

QT-Brightek High Power Series

High Power VCSEL LED

Part No.: QBHP687E-VXXXL1 Series

XXX = 850nm or 940nm

L1=200mA



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Introduction

Feature:

- Clear lens
- Package in tape and reel
- High Power VCSEL IR LED
- Low thermal resistance
- 30 degree viewing angle
- ESD Protection

Description:

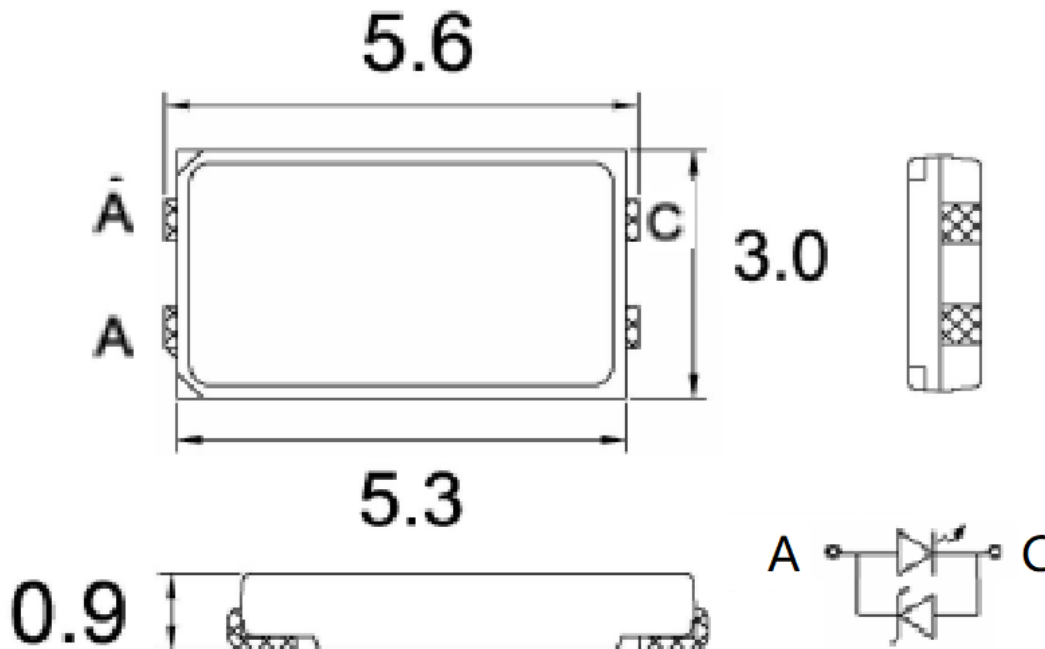
This low-profile High-Power IR LED has a height profile of 0.9mm. It is ideal for both infrared sensing applications.

Application:

- Infrared Sensor
- Photoelectric Sensors
- Optical Encoders

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 _D (nm)			P _O (mW)	
			Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.
QBHP687E-V940L1	Infrared	200	2.4	3.0	930	-	950	130	170
QBHP687E-V850L1	Infrared	200	2.4	3.0	840	-	860	130	170

Absolute Maximum Rating

P _d (mW)	I _F (mA)	I _{FP} (mA)*	V _R (V)	T _{OP} (°C)	T _{ST} (°C)	T _{SO} L (°C)**
560	200	240	5	-20 ~ +85	-40 ~ +100	260

*Duty 1/10 @ 0.01s

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

Radiometric Power P_O @ I_F=200mA

Bin	Min.	Max.	Unit
A	130	150	mW
B	150	170	
C	170	190	
D	190	210	

Note:

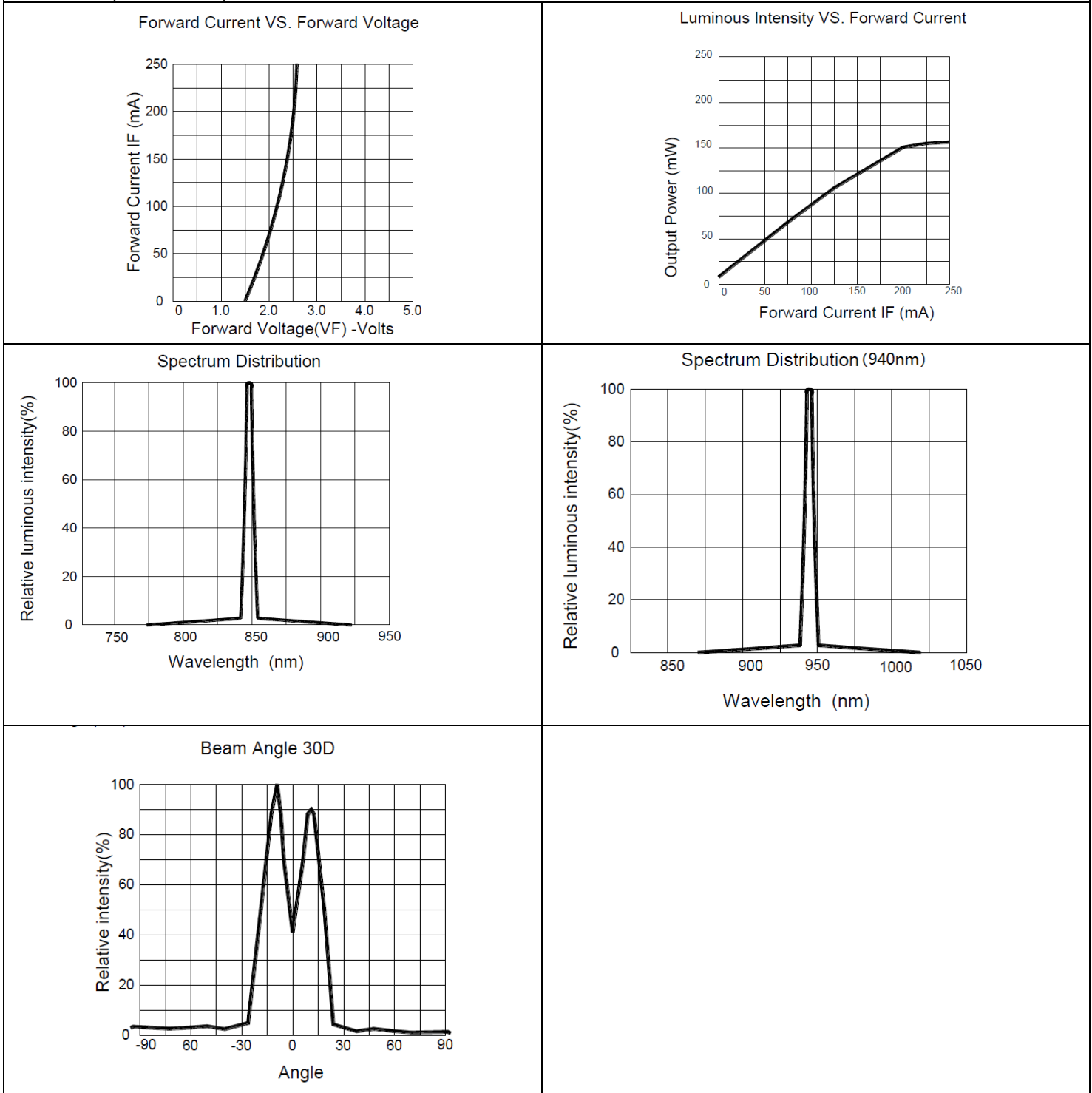
Tolerance of measurement of forward voltage: ±0.1V

Tolerance of measurement of luminous flux: ±10%

Tolerance of measurement of dominant wavelength: ±1nm

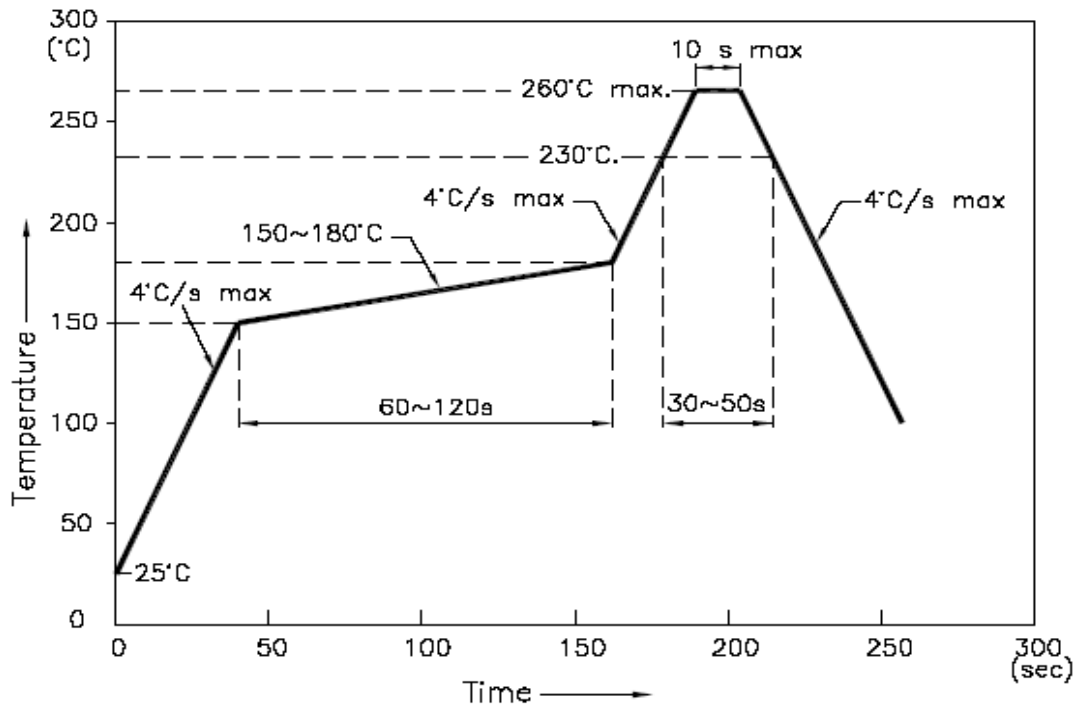
Characteristic Curves

AllnGaP (R/Y/O/AG)

