NextGen Components,Inc.

PART CODE: 0603GBD0790S01

SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0521-0603GBD0790S01
DATE	May 21, 2021
REVISION	A0
DESCRIPITION	SMD LED 0603 series Dimensions: L1.6*W0.8*H0.6mm Color: Green, Clear, 275 mcd Min.@5mA, 2.6V Min. Operating Temperature： -40 ~ 85℃ Package: 4000pcs/Reel RoHS III and REACH Compliant
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	BND-0603G-BD-079
PART CODE	0603GBD0790S01

VENDOR APPROVE			
Issued/Checked/Approved	NextGen Components, Inc. Mandy Xu	NextGen Components, Inc. Ruby Zhang	NextGen Components, Inc. Jack Zhang
DATE: May 21, 2021			

CUSTOMER APPROVE
DATE:

SMD LED 0603 SERIES

MAIN FEATURE

- SMD LED 0603 series Dimensions: L1.6*W0.8*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

0603	GBD0790	S	01
1	2	3	4

1) 0603: Part family Code for SMD LED 0603 series Dimensions: L1.6*W0.8*H0.6mm

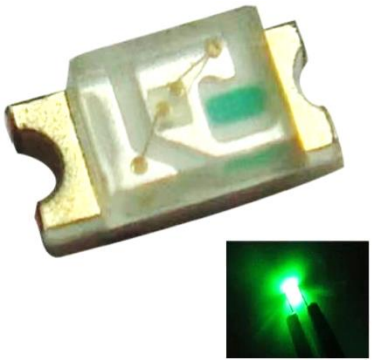
2) GBD0790: Type code for original part number BND-0603G-BD-079

3) S: Tape/Reel, Package: 4000pcs/reel

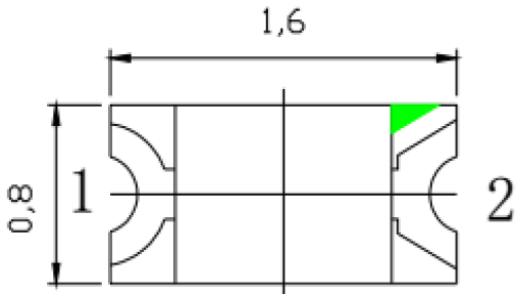
4) 01: Internal control code, 2 letter or digits

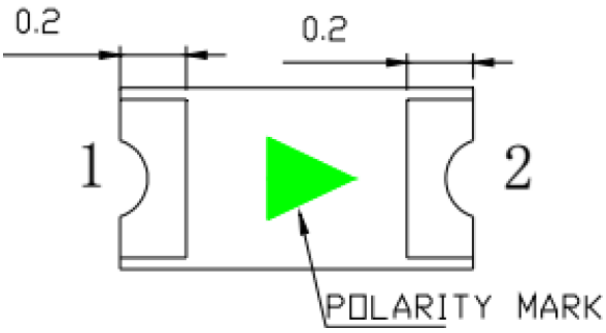
DIMENSION (Unit: mm, Tol: +/-0.2)

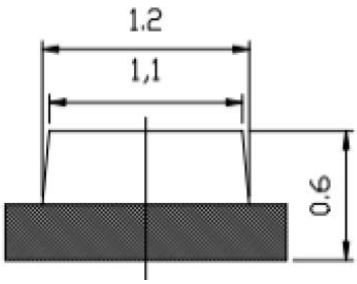
Image for reference

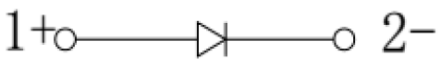


SMD 0603









GENERAL PARAMETERS

Parameter	Part No. Symbol	Value
Original Manufacturer		Oriental Technology
Holder Type	0603	Dimensions L1.6*W0.8*H0.6mm
Dice	G	Green (AlGaInP)
Lens Type		Water Clear
Internal Code	BD	QC Dept. code
Sources Code	0790	For IC sources
Luminous Intensity (mcd) @5mA		275 ~ 320
Viewing Angle 2θ1/2		120
Package	S	Tape/Reel, Package: 4000pcs/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 CHARACTERISTISTICS @ Ta = 25 °C

Parameter	Symbol	Unit	Value			Test Condition
			Min	Typ.	Max.	
Forward Voltage	V_F	V	2.6	-	3.0	I_F = 20mA
Reverse Current	I_R	μA			10	V_R = 5.0V
Dominate Wavelength	λd	nm	520		525	I_F =20mA

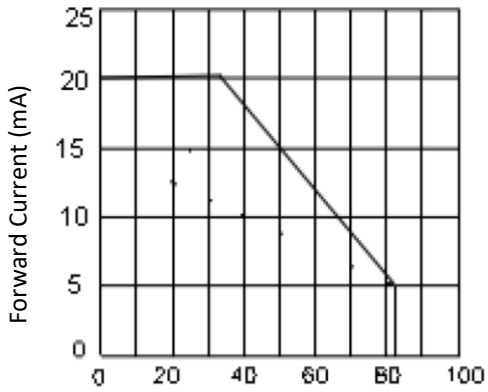
ABSOLUTE MAXIMUM RATINGS @ Ta = 25 °C

Parameter	Symbol	Unit	Value		
			Min	Typ.	Max.
Power Dissipation	Pd	mW		60	
DC Forward Current	IF	mA		20	
Peak Forward Current	IFP	mA		40	
Reverse Voltage	VR	V		5	
Electrostatic Discharge (HBM)	ESD	V		2000	
Operating Temperature Range	T opr	°C	-40		+85
Storage Temperature Range	Tstg	°C	-40		+100

