

QT-Brightek High Power Series

0.2W Mid Power 2835 LED

Part No.: QBHP686-IWK-XX

XX = WW/NW/CW

Product: QBHP686-IWK-XX	Date: August 04, 2017	Page 1 of 11
	Version# 4.0	

Table of Contents:

Introduction.....	3
Electrical / Optical Characteristic (Ta=25 °C).....	4
Absolute Maximum Rating	4
Correlated Color Temperature Chart	6
Characteristic Curves	7
Solder Profile.....	8
Packing	9
Labeling	10
Ordering Information.....	10
Revision History.....	11
Disclaimer.....	11

Introduction

Feature:

- Diffused lens
- Package in tape and reel
- 0.2W mid power
- Low thermal resistance
- Super high flux and luminance
- InGaN White
- CRI 80 typ.

Description:

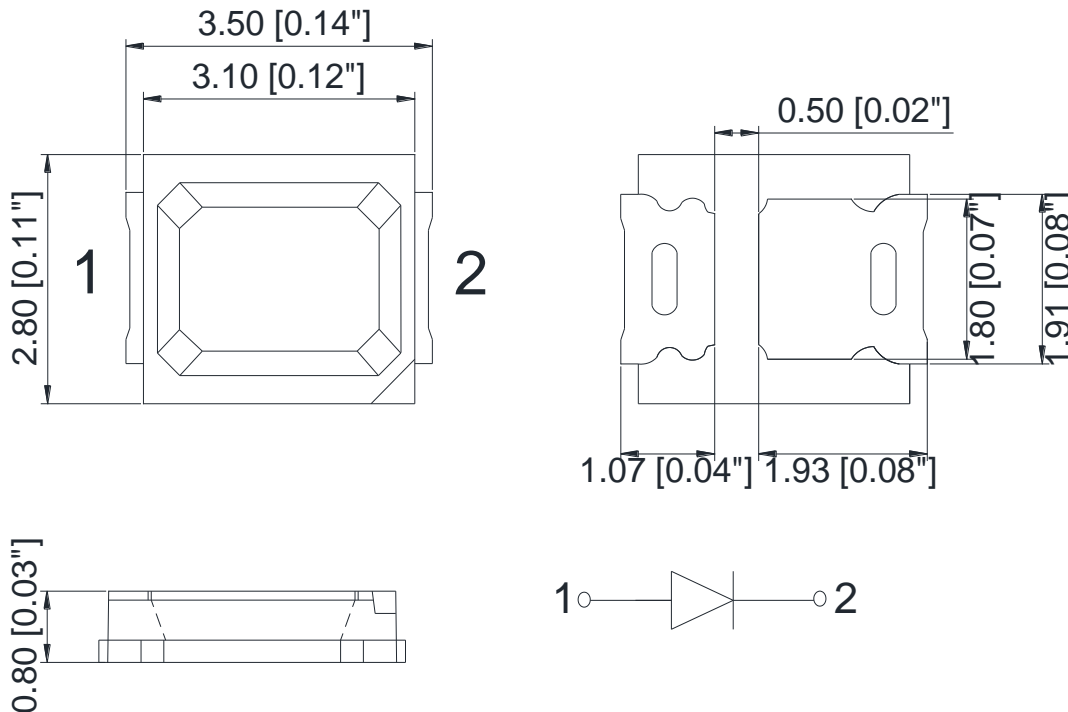
The low profile 0.2W high bright LED has height of 0.8mm. It is ideal for indoor lighting and general used.

Application:

- Architectural lighting
- Household appliances
- General Lighting

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant

**Dimension:**

Units: mm / tolerance = +/-0.2mm

Electrical / Optical Characteristic (Ta=25 °C)

Product	Color	I _F (mA)	V _F (V)		CCT (K)			Φ _v (lm)	
			Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBHP686-IWK-WW	Warm White	60	3.2	3.4	-	3000	-	17	18.5
QBHP686-IWK-NW	Natural White	60	3.2	3.4	-	4000	-	18	20
QBHP686-IWK-CW	Cool White	60	3.2	3.4	-	6020	-	18	20

Absolute Maximum Rating

Material	P _d (mW)	I _F (mA)	I _{FP} (mA)*	IR (μA) @ V _R =5V	T _{OP} (°C)	T _{ST} (°C)	T _{SOL} (°C)**
InGaN	250	70	125	5	-40 to +85	-40 to +100	260

