




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

RFQ

[Request For Quotation](#)

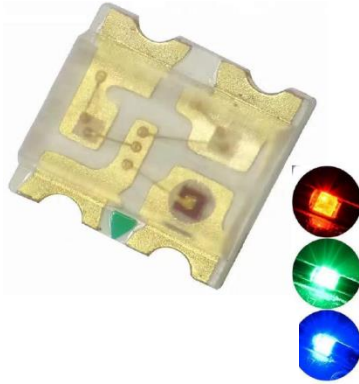
PART CODE GUIDE

1615	RGBBD168	S	1
1	2	3	4

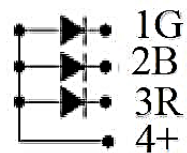
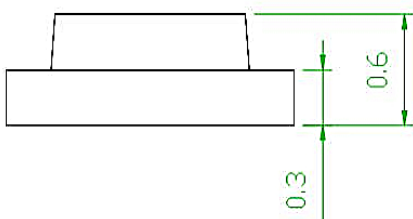
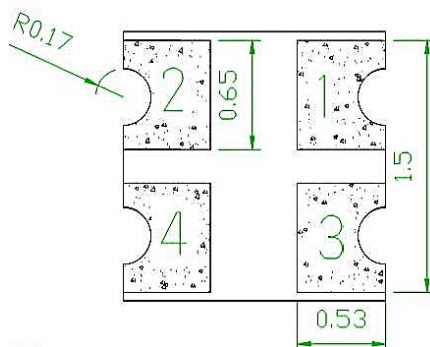
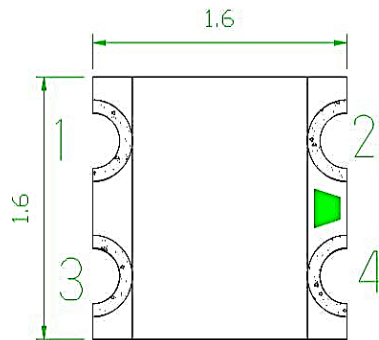
- 1) 1615: Part family Code for SMD LED 1615 series Dimensions: L1.6*W1.6*H0.6mm
- 2) RGBD168: Type code for original part number BND-1615RGB-BD-168
- 3) S: Tape/Reel, Package: 4000pcs/reel
- 4) 1: Internal control code, 1 letter (1 ~9) or digits (A~Z)

