



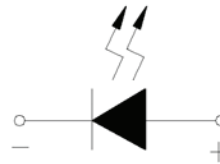
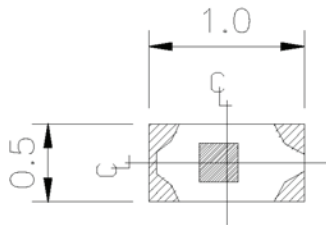
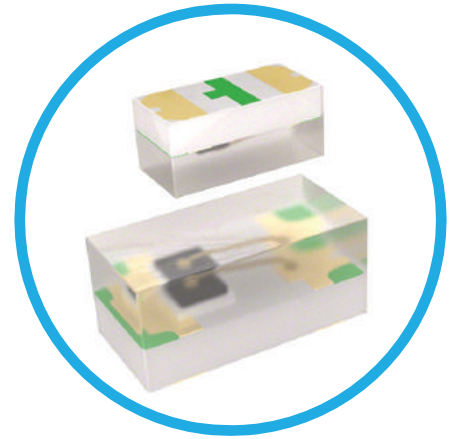
# VAOL-S4SB4 LED SMD 0402 Blue

## Features

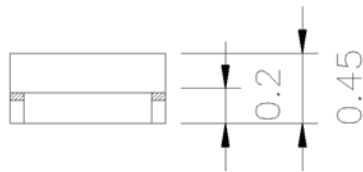
- Fit automatic placement equipment.
- Fit Compatible with infrared and vapor phase reflow solder process.
- Pb-free.
- RoHS compliant.

## Descriptions

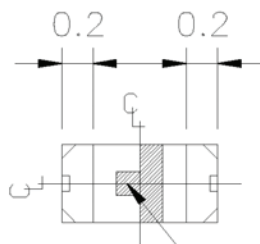
- For higher packing density .
- For minature applications .
- Water clear lens .
- Chip material : InGaN .
- Emitting color : Blue.



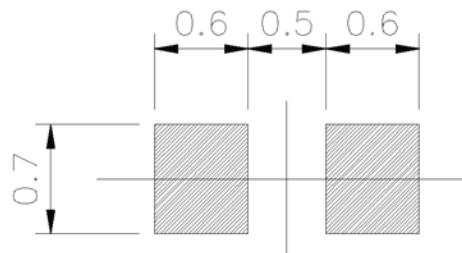
POLARITY



For Reflow Soldering



Cathode Mark



The tolerances unless mentioned :  $\pm 0.1\text{mm}$  ,Unit = mm

## Product Specifications

### Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V <sub>R</sub>	5	V
Forward Current	I <sub>F</sub>	25	mA
Peak Forward Current (Duty 1/10 @1KHz)	I <sub>FP</sub>	100	mA
Power Dissipation	P <sub>d</sub>	110	mW
Electrostatic Discharge(HBM)	ESD	150	V
Operating Temperature	T <sub>opr</sub>	-40 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +90	°C
Soldering Temperature	T <sub>sol</sub>	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.	

### Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>v</sub>	57	----	112	mcd	I <sub>F</sub> =20mA
Peak Wavelength	λ <sub>p</sub>	----	468	----	nm	
Dominant Wavelength	λ <sub>d</sub>	470	----	475	nm	
Spectrum Radiation Bandwidth	Δλ	----	35	----	nm	
Viewing Angle	2θ 1/2	----	120	----	deg	
Forward Voltage	V <sub>F</sub>	2.9	----	3.6	V	
Reverse Current	I <sub>R</sub>	----	----	50	μA	V <sub>R</sub> =5V

#### Notes:

- 1.Tolerance of Luminous Intensity ±10%
- 2.Tolerance of Dominant Wavelength ± 1nm
- 3.Tolerance of Forward Voltage ±0.05V

## Product Specifications

### Bin Range Of Dom. Wavelength

Group	Bin	Min	Max	Unit	Condition
Y	Y	470	475	nm	I <sub>F</sub> =20mA

### Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition
P2	57	72	mcd	I <sub>F</sub> =20mA
Q1	72	90		
Q2	90	112		

