QT-Brightek High Power Series

2835 GREEN LED

Part No.: QBHP686-IG-2914

IG = True Green
IF = 20mA

Tablet of Contents:

Introduction

Feature:

- Clear lens
- Package in tape and reel
- Low thermal resistance
- InGaN technology for IG
- 120 degree viewing angle

Description:

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

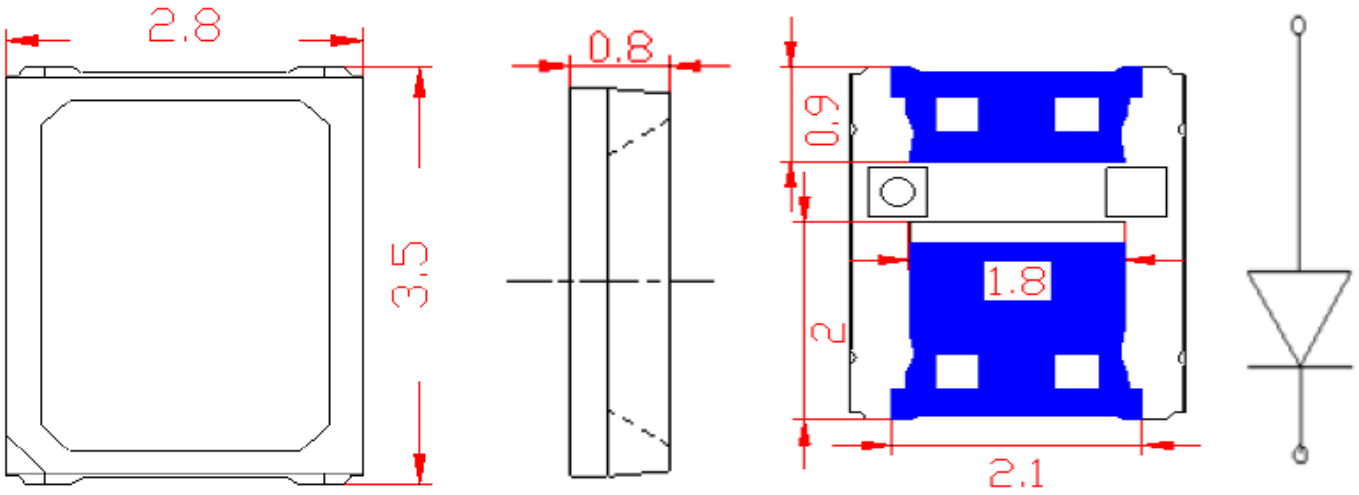
Application:

- Status indication
- Industrial equipment backlighting
- Architecture 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)		λ_P (nm)			I_V (mcd)	
			Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBHP686-IG-2914	True Green	20	-	2.6	530	535	540	2800	-

Absolute Maximum Rating

Material	P_d (mW)	I_F (mA)	I_{FP} (mA)*	V_R (V)	T_{OP} (°C)	T_{ST} (°C)	T_{SOL} (°C)**
InGaN (IG)	350	120	180	5	-40 ~ +85	-40 ~ +100	260

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

Forward Voltage V_F for InGaN @ I_F=20mA

Bin	Min.	Max.	Unit
V20	2.0	2.3	V
V23	2.3	2.6	

Luminous Flux Φ_V for True Green (IG) @ I_F=20mA

Bin	Min.	Max.	Unit
P150	2800	3200	lm
P200	3200	3600	
P250	3600	4000	

Dominant Wavelength λ_D for True Green (IG) @ I_F=20mA

Bin	Min.	Max.	Unit
TG4	530	535	nm
TG5	535	540	

Note:
Tolerance of measurement of forward voltage: ±0.1V
Tolerance of measurement of luminous flux: ±15%
Tolerance of measurement of dominant wavelength: ±1nm

Characteristic Curves

InGaN (IG)

