QT-Brightek High Power Series

0.2W Mid Power 2835 LED

Part No.: QBHP686-IWK-XX

K: 60mA
XX = WW/NW/CW

Table of Contents:

Introduction

Feature:

- Yellow diffused lens
- Package in tape and reel
- 0.2W mid power
- 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.

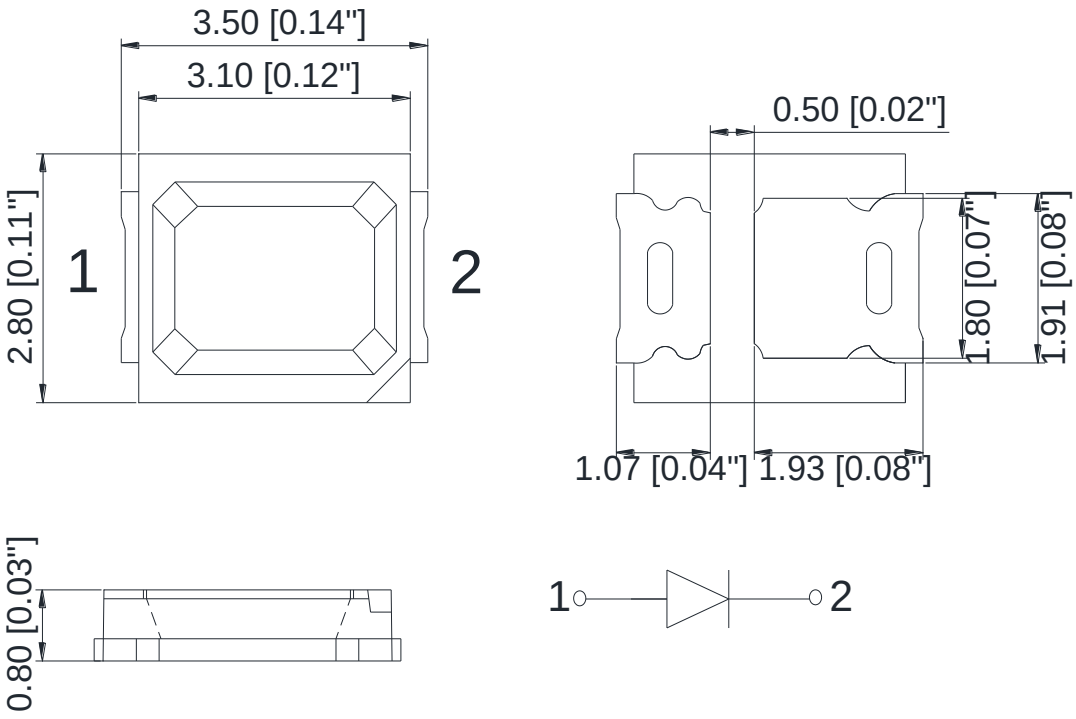
Application:

- 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)		CIE Coordinate	Φv (lm)	
			Typ.	Max.	Typ.	Min.	Typ.
QBHP686-IWK-WW	Warm White	60	3.2	3.4	X=0.4338, Y=0.4030 CCT: 3000K	20	24
QBHP686-IWK-NW	Natural White	60	3.2	3.4	X=0.3818, Y=0.3797 CCT: 4000K	20	25
QBHP686-IWK-CW	Cool White	60	3.2	3.4	X=0.3214, Y=0.3357 CCT: 6000K	20	24

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	65	125	5	-40 to +85	-40 to +100	260

