



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



QT-Brightek High Power Series

1.0 W High Power IR LED

Part No.: QBHP684U-IRU

U = 350mA

Product: QBHP684U-IRU	Date: February 07, 2017	Page 1 of 9
	Version# 3.0	

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 LED
- Packed in tape and reel
- Low thermal resistance <math><6^{\circ}\text{C}/\text{W}</math>
- High radiant power output
- Viewing Angle 120° typ.
- Isolated Heat Slug

Description:

This 1W high bright high power IR LED has compact size of 3.6 x 3.6mm. It is ideal for both infrared sensing applications.

Application:

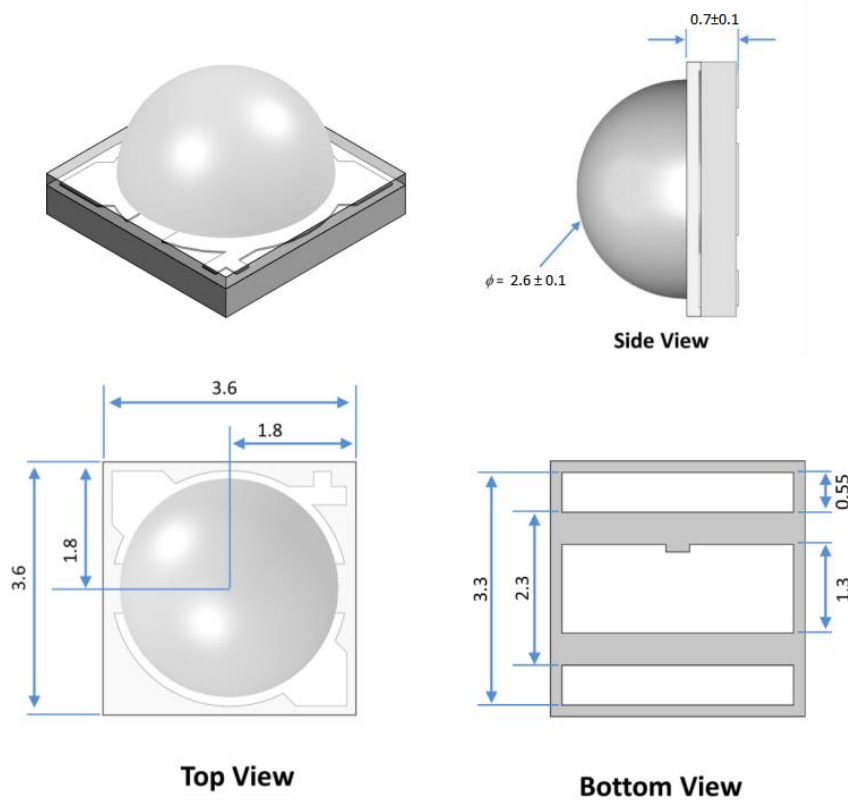
- Data transmission
- Sensing
- Remote control

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant

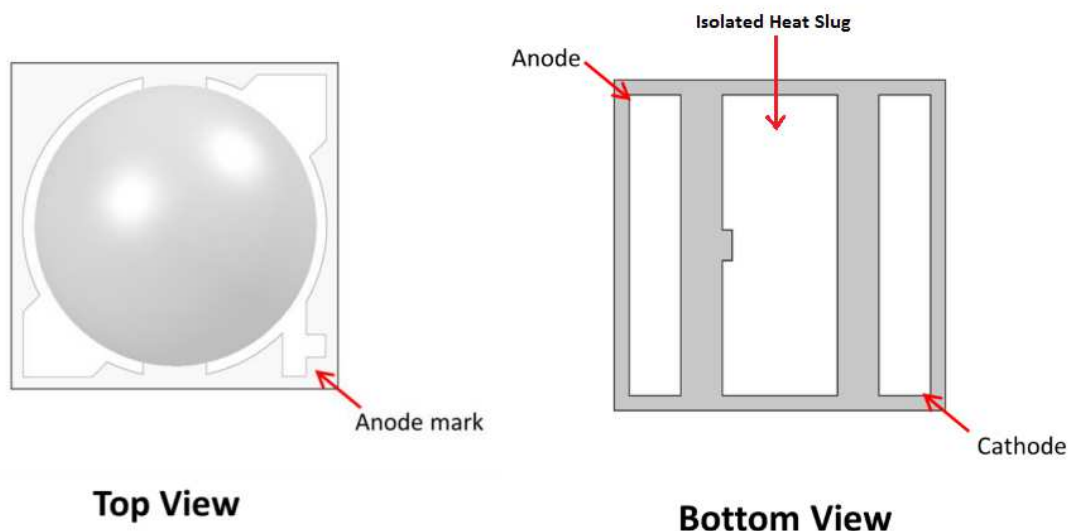


Dimensions:



Units: mm / tolerance = +/-0.2mm

Pad Configurations:


Electrical / Optical Characteristic (Ta=25 °C)

Product Number	Color	I _F (mA)	V _F (V)		λ _p (nm)			P _O (mW)	
			Min.	Typ.	Min.	Typ.	Max.	Min.	Typ.
QBHP684U-IRU	Infrared	350	1.4	1.6	840	850	860	200	250

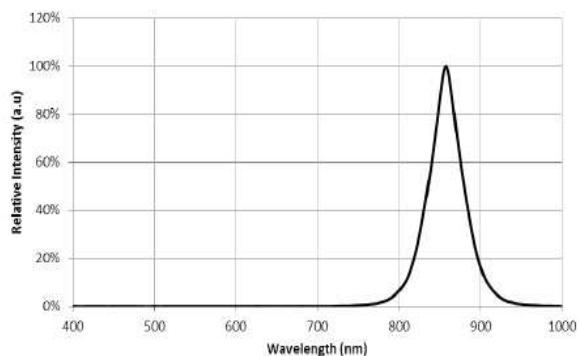
Absolute Maximum Rating

P _d (W)	I _F (mA)	I _{FP} (mA)	V _R (V)	T _{OP} (°C)	T _{ST} (°C)	T _{SO L} (°C)
1.4	700	1000	5	-40 to +85	-40 to +100	240

