




SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0521-1615RGBBD168S1
DATE	May 21, 2021
REVISION	A0
DESCRIPTION	SMD LED 1615 series Dimensions: L1.6*W1.6*H0.6mm Color: Red/Green/Blue, White Diffused, Operating Temperature: -40 ~ 85°C Package: 4000pcs/Reel RoHS III and REACH Compliant
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	BND-1615RGB-BD-168
PART CODE	1615RGBBD168S1

VENDOR APPROVE			
Issued/Checked/Approved			
DATE: May 21, 2021			

CUSTOMER APPROVE	
DATE:	

MAIN FEATURE

- SMD LED 1615 series Dimensions: L1.6*W1.6*H0.6mm
- Wide Viewing Angle 120°
- Reflow Solderable
- High Luminous Intensity and Low Power Dissipation
- Cross main competitors parts
- RoHS/RoHS III compliant



APPLICATION

- Optical Indicator
- Indoor Display
- Backlighting in dashboard and switch
- Flat Backlighting for LCD, Symbol and Display

PART CODE GUIDE

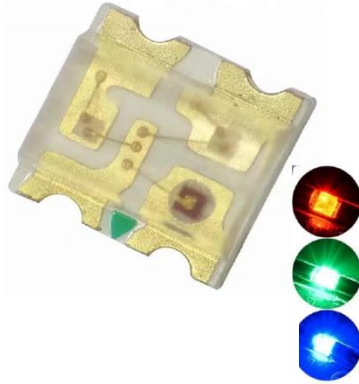
RFQ
Request For Quotation

1615	RGBBD168	S	1
1	2	3	4

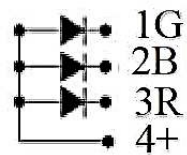
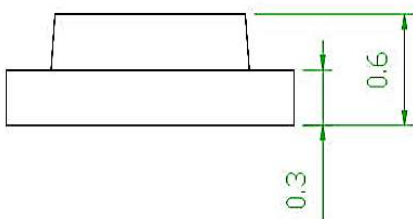
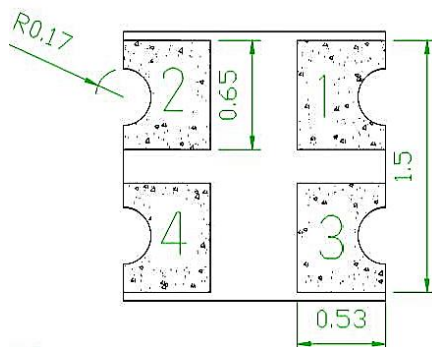
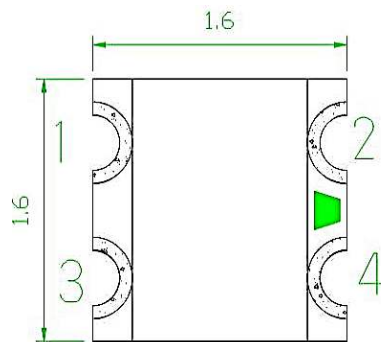
- 1) 1615: Part family Code for SMD LED 1615 series Dimensions: L1.6*W1.6*H0.6mm
- 2) RGBD168: Type code for original part number BND-1615RGB-BD-168
- 3) S: Tape/Reel, Package: 4000pcs/reel
- 4) 1: Internal control code, 1 letter (1 ~9) or digits (A~Z)

DIMENSION (Unit: mm, Tol: +/-0.2)

Image for reference



SMD 1615



GENERAL PARAMETERS

Parameter	Part No. Symbol	Value
Original Manufacturer		Oriental Technology
Holder Type	1615	Dimensions L1.6*W1.6*H0.6mm
Dice	RGB	Red (AlGaInP)
		Green (InGan)
		Blue (InGan)
Lens Type		White Diffused
Internal Code	BD	QC Dept. code
Sources Code	168	For IC sources
Luminous Intensity (mcd) @10mA		160 ~220
		210 ~290
		85 ~125
Viewing Angle 2θ1/2		120
Package	S	Tape/Reel, Package: 4000pcs/reel
Internal Control Code	1	Code- 1 letter or digits
RoHS and REACH Status		RoHS III and REACH Compliant
Special code		The customer special requirement Blank: N/A

Reminds

- 2θ1/2 is the angle from optical centerline where the luminous intensity is 2θ1/2 the optical centerline value
- The above luminous intensity measurement allowance tolerance ±10%.