*Duty 1/8 @ 1kHz
**IR Reflow for no more than 10 sec @ 260 °C

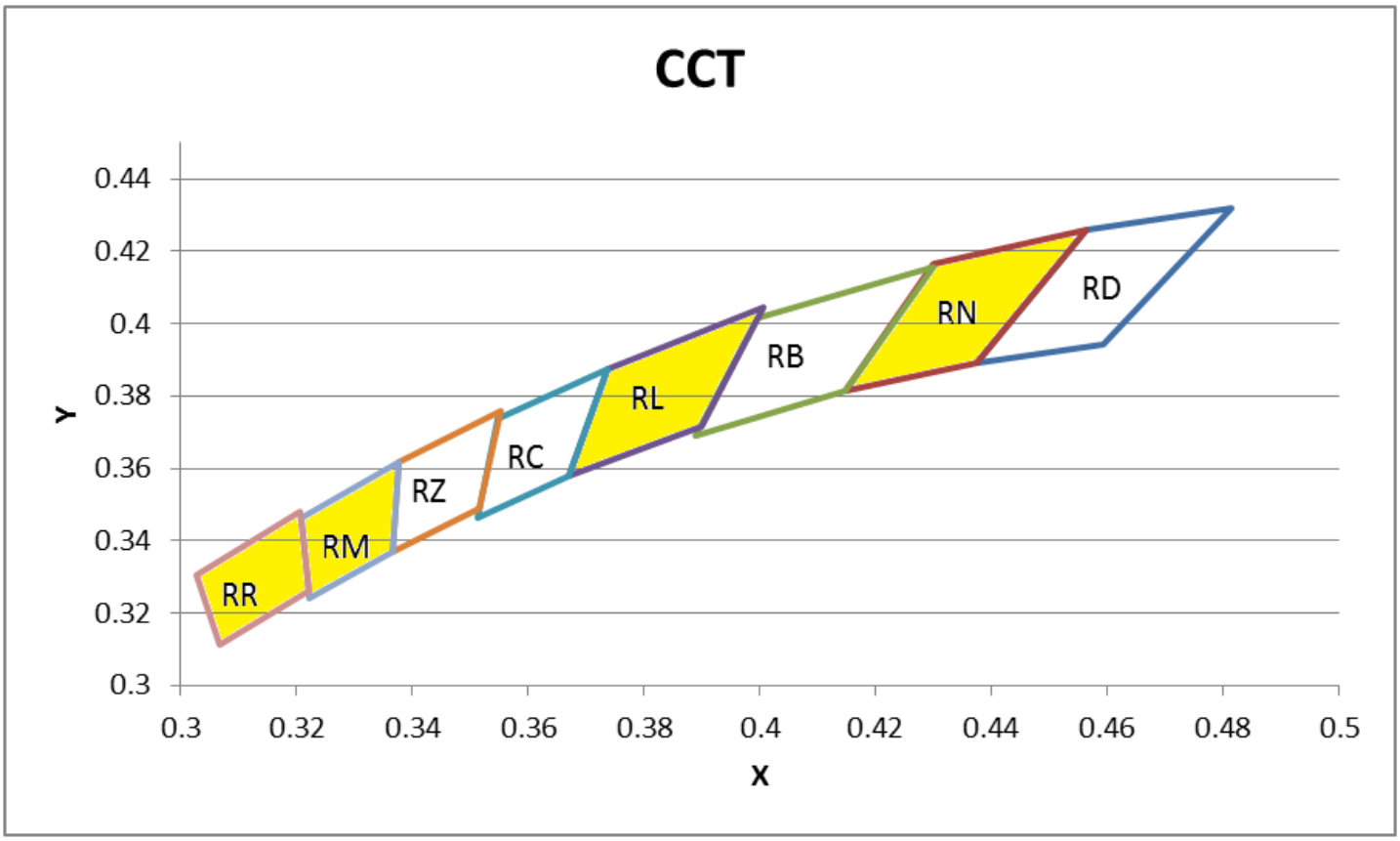
Forward Voltage V_F @ I_F=60mA

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

Luminous Flux $Φ_V$ @ I_F=60mA

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

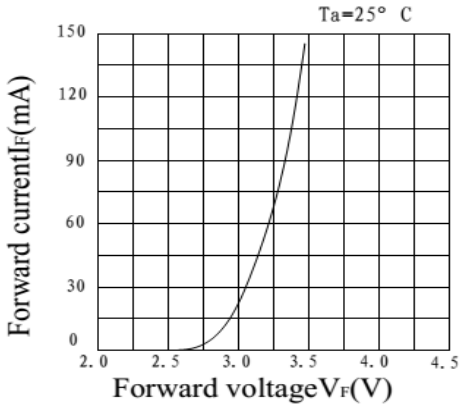
Correlated Color Temperature Chart



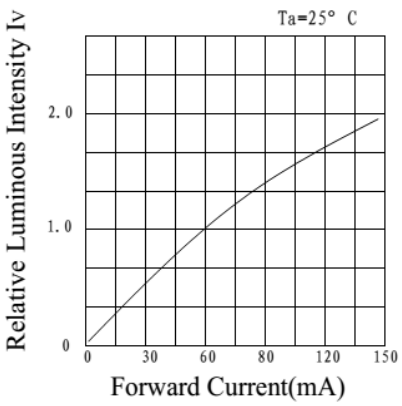
P/N	QBHP686-IWK-CW				QBHP686-IWK-NW		QBHP686-IWK-WW	
CCT Bin	RR		RM		RL		RN	
	X	Y	X	Y	X	Y	X	Y
Chromaticity Coordinates	0.3205	0.3481	0.3376	0.3616	0.4006	0.4044	0.4562	0.4260
	0.3028	0.3304	0.3207	0.3462	0.3736	0.3874	0.4299	0.4165
	0.3068	0.3113	0.3222	0.3243	0.3670	0.3578	0.4147	0.3814
	0.3221	0.3261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

