




SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0521-0805WBD8120S01
DATE	May 21, 2021
REVISION	A0
DESCRIPTION	<p>SMD LED 0805 series Dimensions: L2.0*W1.25*H0.8mm</p> <p>Color: White, Yellow Diffused, 450 mcd Min.@10mA, 2.8V Min.</p> <p>Operating Temperature: -40 ~ 85°C</p> <p>Package: 3000pcs/Reel</p> <p>RoHS III and REACH Compliant</p>
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	BND-0805W-BD-812
PART CODE	0805WBD8120S01

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

CUSTOMER APPROVE	
DATE:	

MAIN FEATURE

- SMD LED 0805 series Dimensions: L2.0*W1.25*H0.8mm
- 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

0805	WBD8120	S	01
1	2	3	4

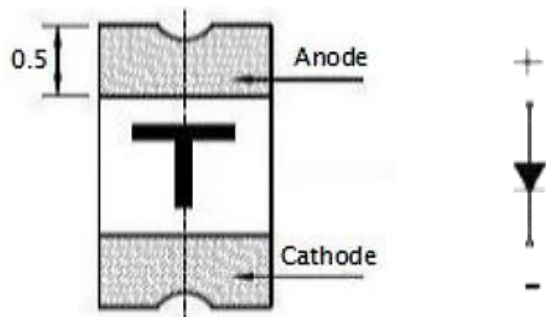
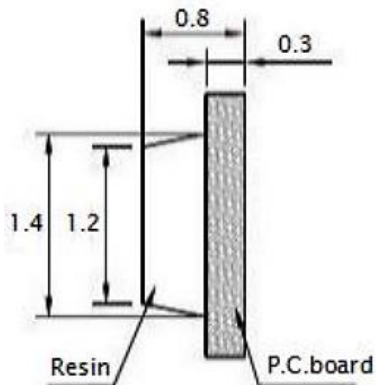
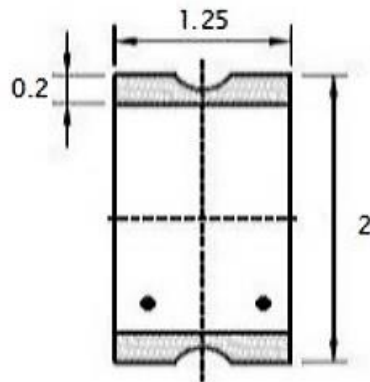
- 1) 0805: Part family Code for SMD LED 0805 series Dimensions: L2.0*W1.25*H0.8mm
- 2) WBD8120: Type code for original part number 0805W-BD-812
- 3) S: Tape/Reel, Package: 3000pcs/reel
- 4) 01: Internal control code, 2 letter or digits

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

Image for reference



SMD 0805



GENERAL PARAMETERS

Parameter	Part No. Symbol	Value
Original Manufacturer		Oriental Technology
Holder Type	0805	Dimensions L2.0*W1.25*H0.8mm
Dice	W	Blue (InGan)
Lens Type		Yellow Diffused
Internal Code	BD	QC Dept. code
Sources Code	8120	For IC sources
Luminous Intensity (mcd) @10mA		450 ~ 650
Viewing Angle 2θ1/2		120
Package	S	Tape/Reel, Package: 3000pcs/reel
Internal Control Code	01	Code- 2 letter or digits
RoHS and REACH Status		RoHS III and REACH Compliant
Special code		The customer special requirement Blank: N/A

Reminds

1. 2θ1/2 is the angle from optical centerline where the luminous intensity is 2θ1/2 the optical centerline value
2. 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	V _F	V	2.8		3.2	I _F = 10mA
Reverse Current	I _R	μA			10	V _R = 5.0V
Color Temperature	T _c	K	10000		13000	I _F = 10mA

