

SAMPLE APPROVAL SHEET

DESCRIPTIONS:

- 2.0x1.25x0.7mm SMD LED
- Emitting Color: Blue
- Lens Color: Water Clear

CUSTOMER: _____

VAOPTO P/N: VO-PT2012QBBC _____

CUSTOMER P/N: _____

CUSTOMER APPROVED PRODUCTION PARAMETER BIN

IV/LM	CCT
WL/XY	Ra
VF	Other

APPROVED BY	CHECKED BY

PRELIMINARY SPEC

2.0x1.25mm SMD CHIP LED

PART NO: VO-PT2012QBBC BLUE



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

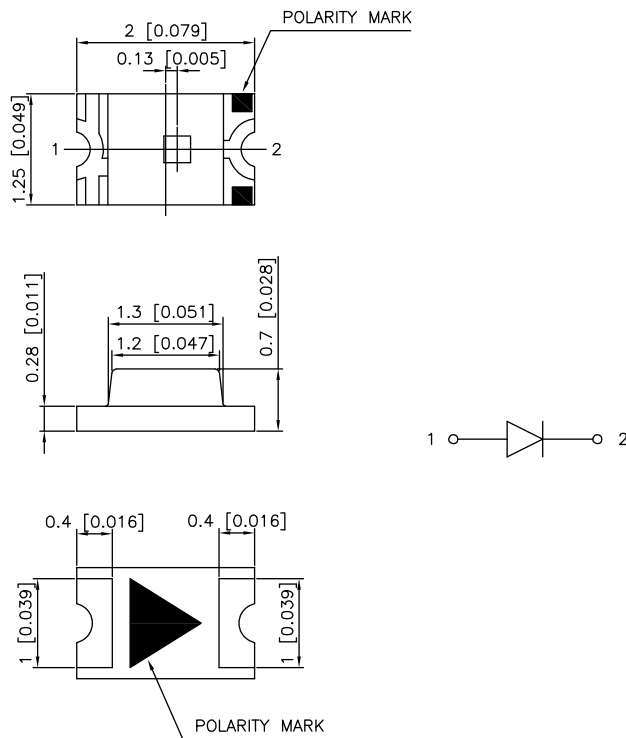
Features

- 2.0mmx1.25mm SMT LED, 0.7mm THICKNESS.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE : 4000PCS / REEL.
- RoHS COMPLIANT.

Applications

- Automotive: backlighting in dashboard and switch.
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD switch and symbol.

◆ Package Dimensions



Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.15 unless otherwise noted.
3. Specifications are subject to change without notice.

◆ Device Selection Guide

Part No.	Chip		Lens color
VO-PT2012QBBC	Material	Emitted color	Water clear
	(InGaN)	BLUE	

◆ Absolute Maximum Ratings at T_A=25°C

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	100	mW
Forward Current	I _F	25	mA
Peak Forward Current*1	I _{FP}	100	mA
Reverse Voltage	V _R	5	V
Operating Temperature	T _{opr}	-40°C To +85°C	
Storage Temperature	T _{stg}	-40°C To +85°C	

Notes:

