QT-Brightek High Power Series

1.0 W High Power LED

Part No.: QBHP684E-IWBU-XX

XX: WW/NW/CW
B: 130° Viewing Angle
U = 350mA

Table of Contents:

Introduction

Feature:

- 1W High Power LED
- Packed in tape and reel
- Super high flux and luminance
- InGaN White
- TVS Zener Protection Device
- Viewing Angle: 130° typ.

Description:

This 1W high bright high power LED has compact size of 3.5 x 3.5mm. It is ideal for both indoor and outdoor lighting

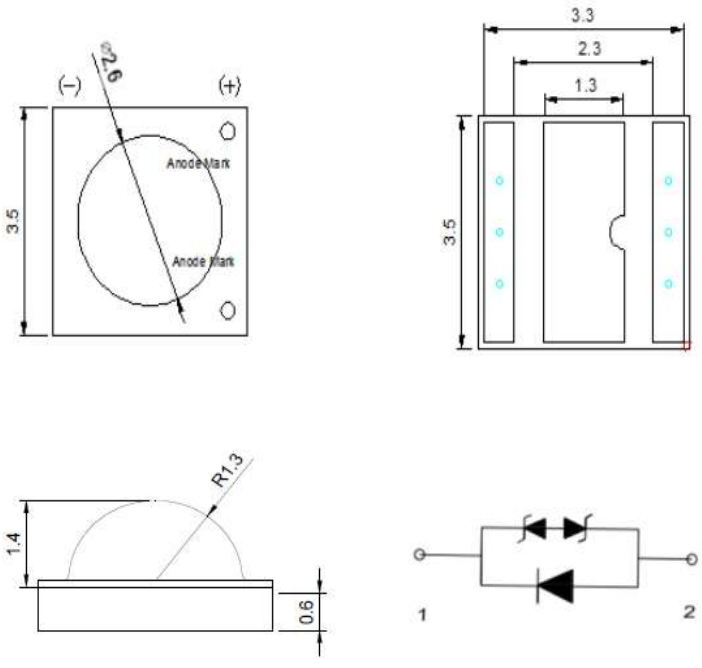
Application:

- Architectural and outdoor lighting
- Household appliances
- General lighting

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant

Dimensions:



Units: mm / tolerance = +/-0.2mm

Electrical / Optical Characteristic (T_A=25°C)

Product Number	Color	I_F (mA)	V_F (V)			CCT (K)			Φv (lm)	
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBHP684E-IWBU-SW	Soft White	350	2.8	3.1	3.4	2580	2700	2870	80	95
QBHP684E-IWBU-WW	Warm White		2.8	3.1	3.4	2870	3000	3220	80	95
QBHP684E-IWBU-NW	Natural White		2.8	3.1	3.4	3700	4000	4300	110	125
QBHP684E-IWBU-CW	Cool White		2.8	3.1	3.4	5300	6000	7040	120	135

Absolute Maximum Rating

Material	P_d (W)	I_F (mA)	I_{FP} (mA)*	V_R (V)	T_{OP} (°C)	T_{ST} (°C)	T_{SOL} (°C)**
InGaN	2.38	700	1000	5	-40 to +85	-40 to +100	260