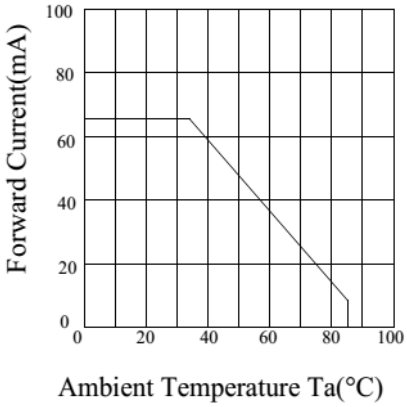
Characteristic Curves



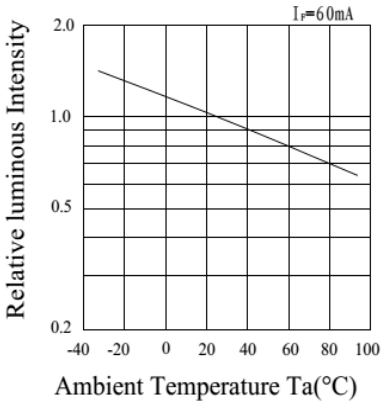
a) FORWARD CURRENT VS. FORWARD VOLTAGE



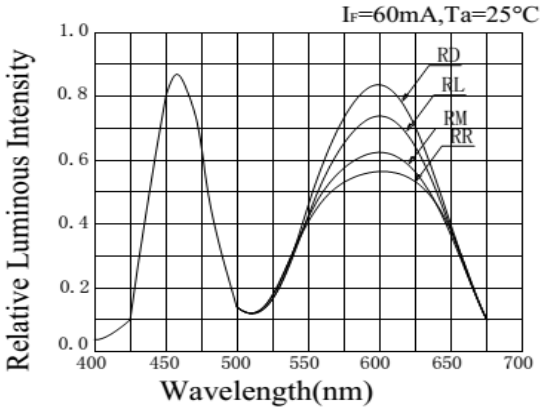
b) RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