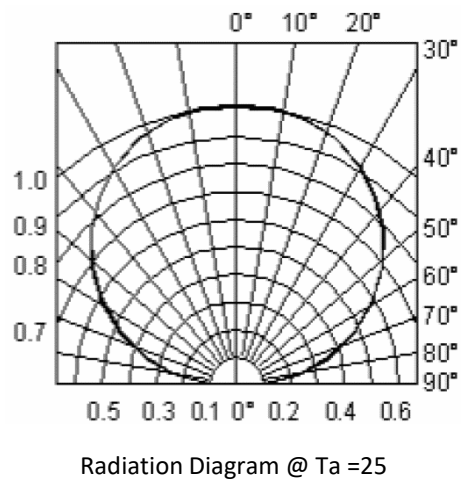
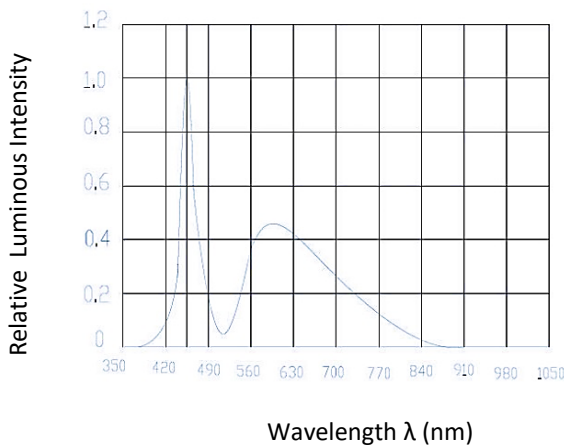
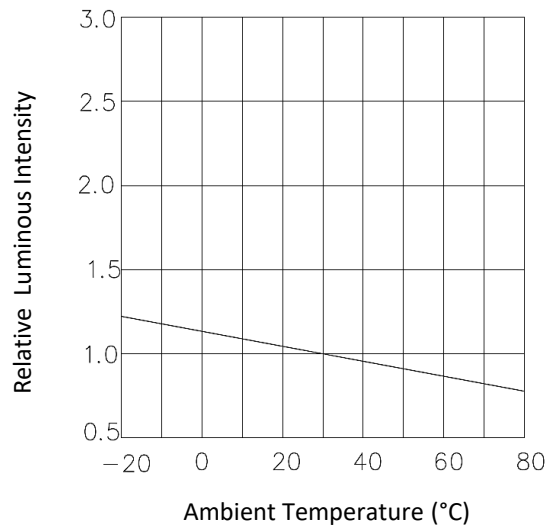
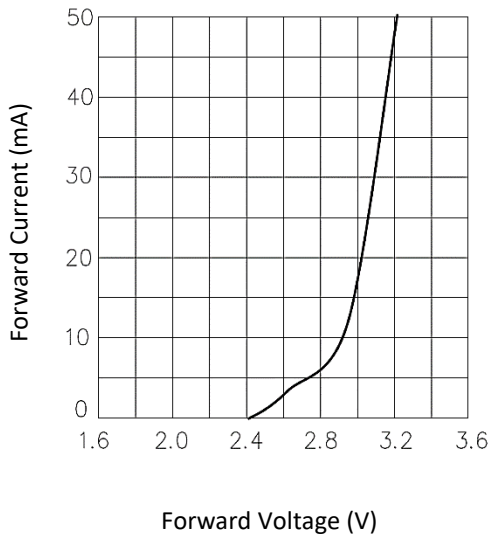
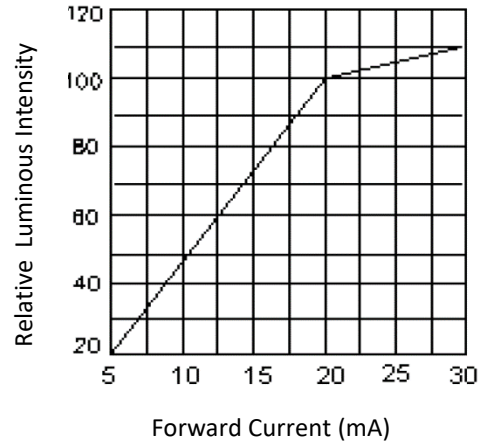
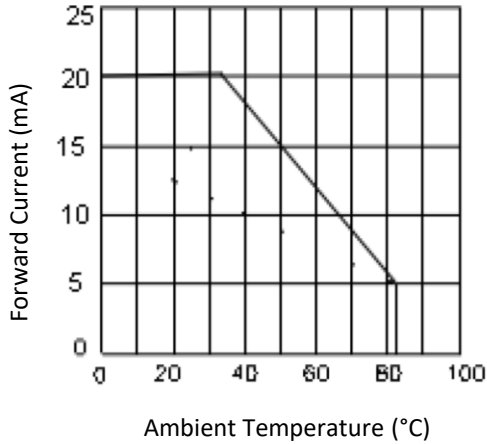
ABSOLUTE MAXIMUM RATINGS @ Ta = 25 °C

Parameter	Symbol	Unit	Value		
			Min	Typ.	Max.
Power Dissipation	P _d	mW		90	
DC Forward Current	I _F	mA		20	
Peak Forward Current	I _{FP}	mA		30	
Reverse Voltage	V _R	V		5	
Electrostatic Discharge (HBM)	ESD	V		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



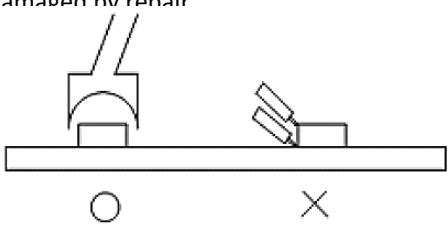
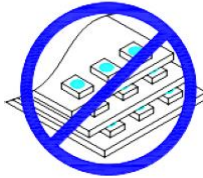

RELIABILITY TEST ITEMS AND CONDITION

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.	