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	

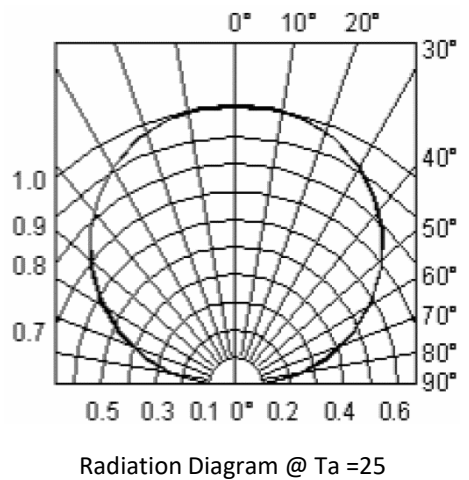
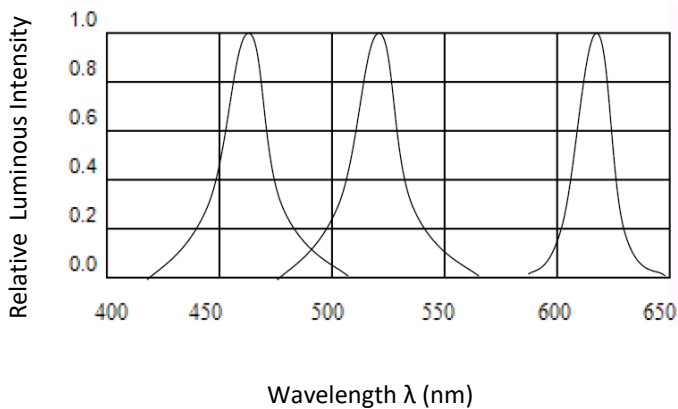
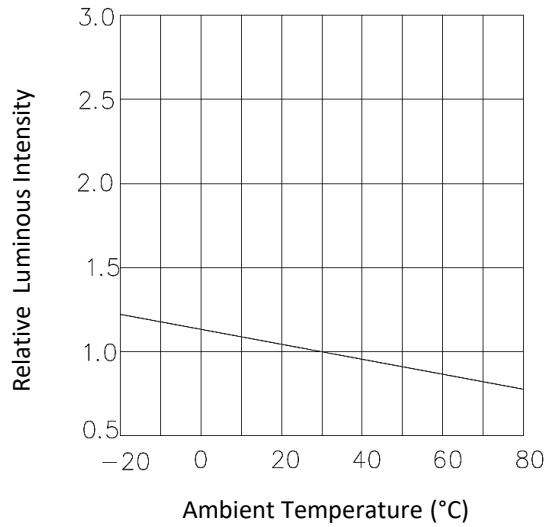
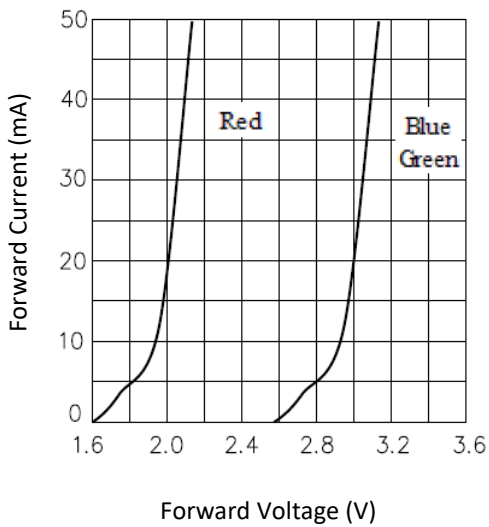
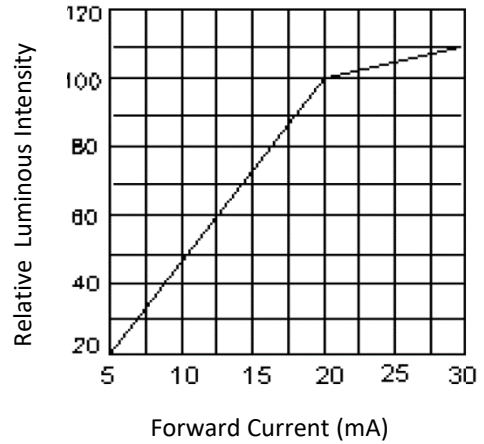
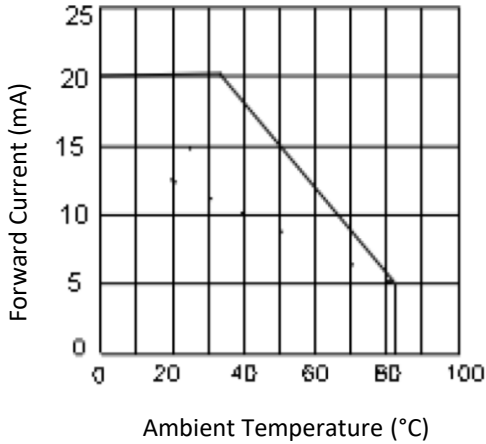
ABSOLUTE MAXIMUM RATINGS @ Ta = 25 °C

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



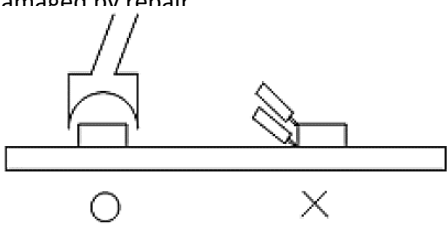
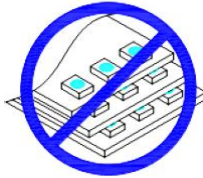

RELIABILITY TEST ITEMS AND CONDITION

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.	