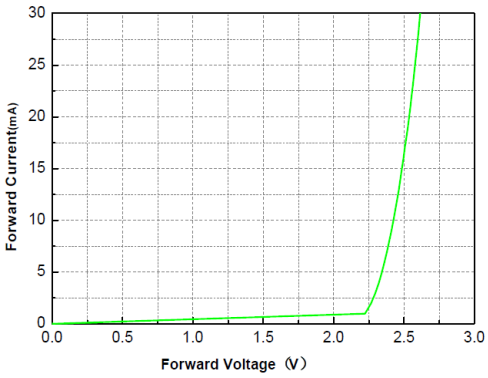


Figure1. Forward Current VS. Forward Voltage

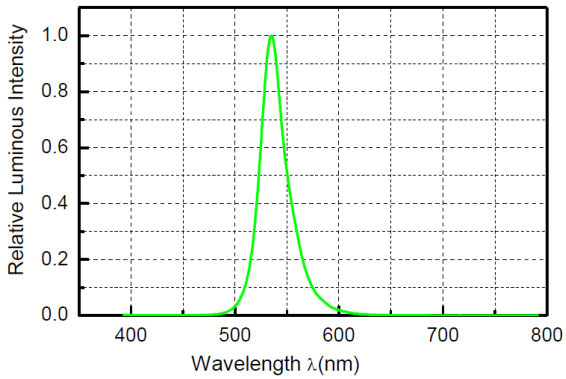


Figure2. Spectral Power Distribution vs. Wavelength

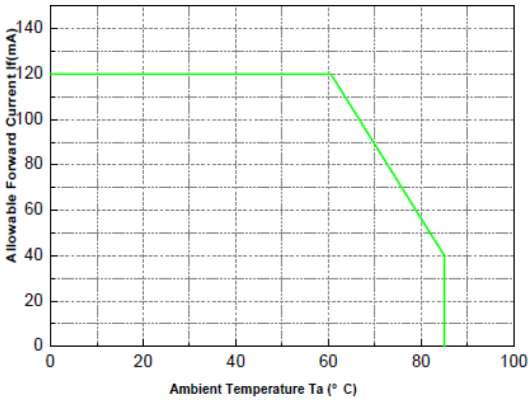


Figure3. Forward Current vs. Ambient Temperature

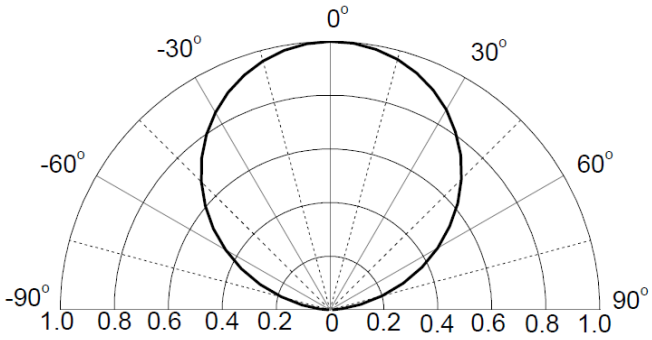
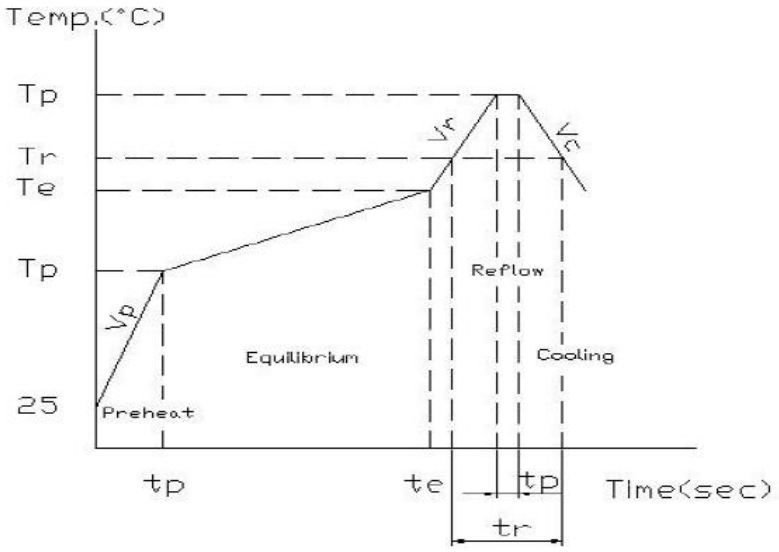