*Duty 1/8 @ 1kHz

**IR Reflow for no more than 10 sec @ 260°C

Forward Voltage V_F @ $I_F=60\text{mA}$

Bin	Min.	Max.	Unit
H	2.8	3.0	V
J	3.0	3.2	
K	3.2	3.4	

Luminous Flux Φ_V for Warm White (WW) @ $I_F=60\text{mA}$

Bin	Min.	Max.	Unit
L1	17	20	lm
L2	20	23	
L3	23	26	
L4	26	29	

Luminous Flux Φ_V for Natural White (NW) @ $I_F=60\text{mA}$

Bin	Min.	Max.	Unit
L1	18	20	lm
L2	20	23	
L3	23	26	
L4	26	29	

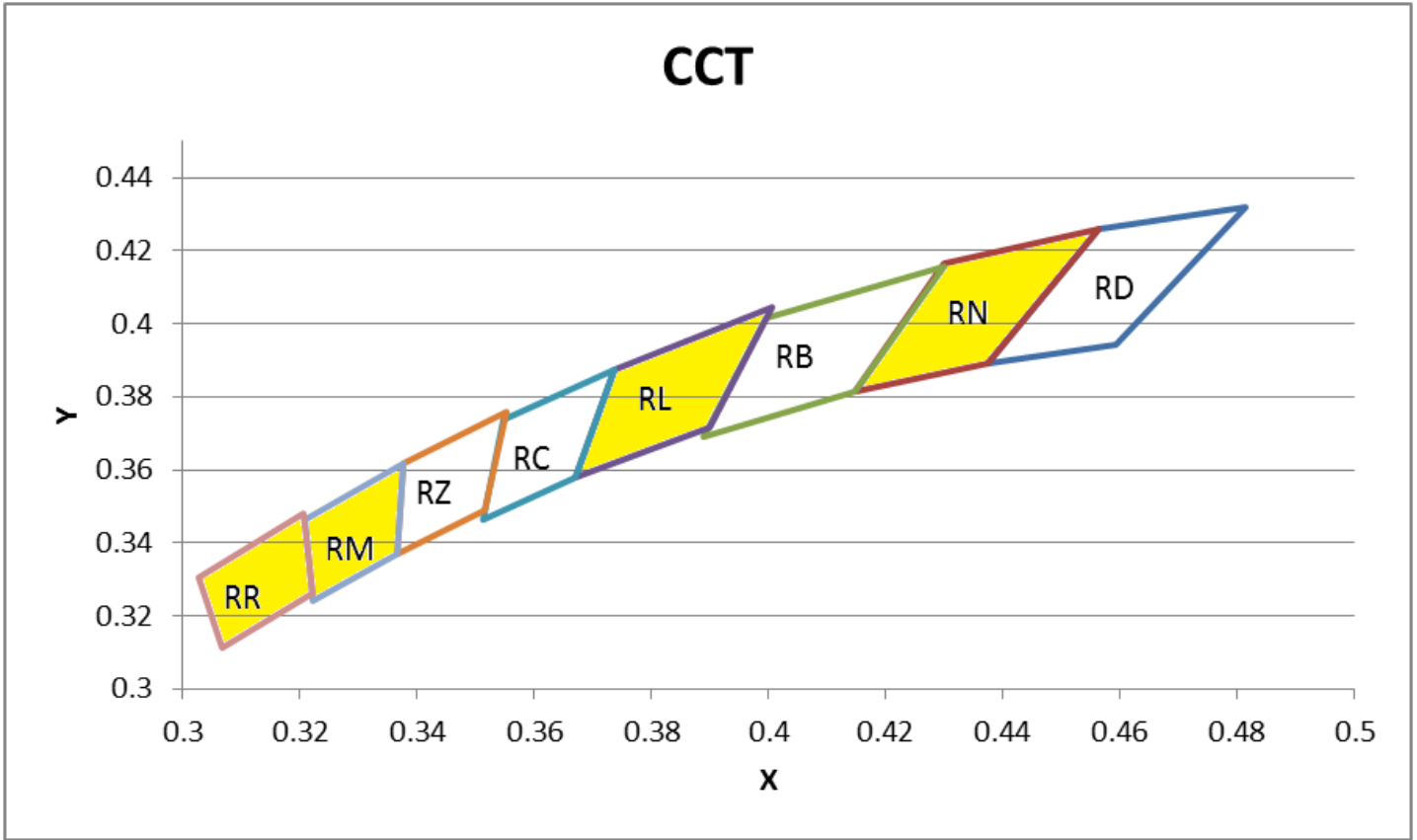
Luminous Flux Φ_V for Cool White (CW) @ $I_F=60\text{mA}$

