU)

**Description:**

This 1W high power IR LED has compact size of 3.5 x 3.5mm. It is ideal for both infrared sensing applications.

**Application:**

- Data transmission
- Sensing
- Remote control

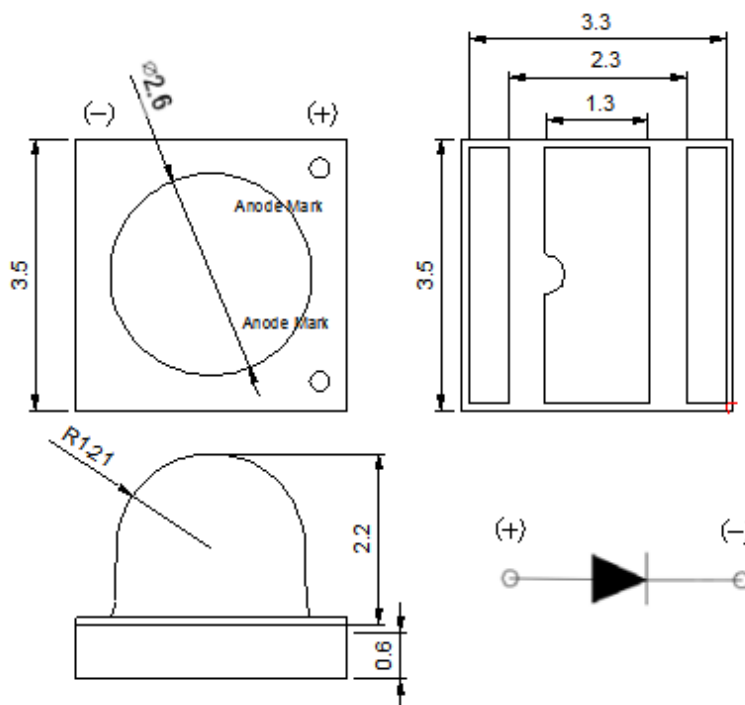
**Certification & Compliance:**

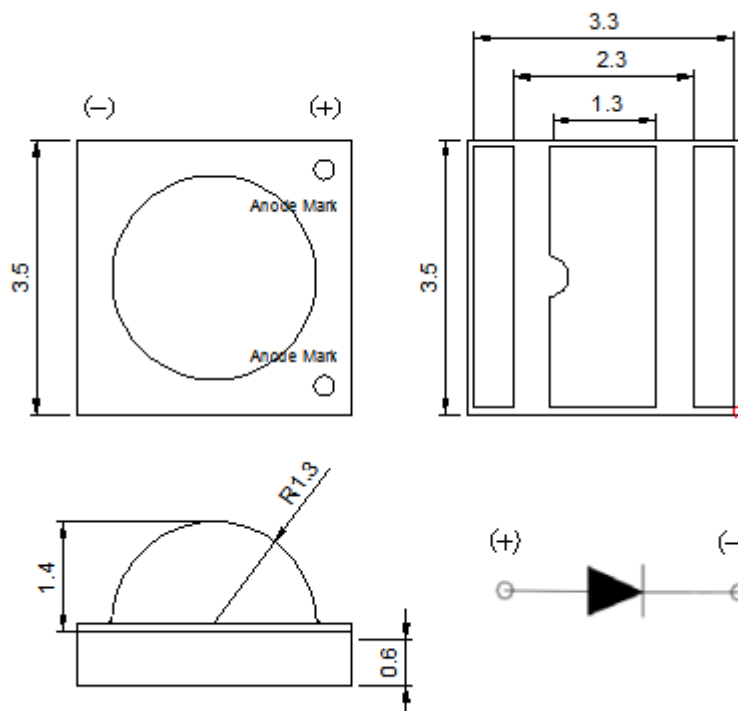
- TS16949
- ISO9001
- RoHS Compliant



## Outline Dimensions:

60°



**120°**


Units: mm / tolerance = +/-0.2mm

### Electrical / Optical Characteristic (Ta=25 °C)

Product Number	Color	I <sub>F</sub> (mA)	V <sub>F</sub> (V)			λ <sub>p</sub> (nm)			P <sub>O</sub> (mW)	
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBHP684-IR1AU	Infrared	350	1.3	1.7	2.2	930	940	950	100	200
QBHP684-IR1BU										