ELECTRONICAL/OPTICAL CHARACTERISTICS @ Ta = 25 °C

Parameter		Symbol	Unit	Value			Test Condition
				Min	Typ.	Max.	
Forward Voltage	Red	V _F	V	1.6	-	2.4	I _F = 20mA
	Green			2.5		3.0	
	Blue			2.5		3.0	
Reverse Current		I _R	μA			10	V _R = 5.0V
Dominate Wavelength	Red	λ _d	nm	620		625	I _F = 20mA
	Green			520		525	
	Blue			467		472	

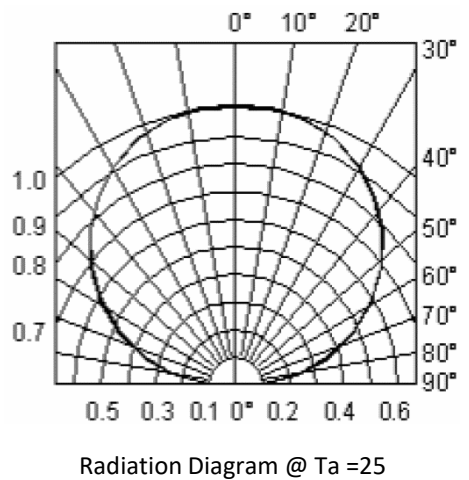
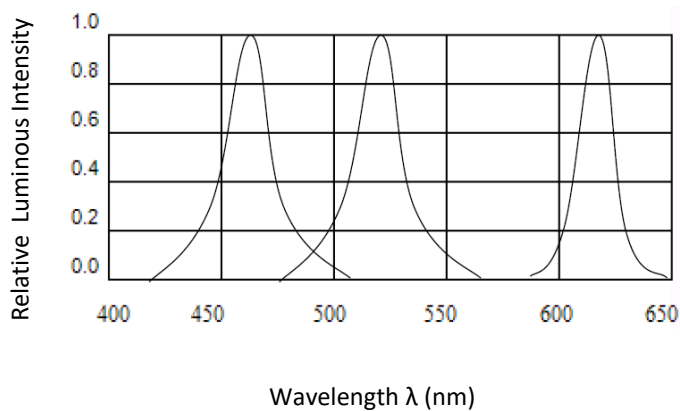
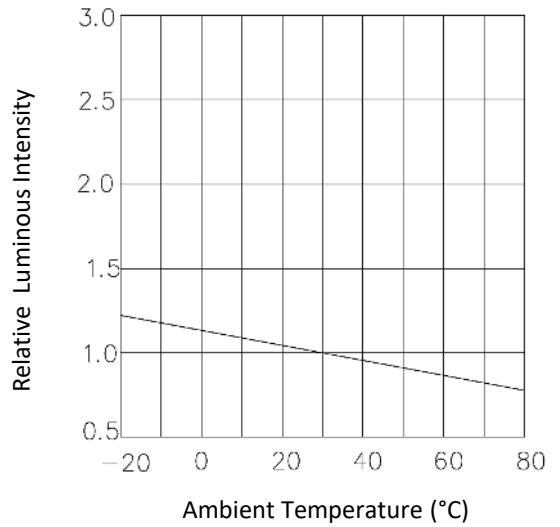
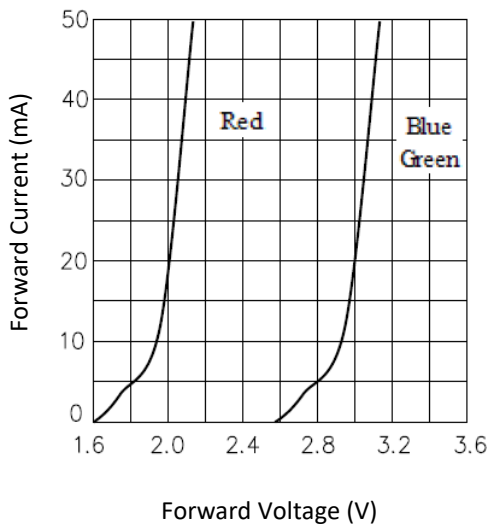
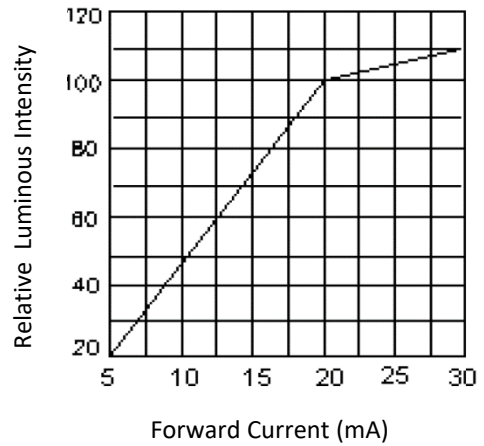
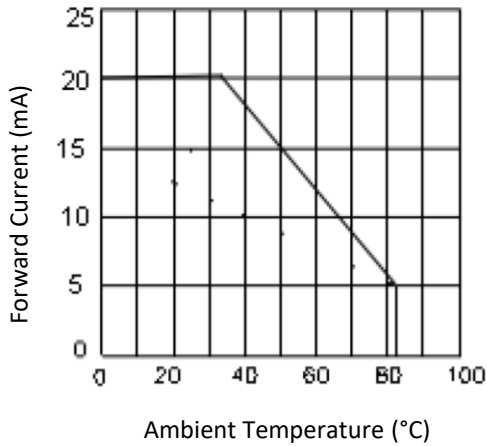
ABSOLUTE MAXIMUM RATINGS @ Ta = 25 °C