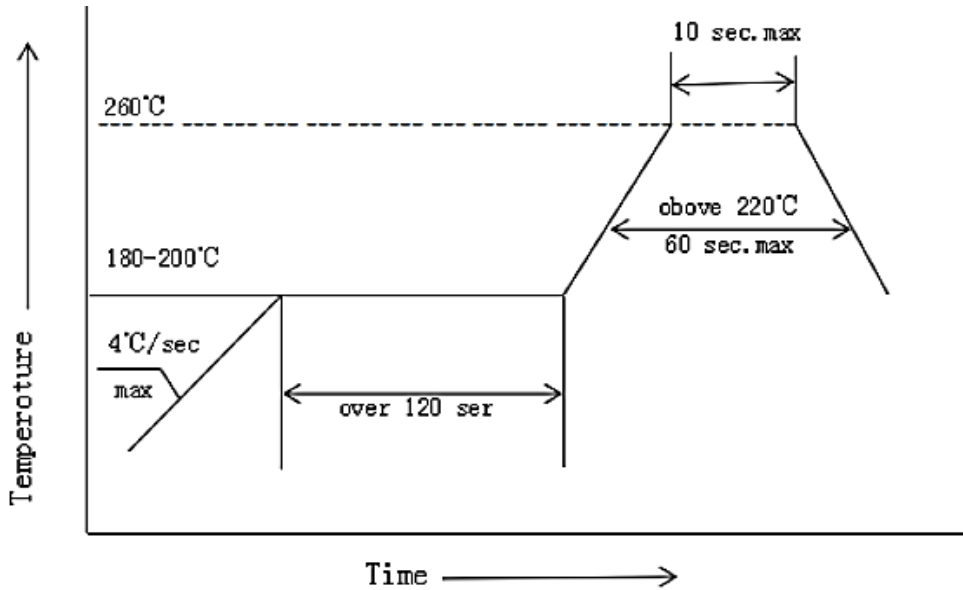
Reminds

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
Soldering by Iron	<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
Repairing	<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> 
Storage	<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
Caution	<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 

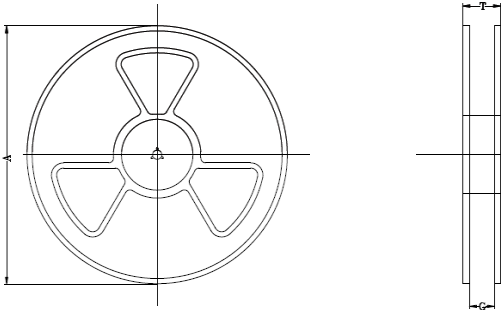
RECOMMENDED REFLOW SOLDERING



Reminds

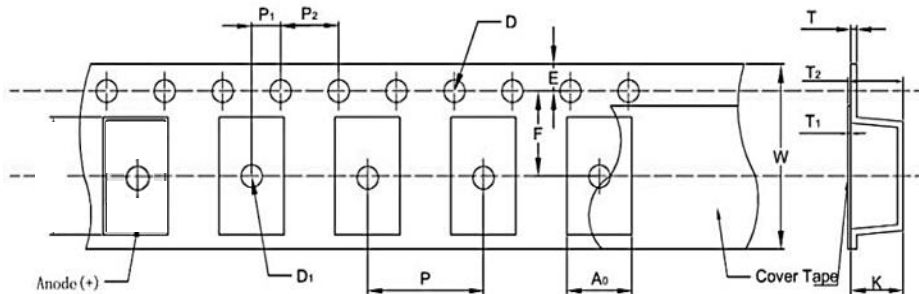
- 1. The times of Reflow Soldering don't exceed 1 times.
- 2. Don't stress on the LEDs during heating

REEL 7"/180MM DIMENSION (Unit: mm, 3000pcs/Reel)

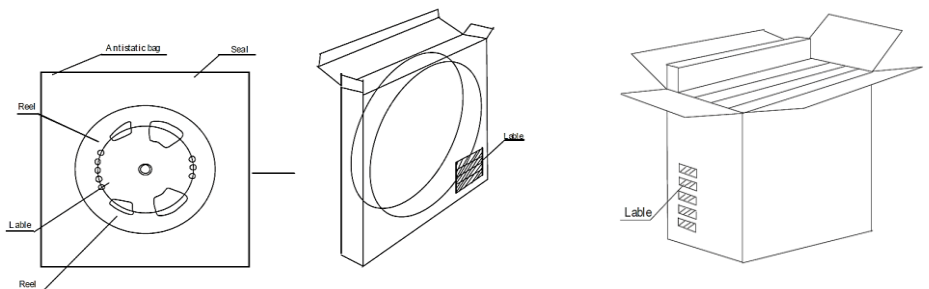
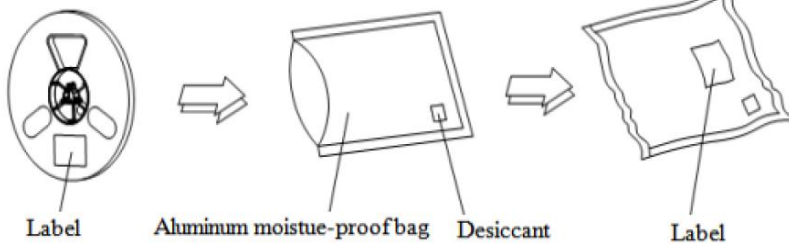


Code	Dimension
A	178.0+/-1.0
T	0.20+/-1.0

TAPE WIDE 8MM DIMENSION (Unit: mm)



Code	Dimension
A 0	1.45+/-0.10
K	1.00+/-0.10
W	8.00+/-0.10
E	0.50+/-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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