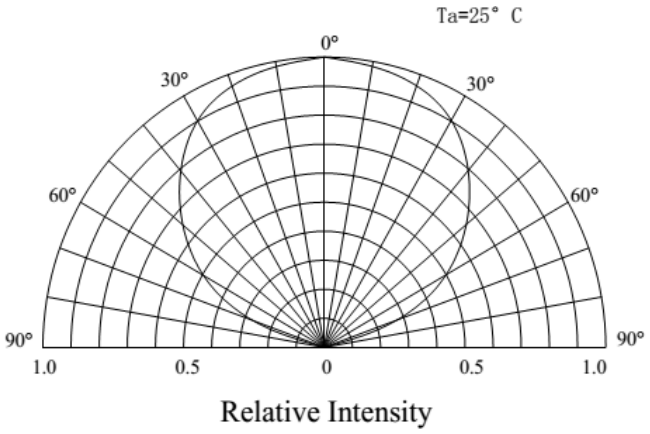
c) FORWARD CURRENT VS. AMBIENT TEMPERA



d) RELATIVE INTENSITY VS. AMBIENT TEMPERATURE



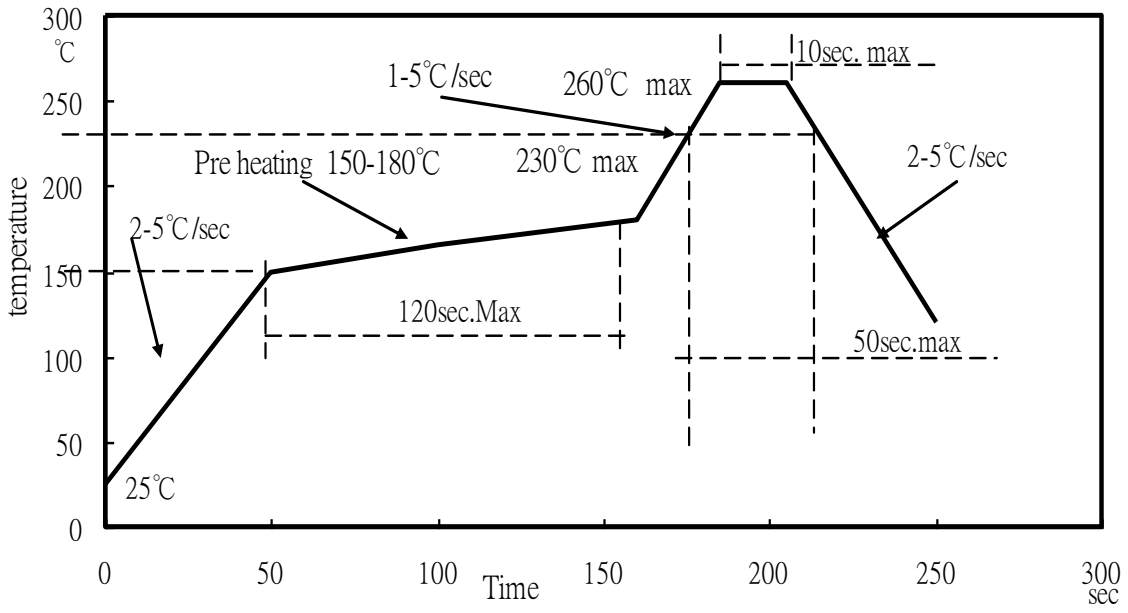
e) RELATIVE INTENSITY VS. WAVELENGTH



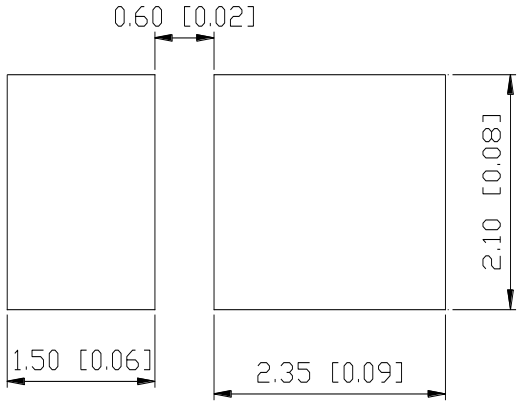
f) RADIATION PATTERN

Solder Profile

Lead-Free soldering Profile



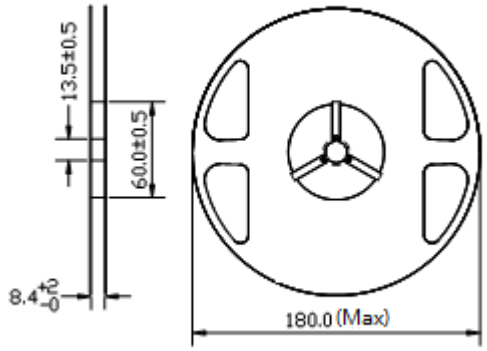
Recommended Pad Layout



Units: mm Tolerance: ± 0.2mm

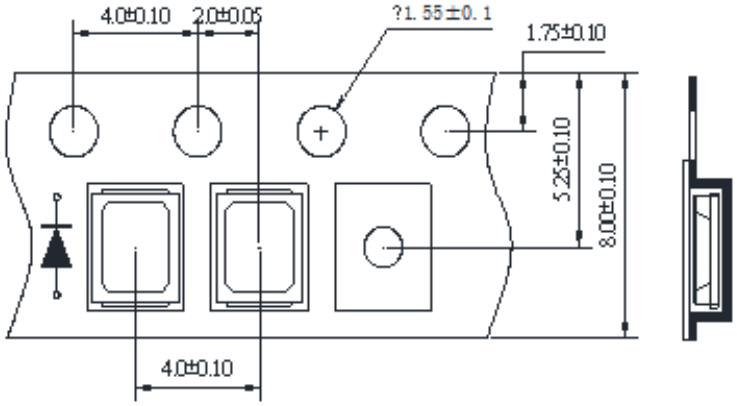
Packing

Reel Dimension:



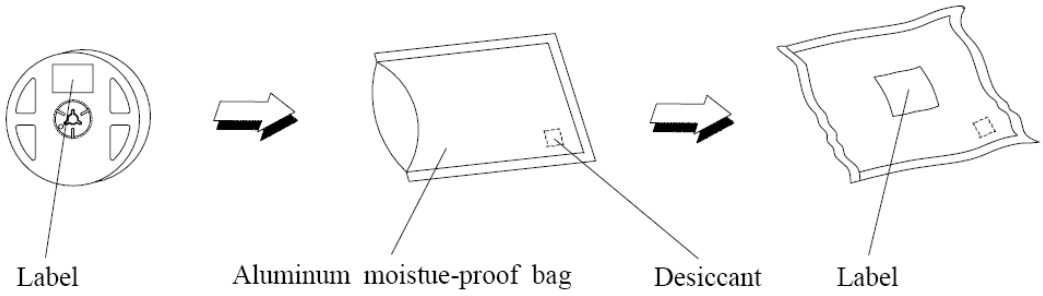
Unit: mm

Tape Dimension:



Unit: mm

Packaging Specifications:



Labeling

Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per reel
QBHP686-IWK-WW	QBHP686-IWK-WW	Iv=24lm typ. @ I_F=60mA / CCT=3000K typ.	2,000 units
QBHP686-IWK-NW	QBHP686-IWK-NW	Iv=25lm typ. @ I_F=60mA / CCT=4000K typ.	2,000 units
QBHP686-IWK-CW	QBHP686-IWK-CW	Iv=24lm typ. @ I_F=60mA / CCT=6000K 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
Update brightness bin	V4.1	08/05/2021

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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.