### Absolute Maximum Rating

P <sub>d</sub> (W)	I <sub>F</sub> (mA)	I <sub>FP</sub> (mA)	V <sub>R</sub> (V)	T <sub>OP</sub> (°C)	T <sub>ST</sub> (°C)	T <sub>SOL</sub> (°C)
1.68	700	1000	5	-40 to +85	-40 to +100	260

### Radiometric Power P<sub>O</sub> @ I<sub>F</sub>=350mA

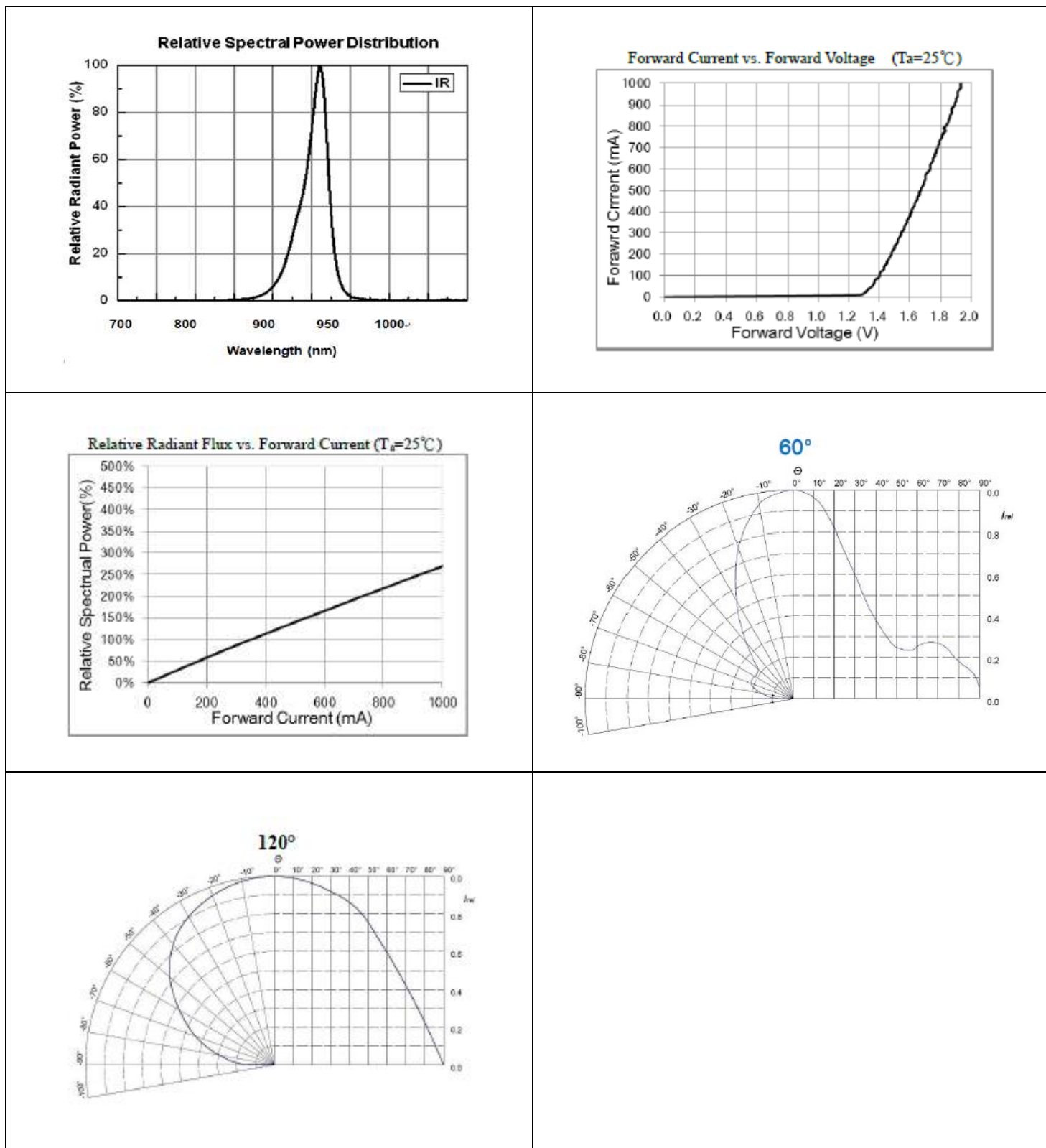
Bin	Min.	Max.	Unit
P10	100	150	mW
P15	150	200	
P25	200	250	