Parameter		Symbol	Unit	Value		
				Min	Typ.	Max.
Power Dissipation	Red	P _d	mW		60	
	Green				90	
	Blue				90	
DC Forward Current		I _F	mA		20	
Peak Forward Current		I _{FP}	mA		40	
Reverse Voltage		V _R	V		5	
Electrostatic Discharge (HBM)	Red	ESD	V		2000	
	Green				2000	
	Blue				2000	
Operating Temperature Range		T _{opr}	°C	-40		+85
Storage Temperature Range		T _{stg}	°C	-40		+100

Reminds

- 1/10 Dut cycle 0.1ms pulse width
- The above forward voltage measurement allowance tolerance ±0.1V.
- The tolerance of Wave Length: ±0.1V.

TYPICAL OPTICAL CHARACTERISTICS CURVES



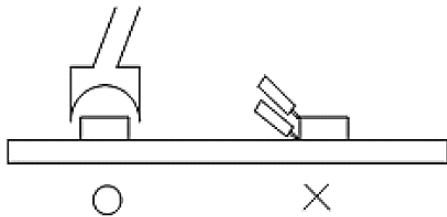


RELIABILITY TEST ITEMS AND CONDITION

Test Items	Test Conditions	Requirement
Solderability	Solder Temperature : 240 °C Solder Duration:3.5 +/-0.5 sec.	Solderable Area over 95%
Thermal Shock Followed by High Temperature & High Humidity Cyclic	-40° → 10min. 5 Cycles ↑ ↓ Shift (2~3) min 100 °C → 10min 25 °C ~55 °C (90%~ 95%) RH 2 Cycles for 48 hours. Recover for 2 hours.	C = 0 & I **
Resistance for Soldering Heat	Reflow Solder	
DC Operating Life	1000 hours Forward Current: 20 mA	
High Temperature Storage	100 °C → 1000 hrs.	
High Temperature & Humidity Cyclic	25 °C ~55 °C (90%~ 95%) RH 6 Cycles for 144 hours. Recover for 2 hours.	

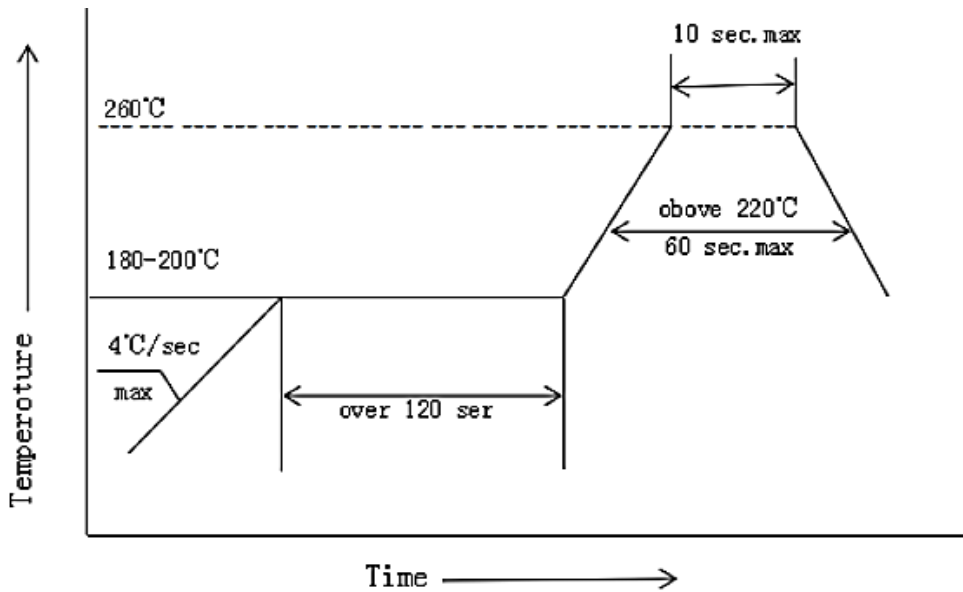
Reminds

1. The reliability of products shall be satisfied with items listed above
2. Confidence level: 90%; LTPD:10%
3. The technical information shown in the data sheets are limited to the typical characteristics and related circuit samples.