*1: Pulse width≤0.1ms, Duty cycle≤1/10

◆ Electrical / Optical Characteristics at T_A=25°C

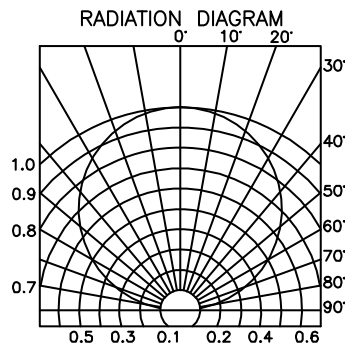
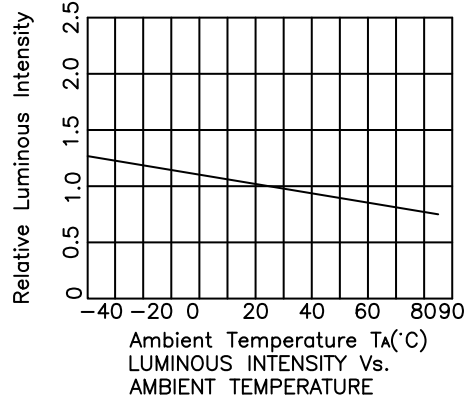
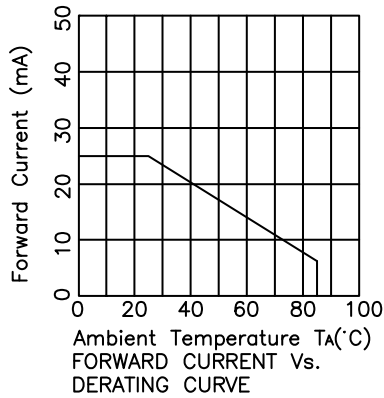
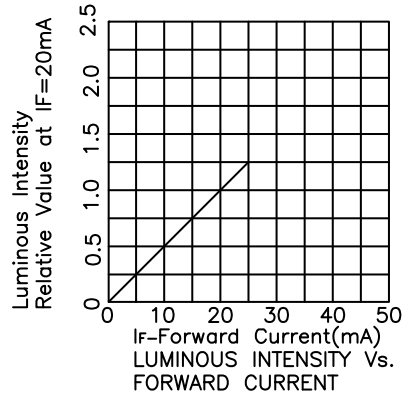
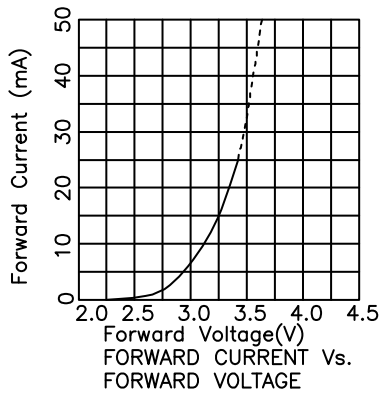
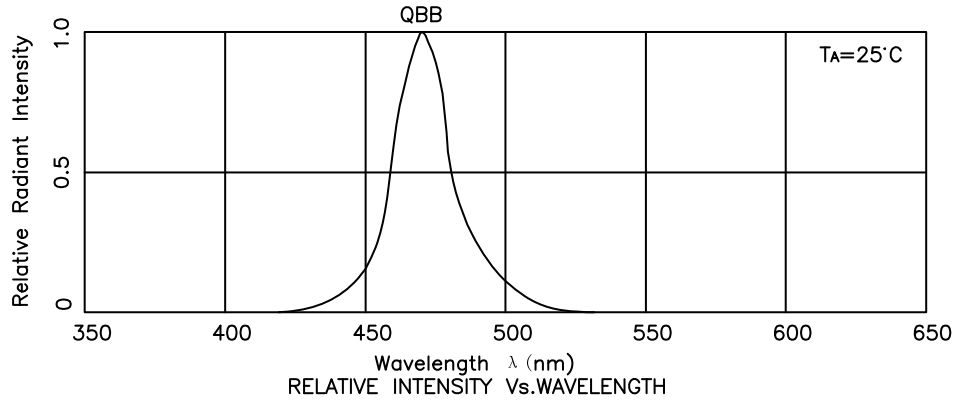
Parameter	Symbol	Min.	Typ.	Max	Unit	Test Conditions
Forward Voltage	V _F	2.8	—	3.6	V	I _F =20mA
Reverse Current	I _R	—	—	10	μA	V _R =5V
Dominate Wavelength	λ _D	464	—	473	nm	I _F =20mA
Luminous Intensity	I _v	225	—	500	mcd	I _F =20mA
Viewing Angle	2θ _{1/2}	—	120	—	Deg.	I _F =20mA

Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or chromaticity), the typical accuracy of the sorting process is as follows:

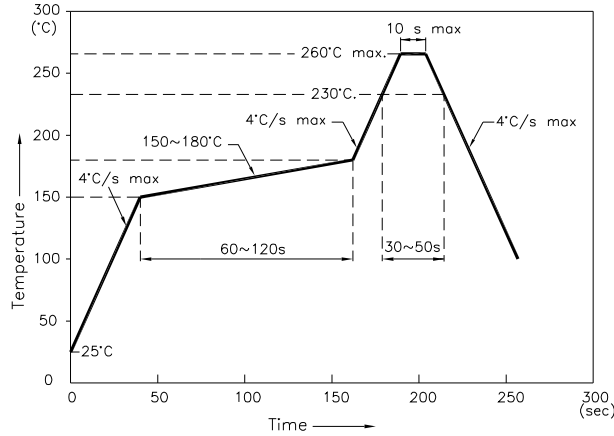
1. wavelength: ±1nm
2. Luminous Intensity: ±15%
3. Forward Voltage: ±0.1V

◆ Typical Electrical/Optical Characteristics Curves



◆ Soldering Profile

Reflow Soldering Profile For Lead-free SMT Process.