Figure4. Relative Luminosity VS. Radiation Angle

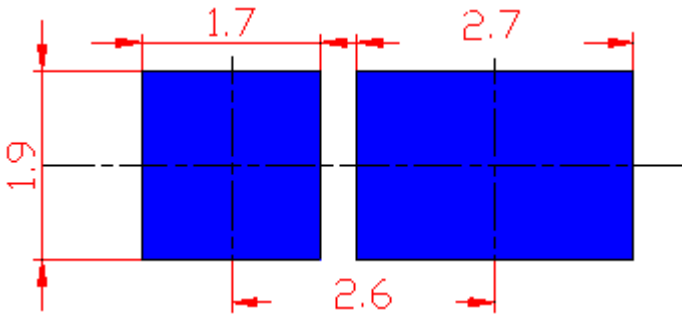
Solder Profile & Footprint

IR-reflow Condition (Pb free)

Area	Title	Symbol	Min	Max	Unit
(1)Preheat	Ramp-up rate	Vp	1	5	℃/sec
	temperature	Tp	150	–	℃
	time	tp	–	–	sec
(2)Equilibrium	Ramp-up rate	Ve	–	–	℃/sec
	temperature	Te	150	200	℃
	Time	te	60	120	sec
(3)Reflow	Ramp-up rate	Vr	1	5	℃/sec
	temperature	Tr	220	–	℃
	Time	tr	–	60	sec
	Peak temperature	Trp	–	260	℃
	Peak time	trp	–	10	sec
(4)Cooling	Ramp-down rate	Vc	3	6	℃/sec