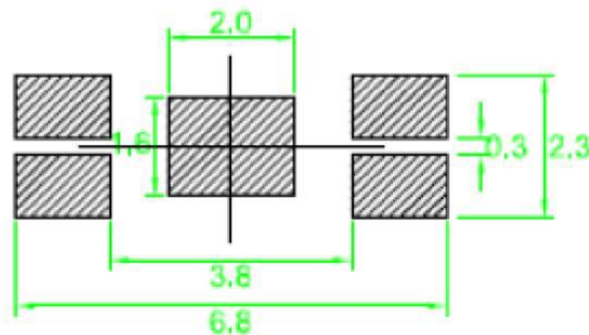


Solder Profile & Footprint

- Recommended tin solder specifications: melting temperature in the range of 178~192 °C
- The recommended reflow soldering profile is as follows (temperatures indicated are as measured on the surface of the LED resin):



Recommended Pad Layout

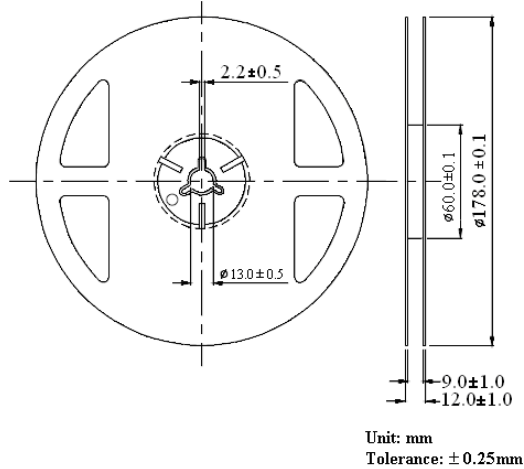


Units: mm

Tolerance: ± 0.2mm

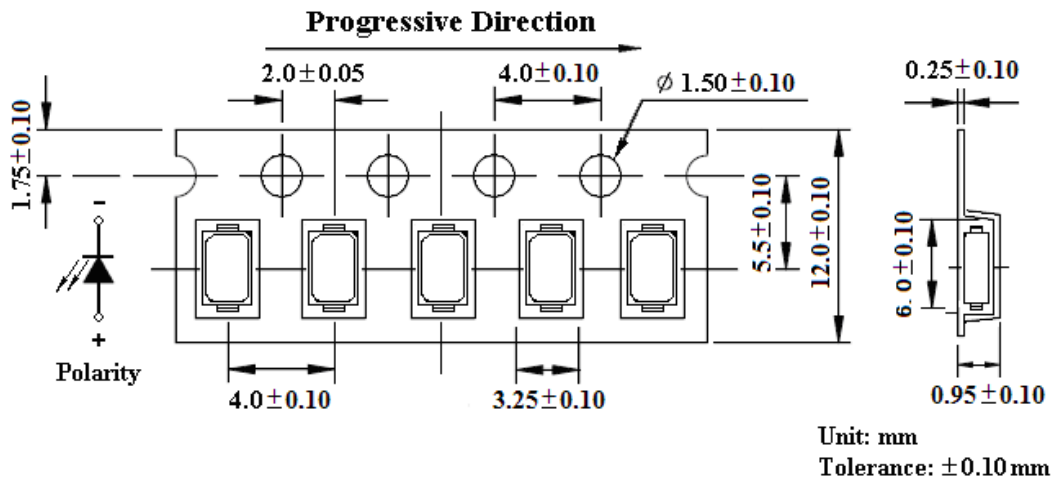
Packing

Reel Dimension:



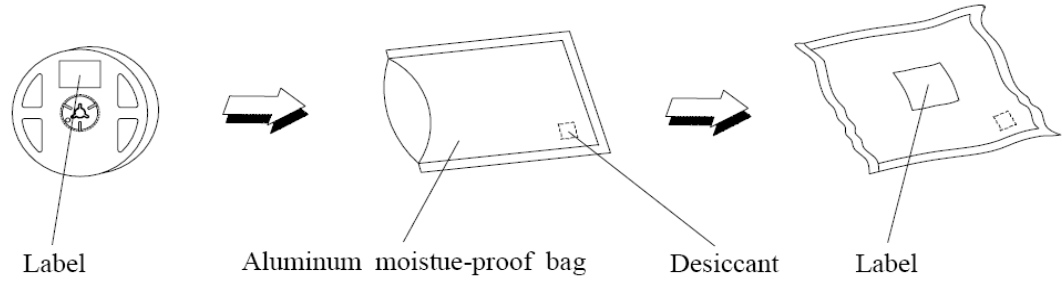
Unit: mm

Tape Dimension:



Unit: mm

Packaging Specification:



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
QBHP687E-V940L1	QBHP687E-V940L1	P _o =170mW typ. @ 200mA/ λ _P =940nm	2,000 units
QBHP687E-V850L1	QBHP687E-V850L1	P _o =170 mW typ. @ 200mA/ λ _P =850nm	2,000 units



Revision History

Description:	Revision #	Revision Date
New Release of QBHP687E-VXXXL1 Series	V1.0	08/27/2019

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.