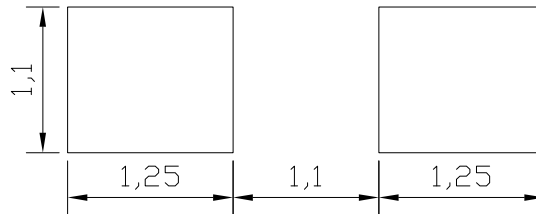


NOTES:

1. We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

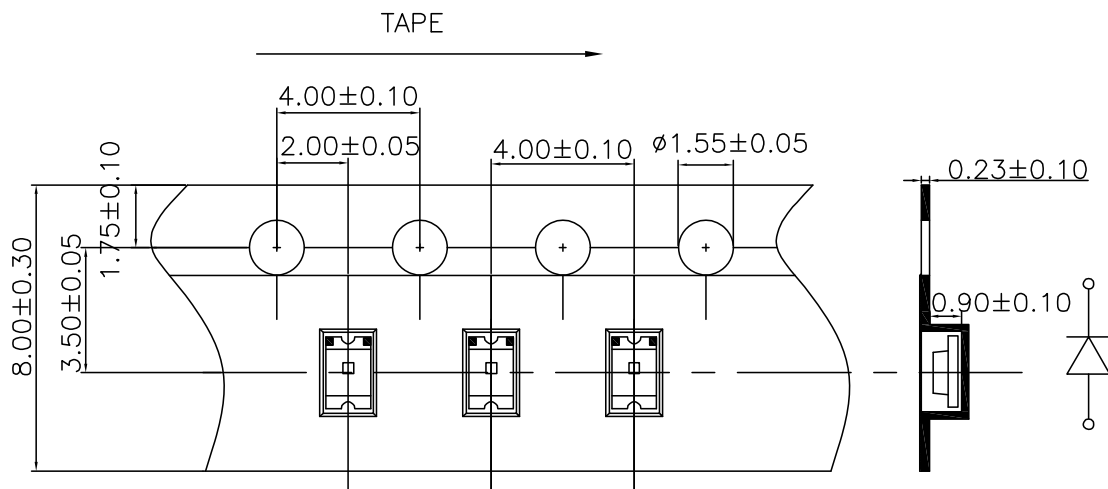
◆ Recommended soldering pattern

(Units:mm)

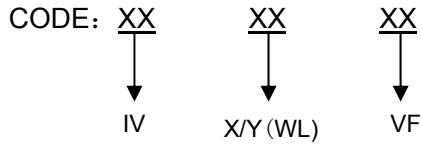



◆ Tape specifications

(Units:mm)



◆ Label Explanation



Part NO. : xxxxxxxxxxxxxx
QTY: xxx PCS CODE: xx xx xx
Lot NO: xxxxxxxxxxxxxx
ERP NO. : xxxxxxxxxxxxxx
Date: xxxxxxxxxxxxxx


◆ VF Rank

Rank	VF(V)		Condition
	Min	Max	
G	2.8	3.0	IF=20mA
H	3.0	3.2	
J	3.2	3.4	
K	3.4	3.6	

Tolerance:±0.1V

◆ λD Rank

Rank	λD(nm)		Condition
	Min	Max	
4	464	467	IF=20mA
5	467	470	
6	470	473	

Tolerance:±1nm

◆ IV Rank

Rank	IV(mcd)		Condition
	Min	Max	
R	225	295	IF=20mA
S	295	385	
T	385	500	

Tolerance:±15%

◆ **CAUTIONS:**

1.Storage

- Storage condition before opening the package: 5°C~30°C, the largest percentage relative humidity is 60% and the storage period is six month. The LEDs beyond the storage period just can be used after dealing as step 4.
- After opening the package, If the LEDs will be Infrared reflow soldering, Oxygen phase reflow soldering or any other welding.
 - a. must be welding within 24 hours.
 - b. the storage humidity must be below 30% .
- If the situation does not satisfy 2a or 2b, the LEDs must be roasted.
- If the LEDs need to be roasted, the roast temperature should be 60±3 and the roast time should be 24 hours.

2.ESD (Electrostatic Discharge)

Static Electricity or power surge will damage the LED.

The following procedures may decrease the possibility of ESD damage.

- All production machinery and test instruments must be electrically grounded.
- Use a conductive wrist band or anti-electrostatic glove when handling these LEDs.
- Maintain a humidity level of 50% or higher in production areas.
- Use anti-static packaging for transport and storage.

3.Cleaning

清洗

- Led should be cleaned in a normal temperature and the time for cleaning should be less than 3 minutes ; please use Alcohol as cleaner ,before you use other cleaning solvent ,please make sure that the cleaner will not make any damage to the LED performance or the appearance .
- Ultrasonic Cleaning is also commonly used for cleaning LED , please verify the Ultrasonic cleaning 's Power and time to avoid any damage to the LED .
- The recommended solvent for cleaning:

Common cleaning solvent	Disable cleaning solvent
Alcohol	Thinner、Acetone、Two fluorine resin 、Acetone b dilute

◆ **Revision History:**

Rev. No.	Change description	Date	Prepared by	Checked by	Approved by
A/0	New-made specification	2018/04/19			