Bin	Min.	Max.	Unit
L1	18	20	lm
L2	20	23	
L3	23	26	
L4	26	29	

Note:

Tolerance of measurement of forward voltage: $\pm 0.1\text{V}$ Tolerance of measurement of luminous flux: $\pm 10\%$

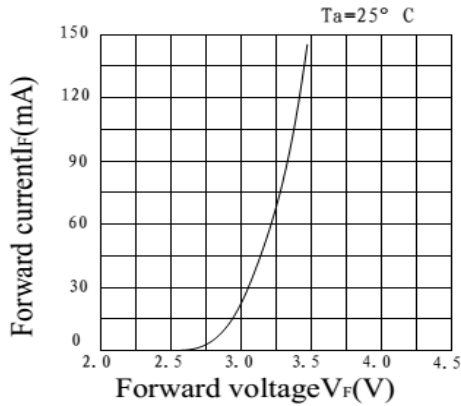
Correlated Color Temperature Chart



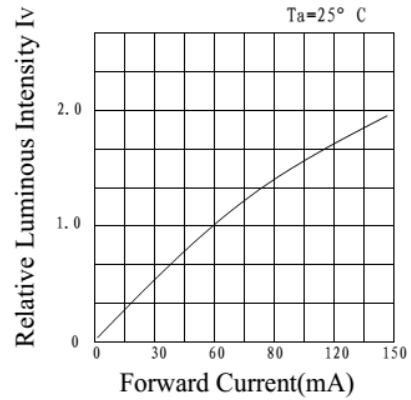
P/N	QBHP686-IWK-CW				QBHP686-IWK-NW		QBHP686-IWK-WW	
	RR		RM		RL		RN	
	X	Y	X	Y	X	Y	X	Y
Chromaticity Coordinates	0.3205	0.3481	0.3376	0.3616	0.4006	0.4044	0.4562	0.4260
	0.3028	0.3304	0.3207	0.3462	0.3736	0.3874	0.4299	0.4165
	0.3068	0.3113	0.3222	0.3243	0.3670	0.3578	0.4147	0.3814
	0.3221	0.3261	0.3366	0.3369	0.3898	0.3716	0.4373	0.3893
	0.3205	0.3481	0.3376	0.3616	0.4006	0.4044	0.4562	0.4260

Note:
Tolerance of measurement of color coordinates: ±0.01

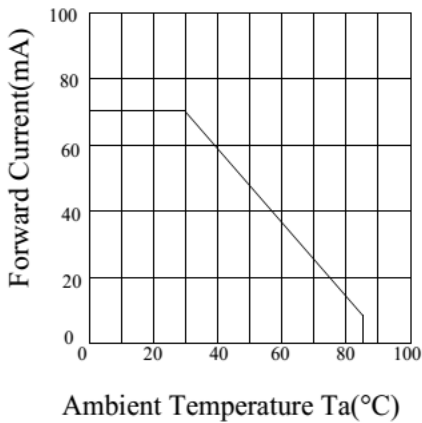
Characteristic Curves



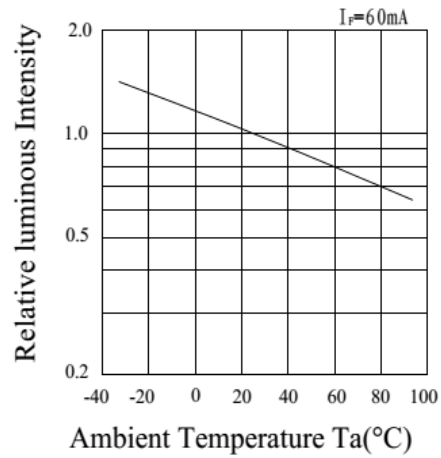
a) FORWARD CURRENT VS. FORWARD VOLTAGE



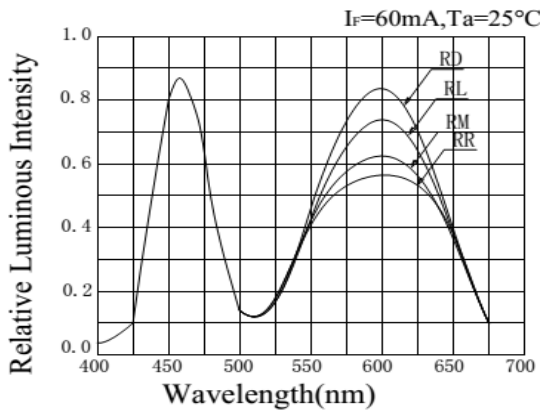
b) RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