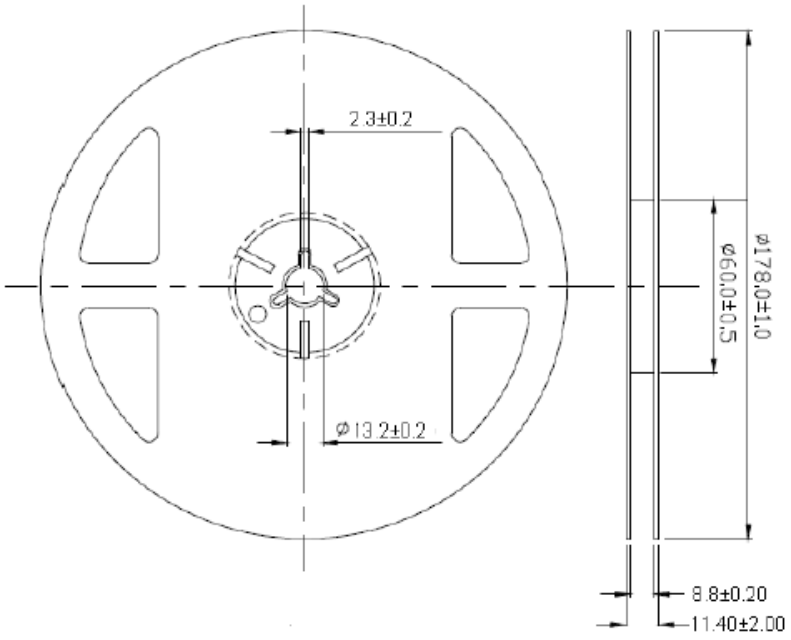
Recommended Pad Layout



Units: mm Tolerance: ± 0.2mm

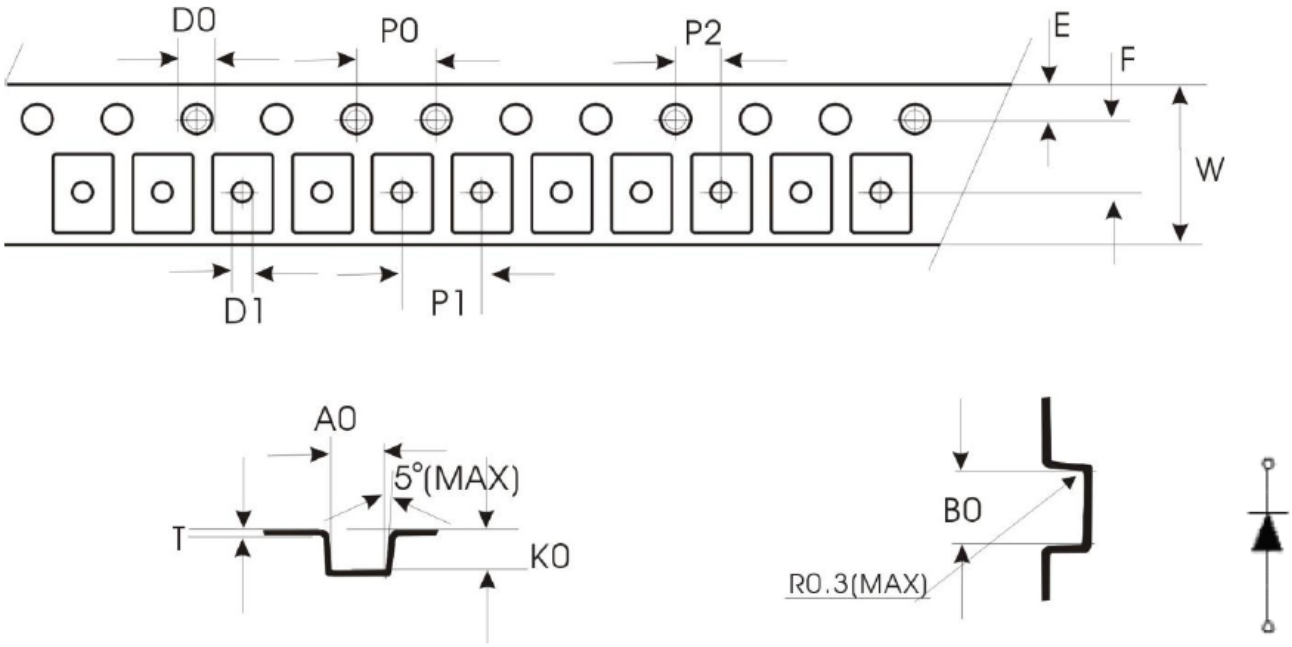
Packing

Reel Dimension:



Unit: mm

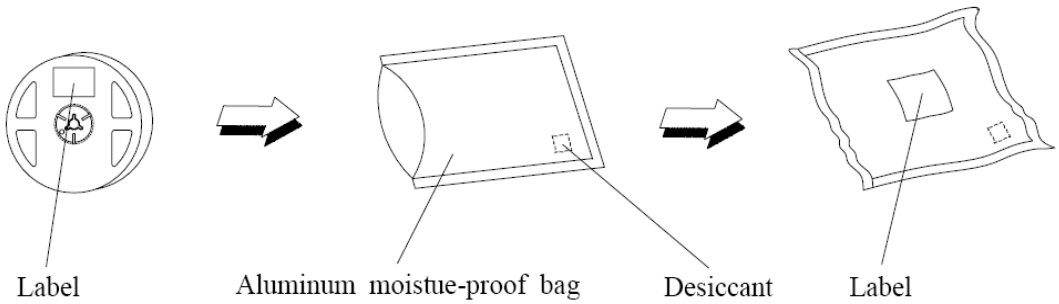
Tape Dimension:



Symbol	A0	B0	K0	P0	P1	P2	T
Spec	3.0±0.1	3.8±0.1	1.0±0.1	4.0±0.1	4.0±0.1	2.00±0.1	0.22±0.05
Symbol	E	F	D0	D1	W	P0	
Spec	1.75±0.10	3.50±0.05	1.5±0.1	1.0±0.1	8.0±0.1	40.0±0.2	

Unit: mm

Packaging Specification:



Labeling

Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per reel
QBHP686-IGN-2914	QBHP686-IGN-2914	Iv=2800 mcd min. @ 20mA/ Color=535nm	4,000 units

Revision History

Description:	Revision #	Revision Date
New Release of QBHP686-IG-2914	V1.0	06/18/2018

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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.