*Duty 1/10 @ 0.01s Pulse Width
**IR Reflow for no more than 10 sec @ 260 °C

Forward Voltage V_F @ I_F=350mA

Bin	Min.	Max.	Unit
V1	2.8	3.0	V
V2	3.0	3.2	
V3	3.2	3.4	

Luminous Flux Φ_v for SW and WW @ I_F=350mA

Bin	Min.	Max.	Unit
W1	80	90	lm
W2	90	100	
W3	100	110	

Luminous Flux Φ_v for NW @ I_F=350mA

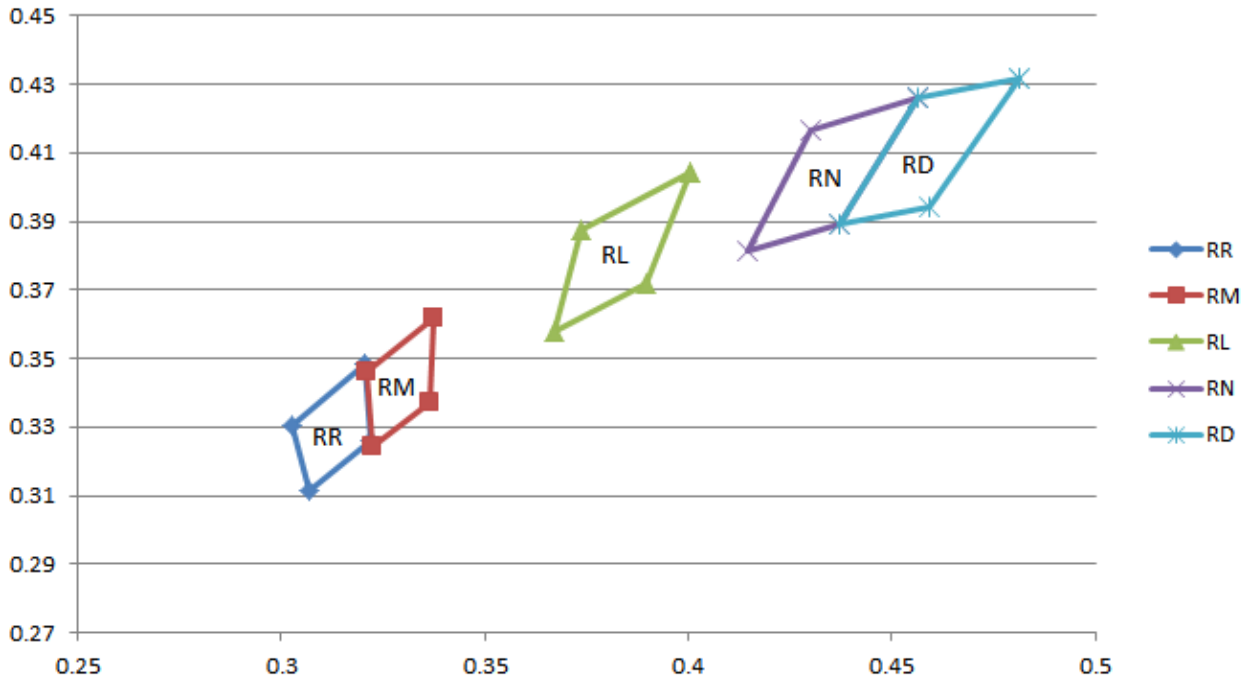
Bin	Min.	Max.	Unit
W4	110	120	lm
W5	120	130	
W6	130	140	

Luminous Flux Φ_v for CW @ I_F=350mA

Bin	Min.	Max.	Unit
W5	120	130	lm
W6	130	140	
W7	140	150	

Note:
Tolerance of measurement of forward voltage: ±0.1V
Tolerance of measurement of luminous flux: ±10%

Correlated Color Temperature and Chromaticity Correlation

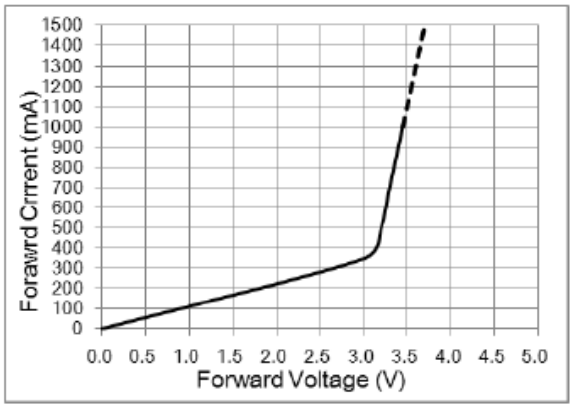


Cool White (CW)				Natural White (NW)		Warm White (WW)		Soft White (SW)	
RR (6500K)		RM (5700K)		RL (4000K)		RN (3000K)		RD (2700K)	
X	Y	X	Y	X	Y	X	Y	X	Y
0.3205	0.3481	0.3376	0.3616	0.4006	0.4044	0.4562	0.426	0.4813	0.4319
0.3028	0.3304	0.3207	0.3462	0.3736	0.3874	0.4299	0.4165	0.4562	0.426
0.3068	0.3113	0.3222	0.3243	0.367	0.3578	0.4147	0.3814	0.4373	0.3893
0.3221	0.3261	0.3366	0.3369	0.3898	0.3716	0.4373	0.3893	0.4593	0.3944
0.3205	0.3481	0.3376	0.3616	0.4006	0.4044	0.4562	0.426	0.4813	0.4319