Tolerance of measurement of forward voltage: ±0.1V

Tolerance of measurement of Radiometric Power: ±15%

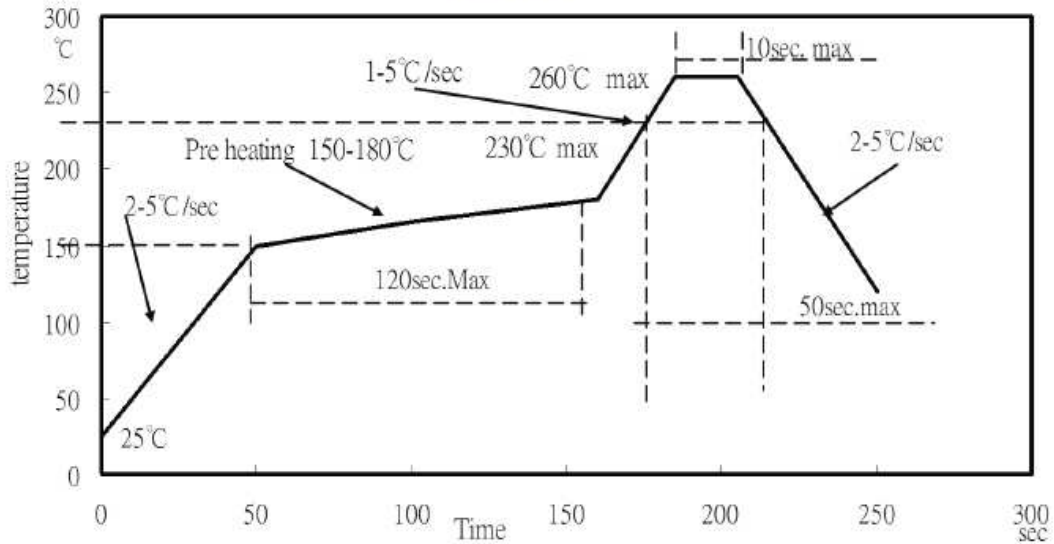
Tolerance of measurement of Peak wavelength: ±2nm