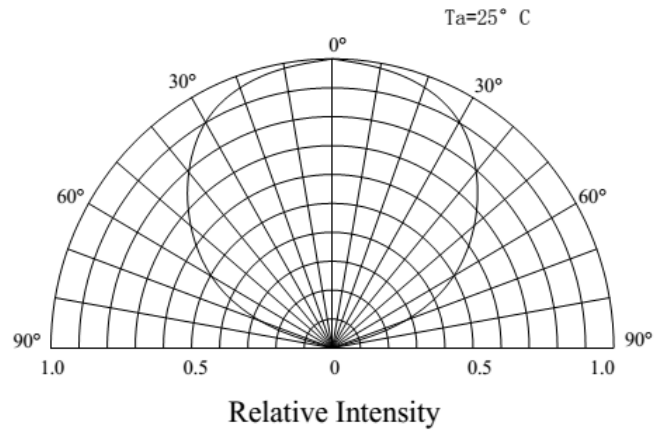
c) FORWARD CURRENT VS. AMBIENT TEMPERA



d) RELATIVE INTENSITY VS. AMBIENT TEMPERATURE



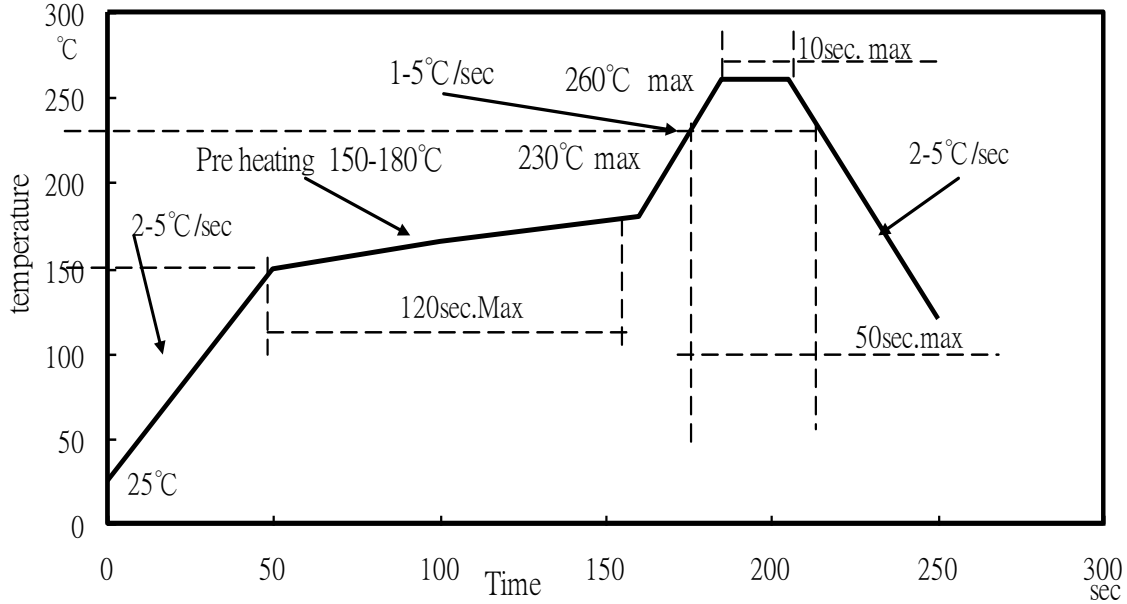
e) RELATIVE INTENSITY VS. WAVELENGTH



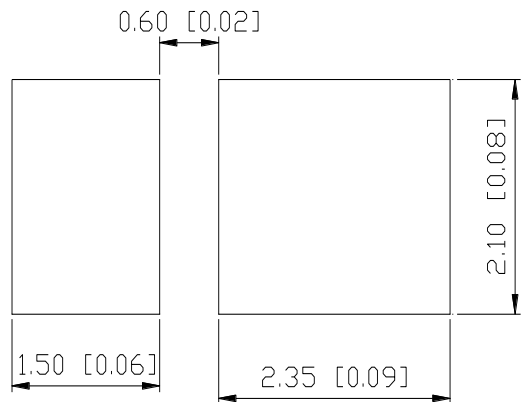
f) RADIATION PATTERN

Solder Profile

Lead-Free soldering Profile



Recommended Pad Layout



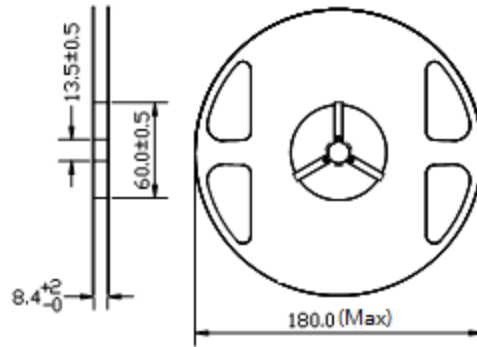
Units: mm

Tolerance: ± 0.2mm

Product: QBHP686-IWK-XX	Date: August 04, 2017	Page 8 of 11
	Version# 4.0	

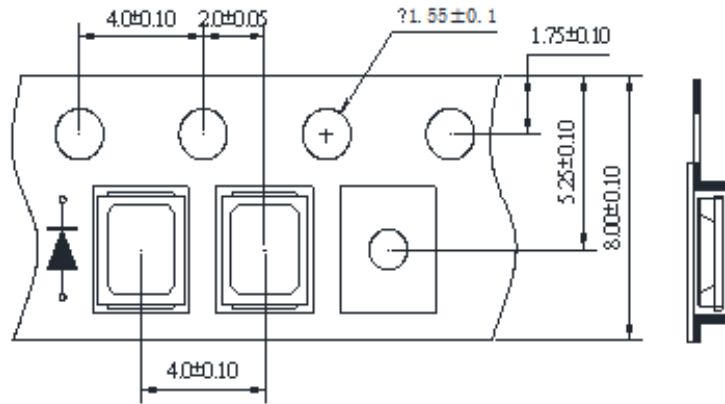
Packing

Reel Dimension:



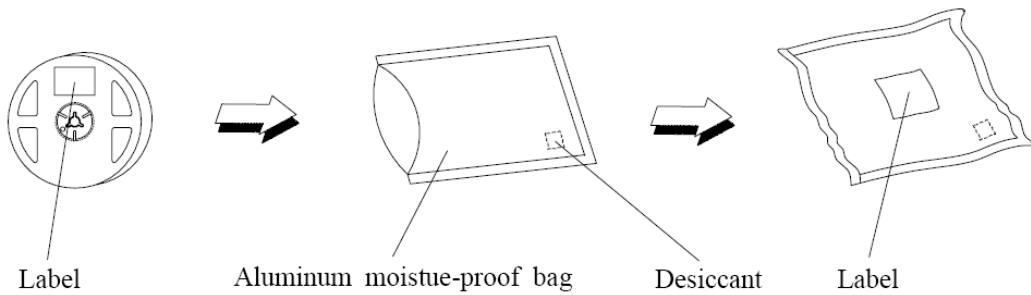
Unit: mm

Tape Dimension:



Unit: mm

Packaging Specifications:



Product: QBHP686-IWK-XX	Date: August 04, 2017	Page 9 of 11
	Version# 4.0	

Labeling

Part No: _____

Customer P/N: _____

Item: _____

Q'ty: _____

Vf: _____

Iv: _____

WI: _____

Date: _____

Made in China**Ordering Information**

Part #	Orderable Part #	Spec Range	Quantity per reel
QBHP686-IWK-WW	QBHP686-IWK-WW	Iv=18.5lm typ. @ If=60mA / CCT=3000K typ.	2,000 units
QBHP686-IWK-NW	QBHP686-IWK-NW	Iv=20lm typ. @ If=60mA / CCT=4000K typ.	2,000 units
QBHP686-IWK-CW	QBHP686-IWK-CW	Iv=20lm typ. @ If=60mA / CCT=6020K typ.	2,000 units

Revision History

Description:	Revision #	Revision Date
New Release of QBHP686-IWK	V1.0	1/20/2011
CCT Updates	V1.1	03/24/2011
Amend CCT	V2.0	05/13/2011
Add CCT- 5000K & bin	V2.1	08/19/2011
Update Spec	V2.2	03/14/2012
Update Spec and drawing	V3.0	10/18/2013
Update dimension tolerance	V3.1	12/10/2013
Update drawing dimension	V4.0	08/04/2017

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.

Product: QBHP686-IWK-XX	Date: August 04, 2017	Page 11 of 11
	Version# 4.0	