NOTICE CONDITION

Items	Test Conditions
<p>Soldering by Iron</p>	<ol style="list-style-type: none"> 1. The temperature of Iron must be lower than 300 °C, 3 second by hand soldering 2. The hand solder should be done only one times
<p>Repairing</p>	<p>Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed before if the characteristics of LEDS will or not be damaged by repair</p> 
<p>Storage</p>	<ol style="list-style-type: none"> 1. Package is sealed: Recommended storage condition @ 5°C ~30°C and Humidity 90% RH Max. for 24 months 2. Package is opened: Recommended storage condition @ 5°C ~30°C and Humidity 60% RH Max. for 1 months
<p>Caution</p>	<ol style="list-style-type: none"> 1. Don't stack together assembled PCBs containing LEDs. Impact may scratch the silicone lens or damage  2. Not available in the situation of Acidity for PH 

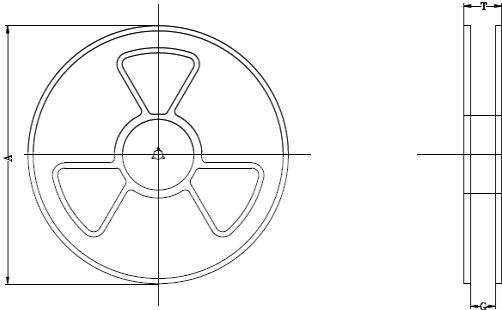
RECOMMENDED REFLOW SOLDERING



Reminds

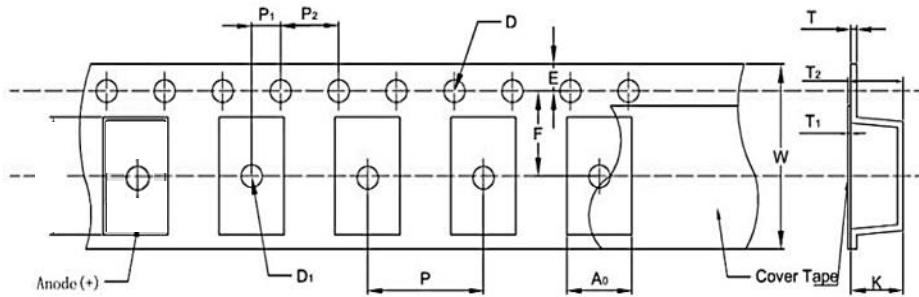
- 1. The times of Reflow Soldering don't exceed 1 times.
- 2. Don't stress on the LEDs during heating

REEL 7"/180MM DIMENSION (Unit: mm, 4000pcs/Reel)

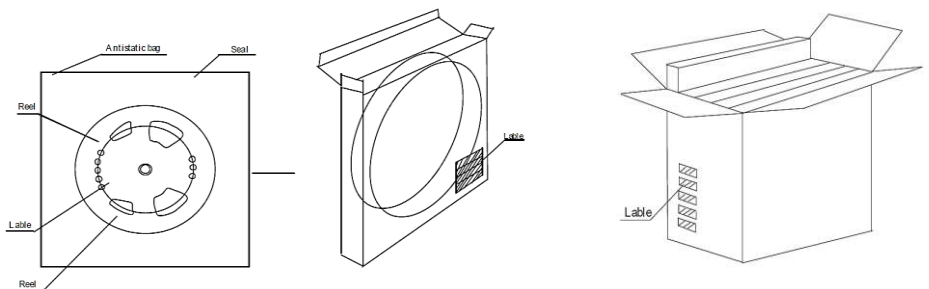
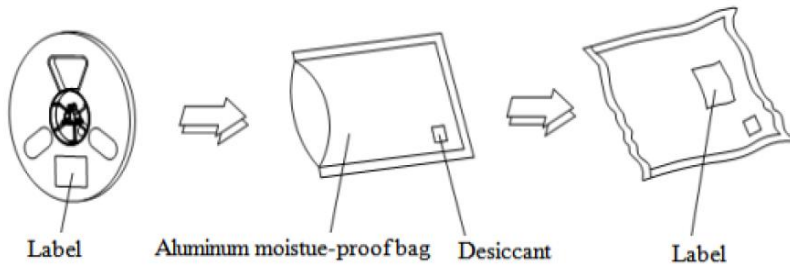


Code	Dimension
A	178.0+/-1.0
T	0.30+/-1.0

TAPE WIDE 8MM DIMENSION (Unit: mm)



Code	Dimension
A 0	0.90+/-0.10
K	0.70+/-0.10
W	8.00+/-0.10
E	1.75+/-0.10
F	3.50+/-0.05
P	4.00+/-0.10
P 1	2.00+/-0.05
P2	4.00+/-0.10
D	1.50+/-0.20
D 1	1.10+/-0.10



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