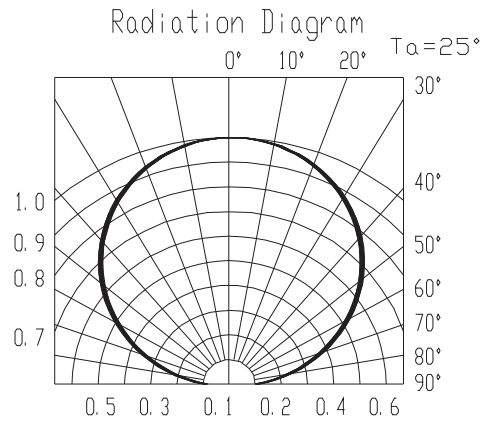
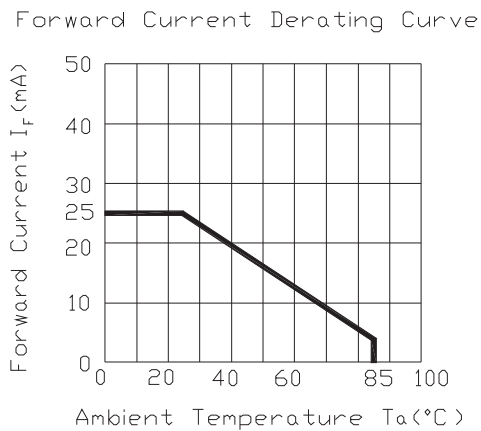
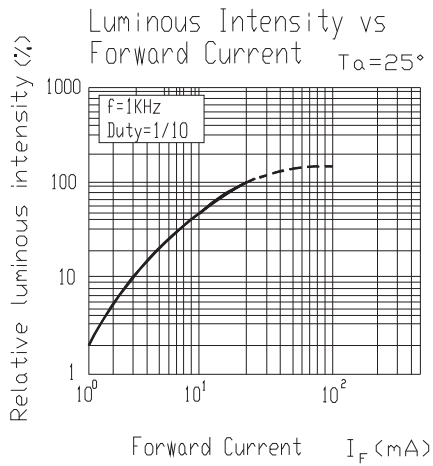
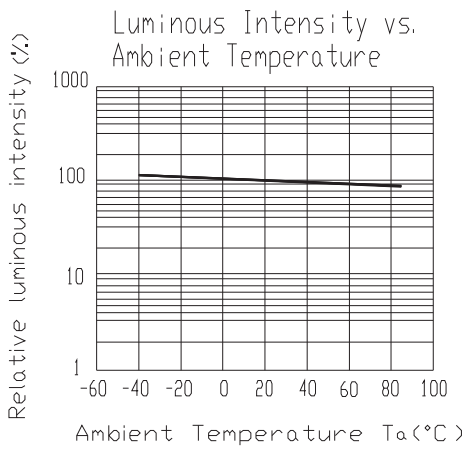
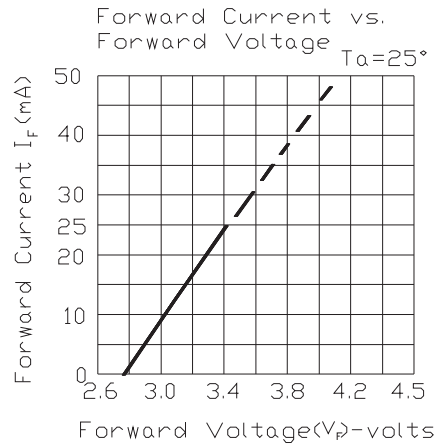
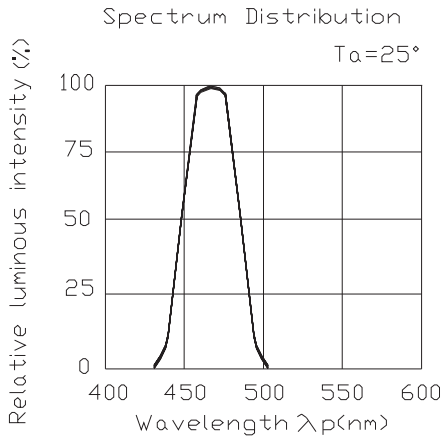
### Bin Range Of Forward Voltage

Group	Bin	Min	Max	Unit	Condition
B2	36	2.9	3.0	V	I <sub>F</sub> =20mA
	37	3.0	3.1		
	38	3.1	3.2		
	39	3.2	3.3		
	40	3.3	3.4		
	41	3.4	3.5		
	42	3.5	3.6		

### Notes:

- 1.Tolerance of Luminous Intensity  $\pm 10\%$
- 2.Tolerance of Dominant Wavelength  $\pm 1\text{nm}$
- 3.Tolerance of Forward Voltage  $\pm 0.05\text{V}$