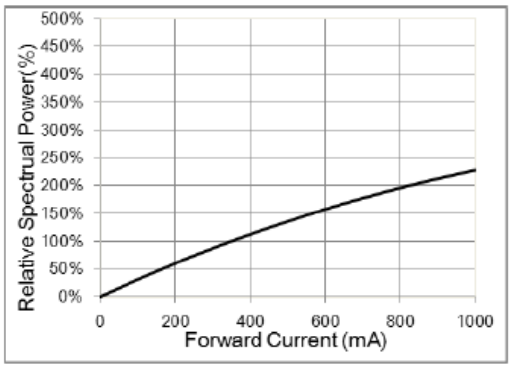
Note:
Tolerance of measurement of color coordinates: ±0.01

Characteristic Curves

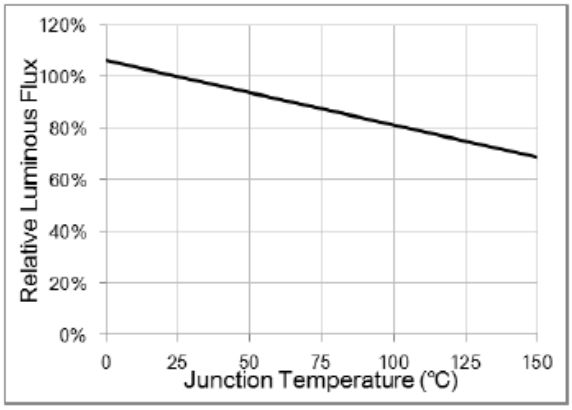
Forward Current vs. Forward Voltage (Ta=25℃)



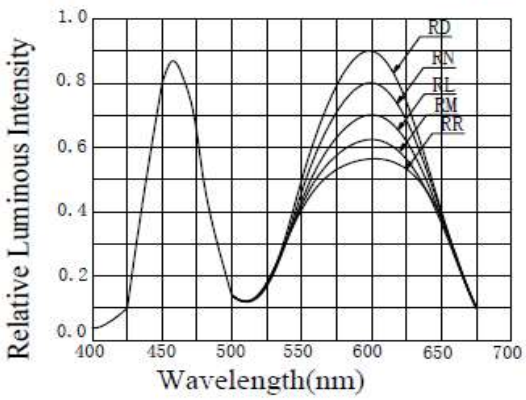
Relative luminous Flux vs. Forward Current (T_a=25℃)

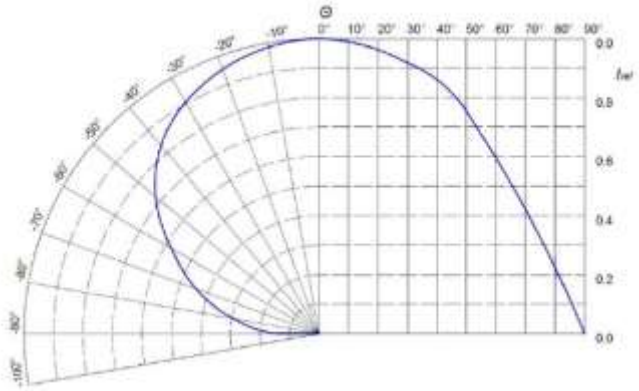


Relative Flux vs. Junction Temperature (I_F=350mA)