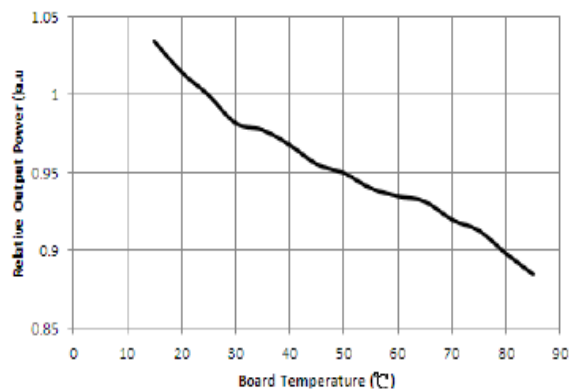
Characteristic Curves

Relative Spectral Distribution vs. Wavelength Characteristics

Spectrum of IR 850nm - Thermal Pad Temperature=25°C

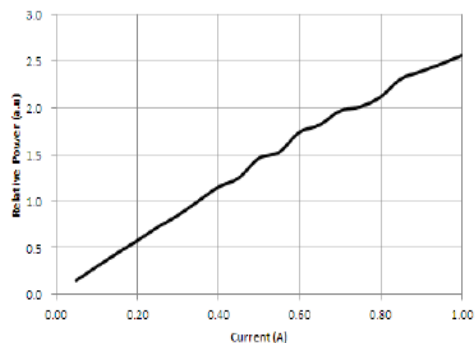


Relative Intensity vs. Thermal Pad Temperature @350mA

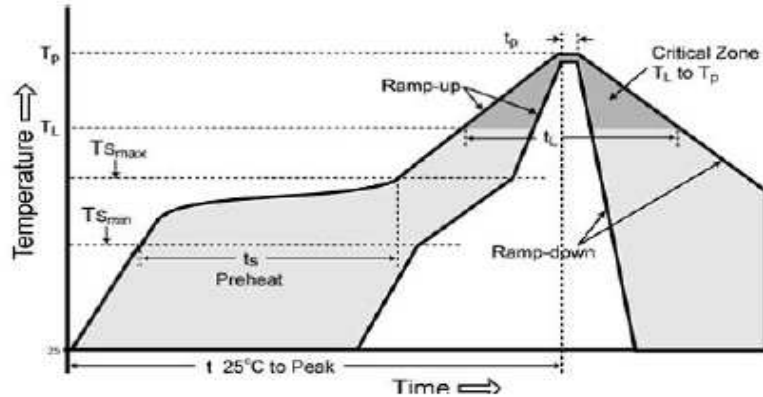


Typical Relative Power vs. Forward Current

Thermal Pad Temperature = 25°C

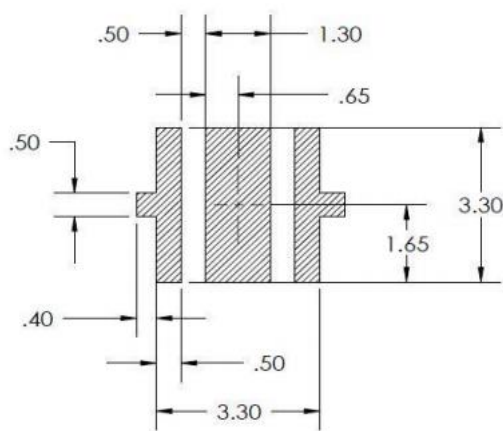


IR Reflow Soldering Profile

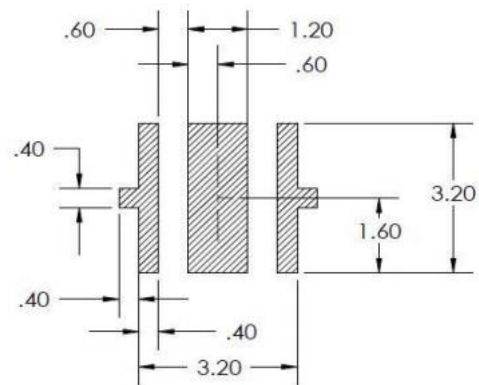


Profile Feature	Pb-Free Assembly
Average ramp-up rate (TL to TP)	3°C/second max.
Preheat	
Temperature Min (T _{smin})	150°C
Temperature Max (T _{smax})	200°C
Time (min to max) (t _s)	60-180 seconds
Time maintained above:	
Temperature (T _L)	217°C
Time (t _L)	60-150 seconds
Peak/Classification Temperature (T _p)	240°C
Time within 5°C of actual Peak Temperature (t _p)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

Recommended Soldering Pad:



RECOMMENDED PCB SOLDER PAD

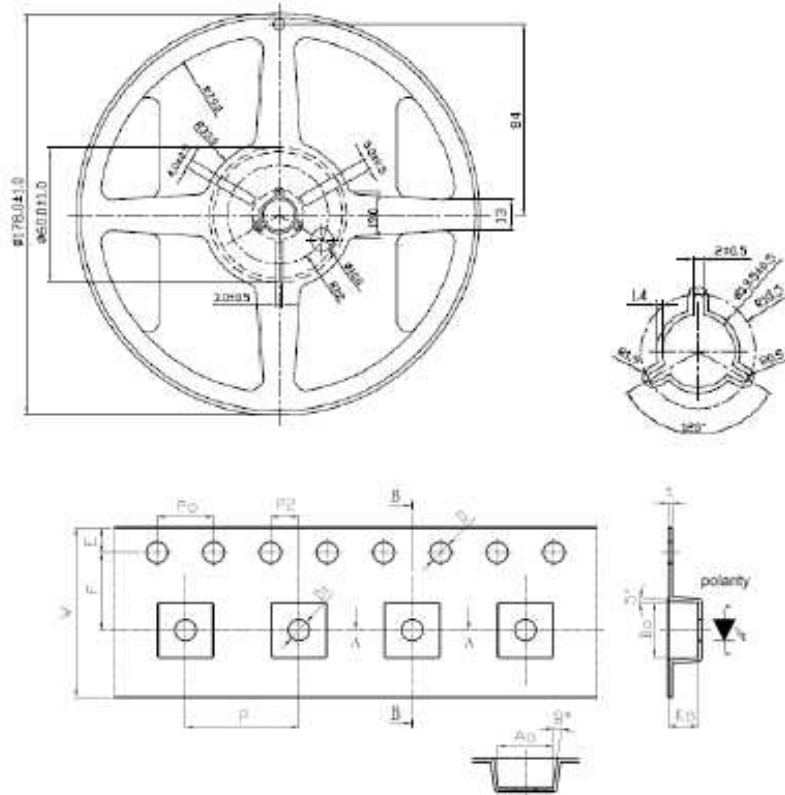


RECOMMENDED STENCIL PATTERN
(HATCHED AREA IS OPENING)

Unit: mm

Packing

Tape and Reel:



Notes: Dimensions are in millimeters.

Symbol	Dimension
W	11.00 ± 0.10
P	8.00 ± 0.10
E	1.75 ± 0.10
F	5.50 ± 0.05
P2	2.00 ± 0.05
D	1.50 + 0.10 or 1.50 - 0.00
D1	1.50 ± 0.10
P0	4.00 ± 0.10
10P0	46.00 ± 0.20
A0	3.50 ± 0.10
B0	3.90 ± 0.10
K0	2.15 ± 0.1
t	0.26 ± 0.05

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
QBHP684U-IRU	QBHP684U-IRU	P _o =250mW typ., λ _p =850nm typ. @ I _F =350mA	1000

Revision History

Description:	Revision #	Revision Date
New Release of QBHP684U-IRU	V1.0	06/20/2013
Add Quantity per reel – 1000pcs	V1.1	07/16/2013
Update Recommended Soldering Pad and λ_P	V1.2	02/05/2014
Pad Configurations update	V1.3	06/26/2014
Update package drawing color to reflect ceramic substrate	V2.0	04/30/2015
Update lens dimension to 2.6mm (diameter)	V3.0	02/07/2017

Disclaimer

QT-BRIGHTTEK reserves the right to make changes without further notice to any products herein to improve reliability, function or design. QT-BRIGHTTEK does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights, nor the rights of others.

Life Support Policy

QT-BRIGHTTEK's products are not authorized for use as critical components in life support devices or systems without the express written approval of QT-BRIGHTTEK. As used herein:

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.