# Electro-Optical Characteristics Curves

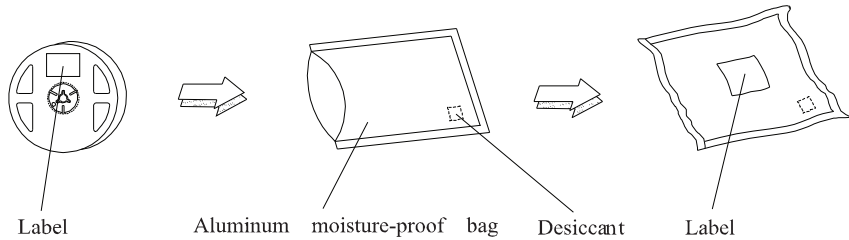
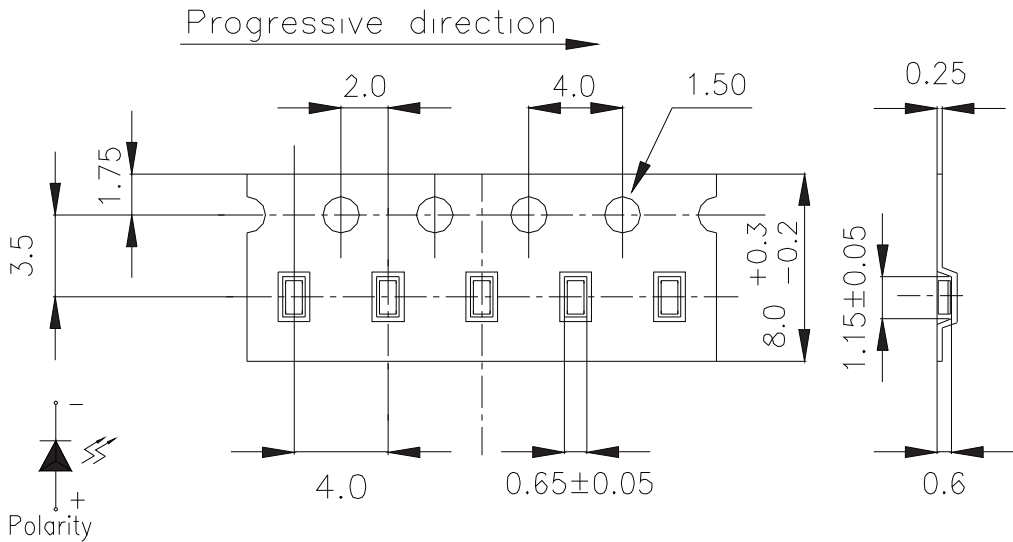
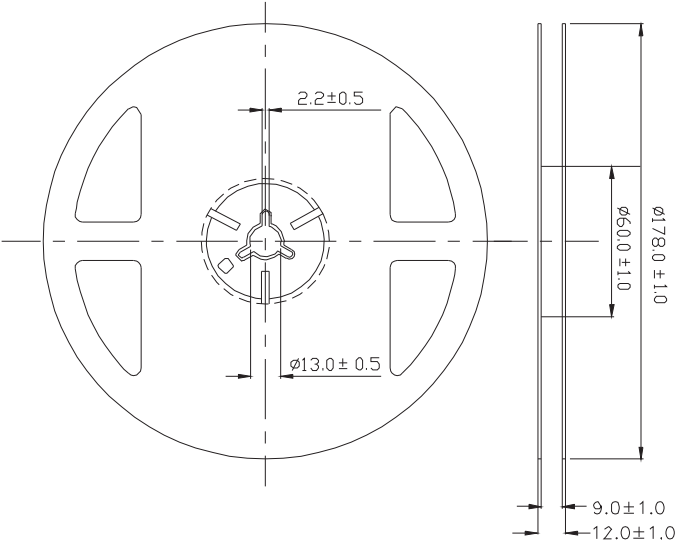


# Tape and Reel Specifications

Reel Size: 7" (178 mm)

Pieces per Reel: 1,000

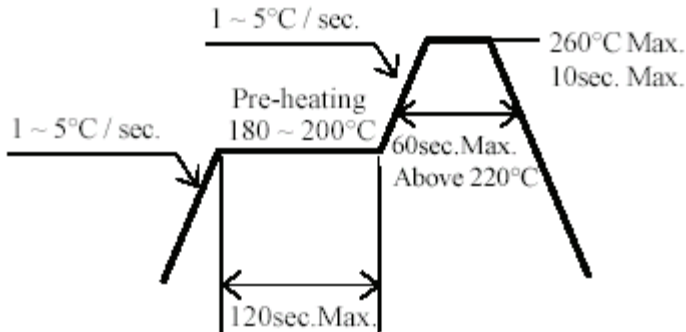
**Note:** The tolerances unless mentioned is  $\pm 0.1\text{mm}$ , Unit = mm



## Product Specifications

### Soldering Condition

#### 1. Pb-free solder temperature profile



2. Reflow soldering should not be done more than two times.
- 3 When soldering, do not put stress on the LEDs during heating.
- 4 After soldering, do not warp the circuit board.

### Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

## Compliances and Approvals