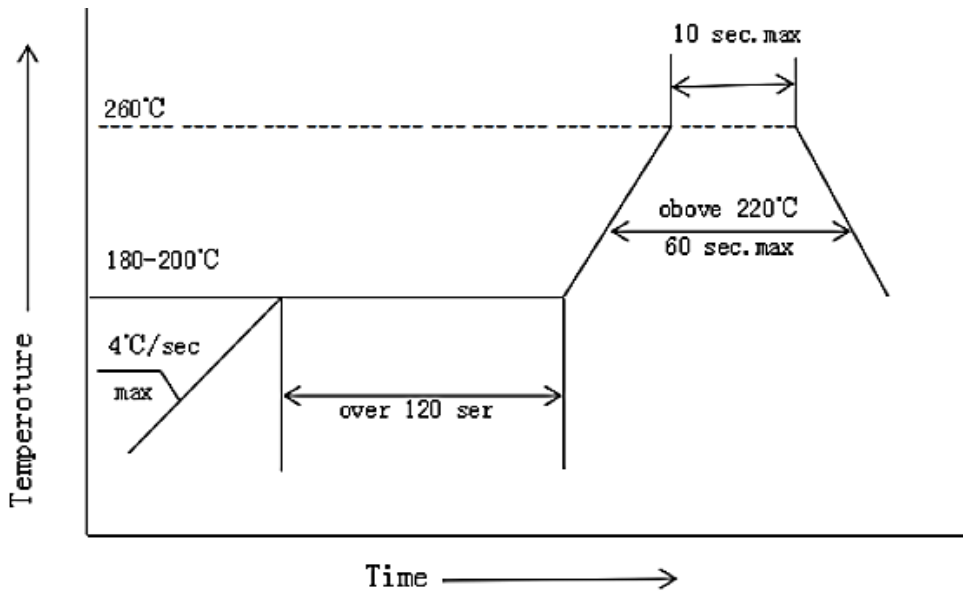
Reminds

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"> The temperature of Iron must be lower than 300 °C, 3 second by hand soldering 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"> Package is sealed: Recommended storage condition @ 5°C ~30°C and Humidity 90% RH Max. for 24 months 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"> Don't stack together assembled PCBs containing LEDs. Impact may scratch the silicone lens or damage  Not available in the situation of Acidity for PH 

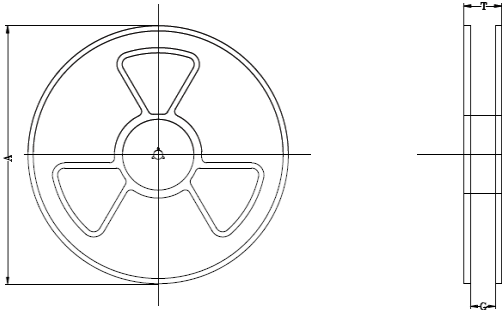
RECOMMENDED REFLOW SOLDERING



Reminds

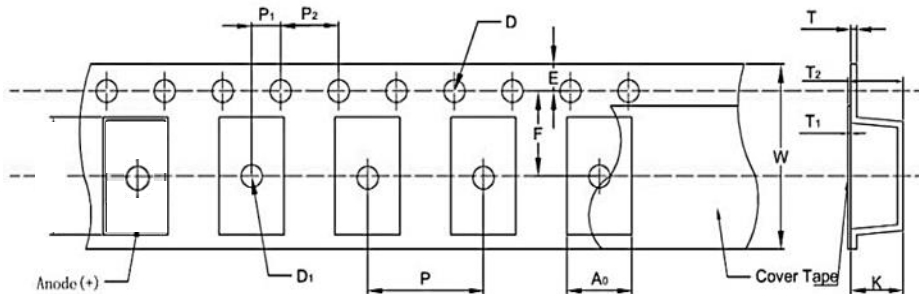
1. The times of Reflow Soldering don't exceed 1 times.
2. Don't stress on the LEDs during heating

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

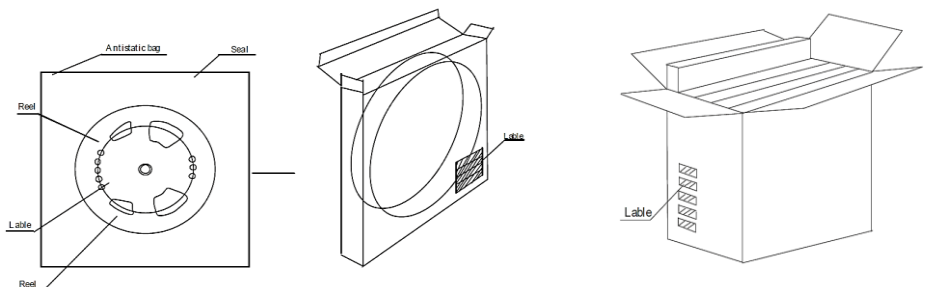
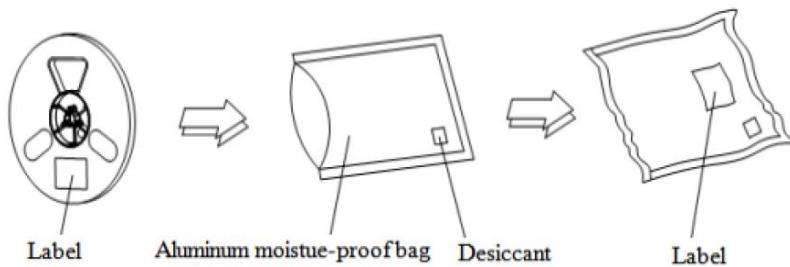


Code	Dimension
A	178.0+/-1.0
T	0.30+/-1.0

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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