**Characteristic Curves**

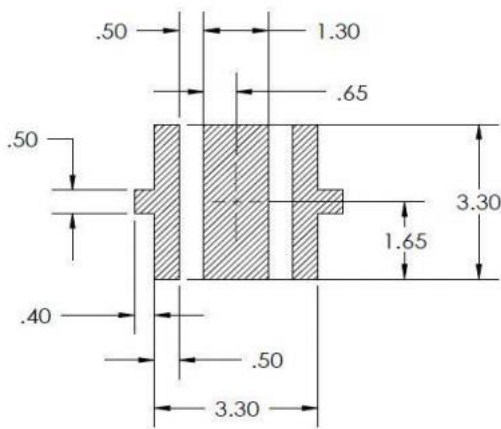


**IR Reflow Soldering Profile**

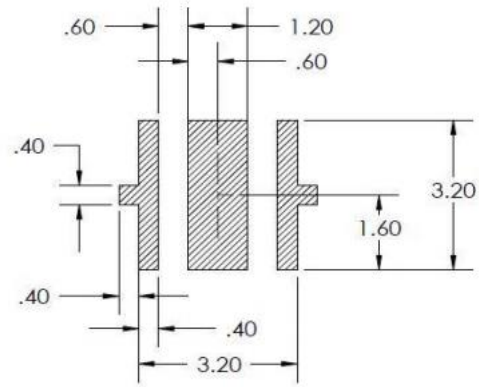
Lead Free solder



**Recommended Soldering Pad:**



RECOMMENDED PCB SOLDER PAD

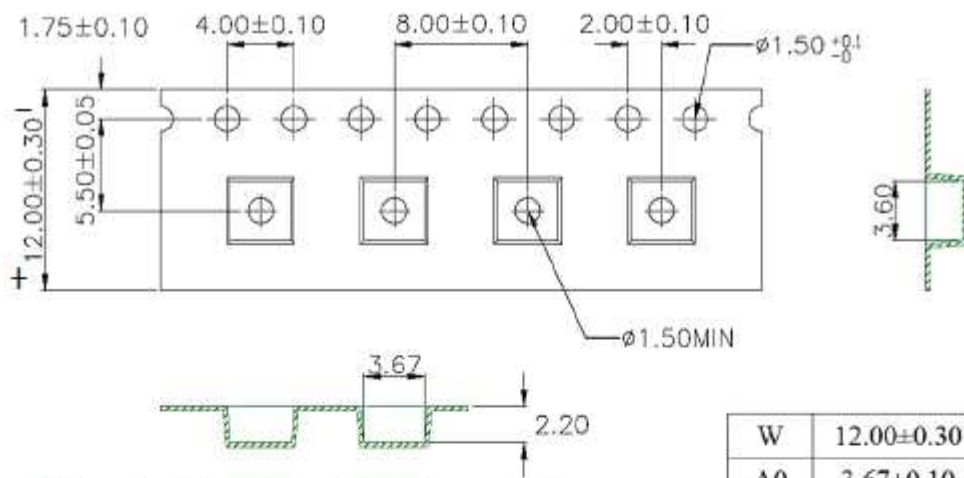


RECOMMENDED STENCIL PATTERN  
(HATCHED AREA IS OPENING)

Unit: mm

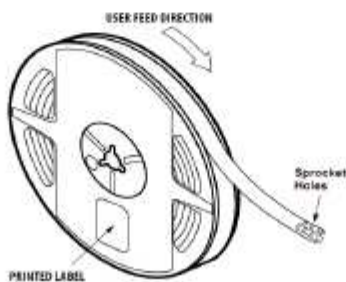
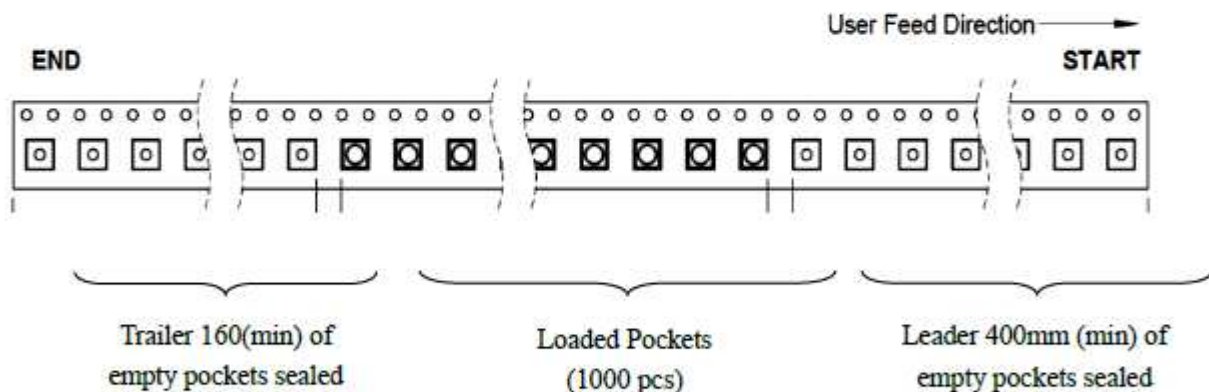
## Packing

### Tape and Reel:



1. 10 sprocket hole pitch cumulative tolerance  $\pm 0.20$ .
2. Carrier camber is within 1 mm in 250 mm.
3. Material : Black Conductive Polystyrene Alloy.
4. All dimensions meet EIA-481-D requirements.
5. Thickness :  $0.30 \pm 0.05$ mm.

W	12.00±0.30
A0	3.67±0.10
B0	3.60±0.10
K0	2.20±0.10



Unit: mm



**Labeling**

**Part No:** \_\_\_\_\_  
**Customer P/N:** \_\_\_\_\_  
**Item:** \_\_\_\_\_  
**Q'ty:** \_\_\_\_\_  
**Vf:** \_\_\_\_\_  
**Iv:** \_\_\_\_\_  
**WI:** \_\_\_\_\_  
**Date:** \_\_\_\_\_

**Made in Taiwan****Ordering Information**

Part #	Orderable Part #	Spec Range	Quantity per reel
QBHP684-IR1AU	QBHP684-IR1AU	P <sub>o</sub> =200mW typ., λ <sub>p</sub> =940nm typ. @ I <sub>F</sub> =350mA, V <sub>A</sub> =60°	500
QBHP684-IR1BU	QBHP684-IR1BU	P <sub>o</sub> =200mW typ., λ <sub>p</sub> =940nm typ. @ I <sub>F</sub> =350mA, V <sub>A</sub> =120°	1000

## Revision History

Description:	Revision #	Revision Date
New Release of QBHP684-IR1XU	V1.0	03/24/2016
Update drawing dimension	V1.1	09/08/2016

## Disclaimer

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1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.