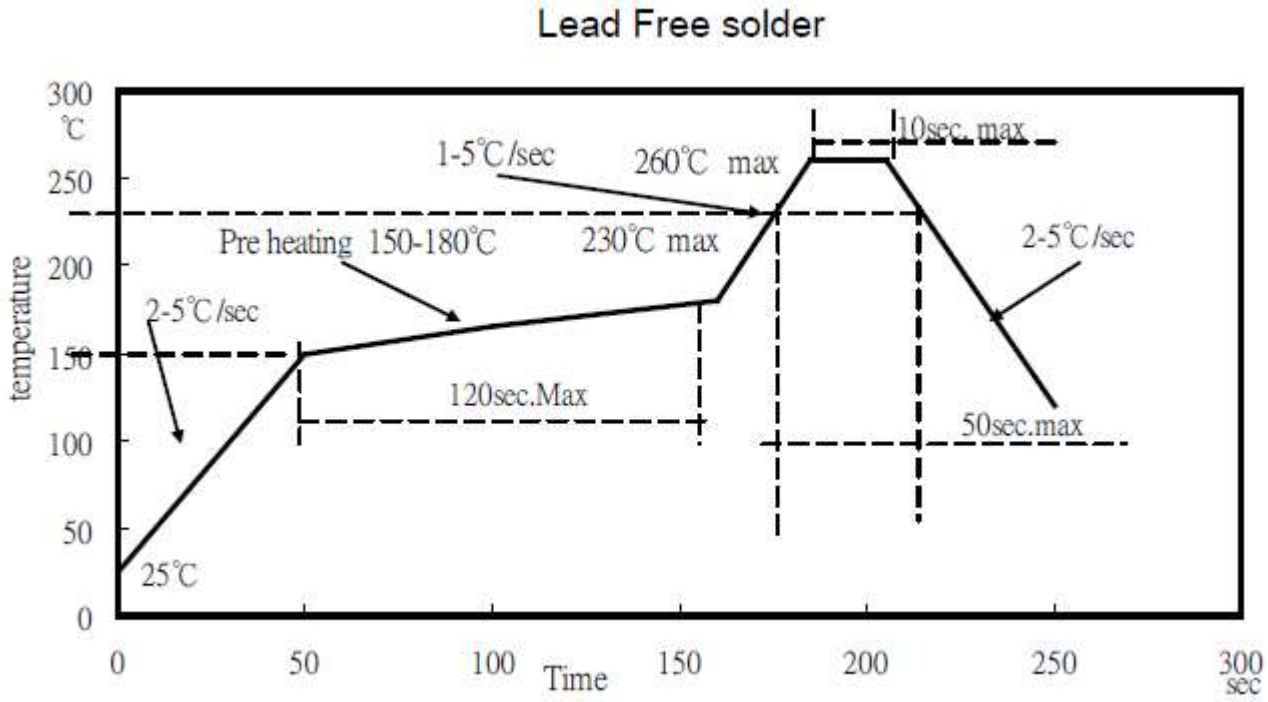


RELATIVE INTENSITY VS. WAVELENGTH

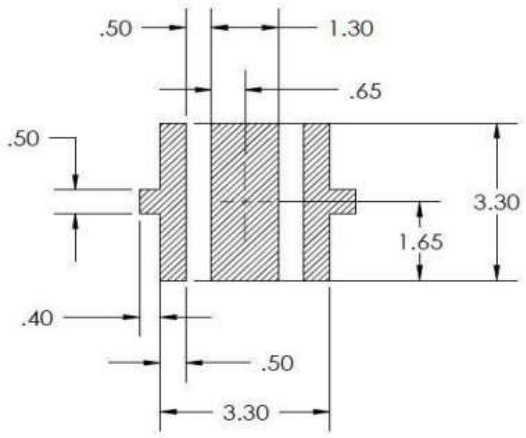




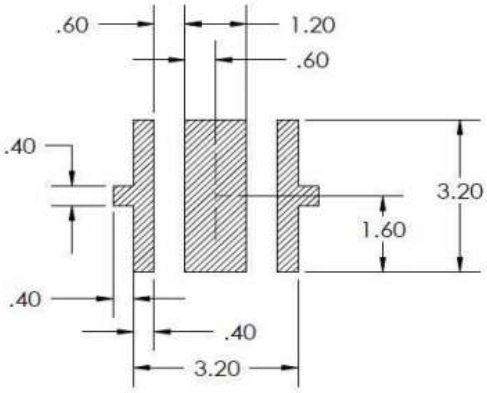
IR Reflow Soldering Profile



Recommended Soldering Pad:



RECOMMENDED PCB SOLDER PAD

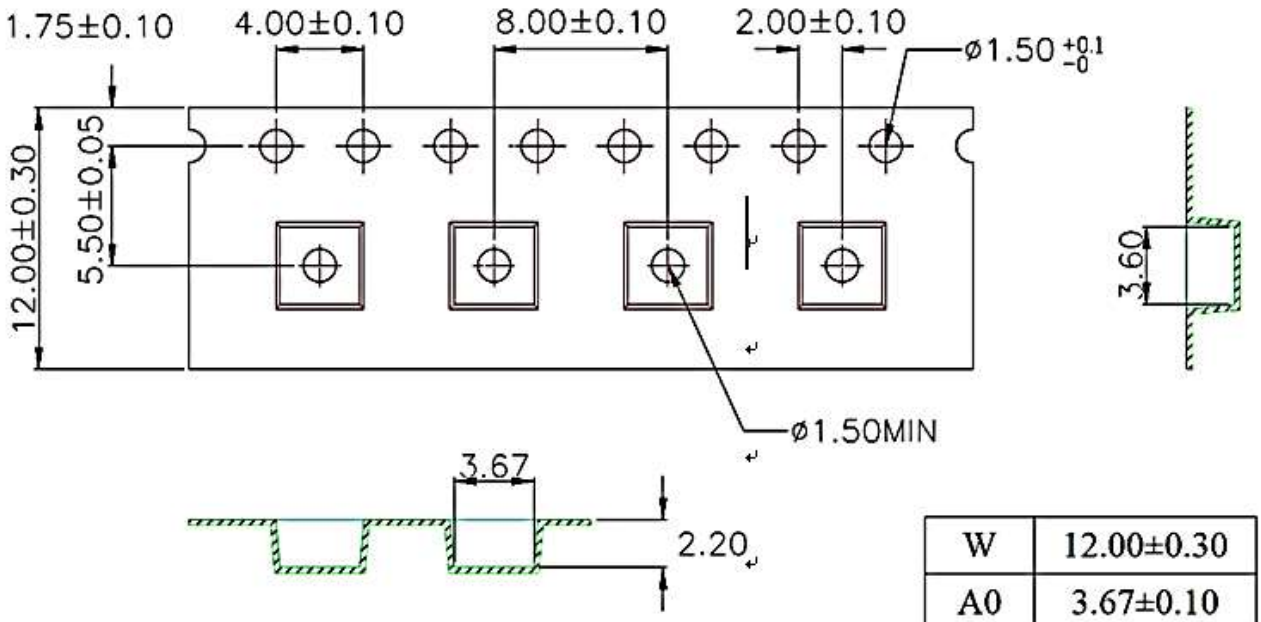


RECOMMENDED STENCIL PATTERN
(HATCHED AREA IS OPENING)

Unit: mm

Packing

Tape and Reel:

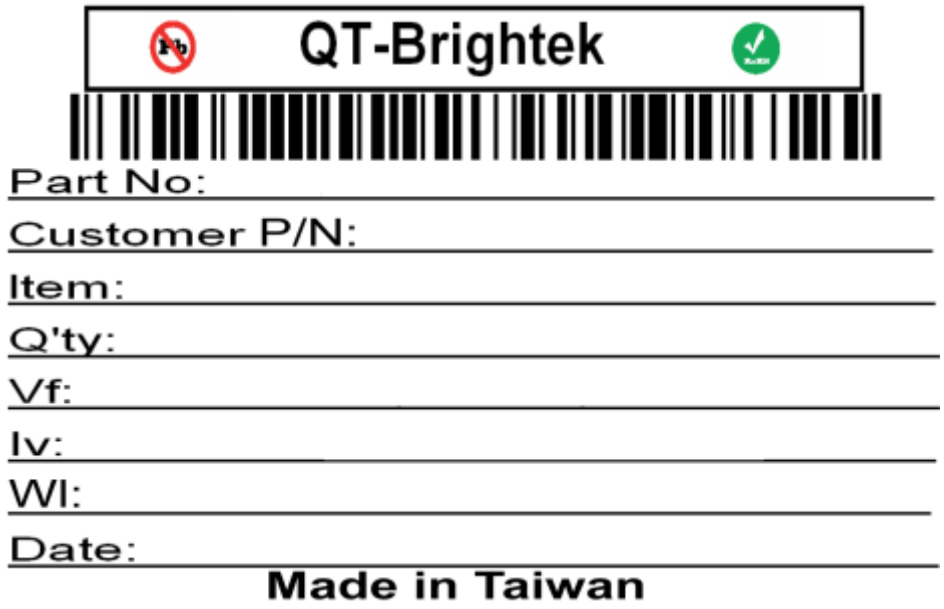


W	12.00±0.30
A0	3.67±0.10
B0	3.60±0.10
K0	2.20±0.10

1. 10 sprocket hole pitch cumulative tolerance ±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±0.05mm.

Unit: mm

Labeling



Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per reel
QBHP684U-IWBU-SW	QBHP684U-IWBU-SW	Φv=95lm typ. @ I_F=350mA, CCT=2700K typ.	1000 units
QBHP684U-IWBU-WW	QBHP684U-IWBU-WW	Φv=95lm typ. @ I_F=350mA, CCT=3000K typ.	1000 units
QBHP684U-IWBU-NW	QBHP684U-IWBU-NW	Φv=125lm typ. @ I_F=350mA, CCT=4000K typ.	1000 units
QBHP684U-IWBU-CW	QBHP684U-IWBU-CW	Φv=135lm typ. @ IF=350mA, CCT=6000K typ.	1000 units

Revision History

Description:	Revision #	Revision Date
New Release of QBHP684E-IWBU-XX	V1.0	04/13/2016
Update Logo and drawing	V1.1	11/20/2018

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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.