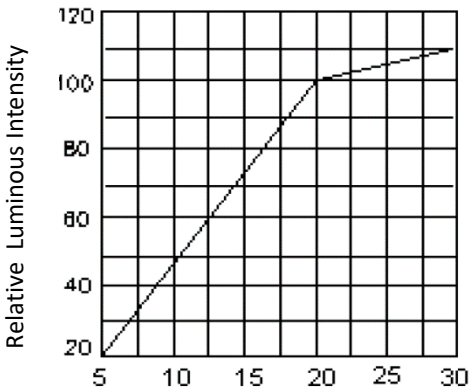
Reminds

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

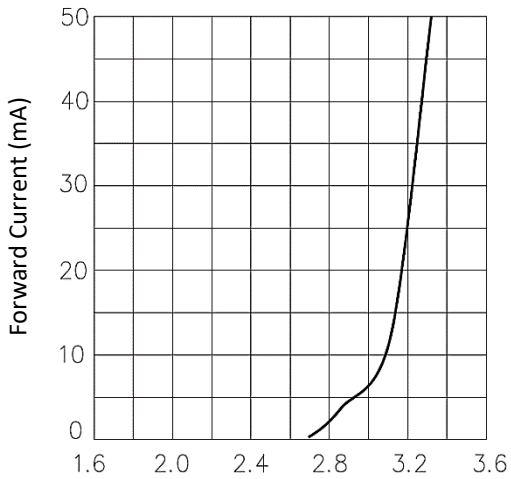
TYPICAL OPTICAL CHARACTERISTICS CURVES



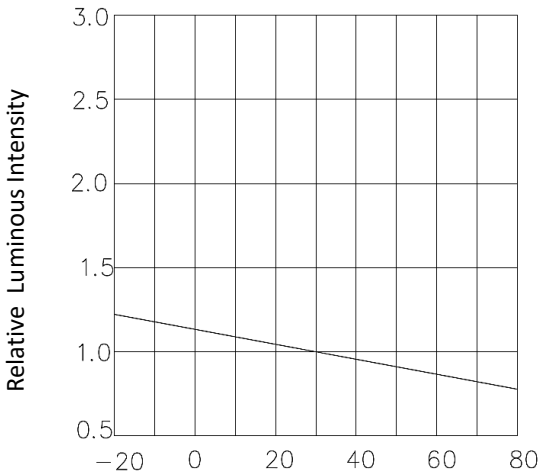
Ambient Temperature (°C)



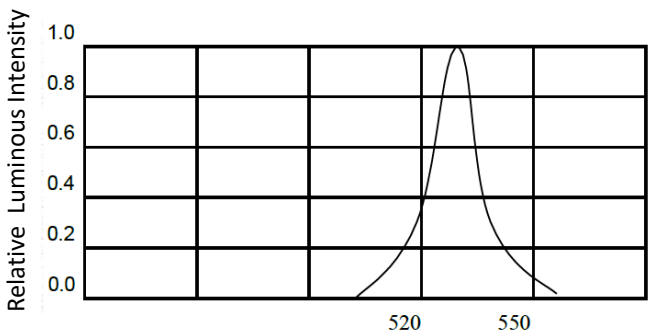
Forward Current (mA)



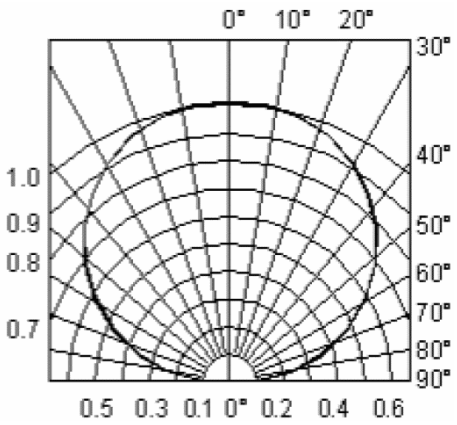
Forward Voltage (V)



Ambient Temperature (°C)



Wavelength λ (nm)



Radiation Diagram @ Ta =25

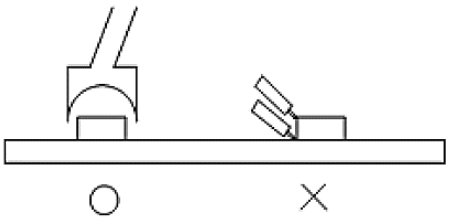
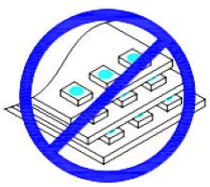
RELIABILITY TEST ITEMS AND CONDITION

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.	

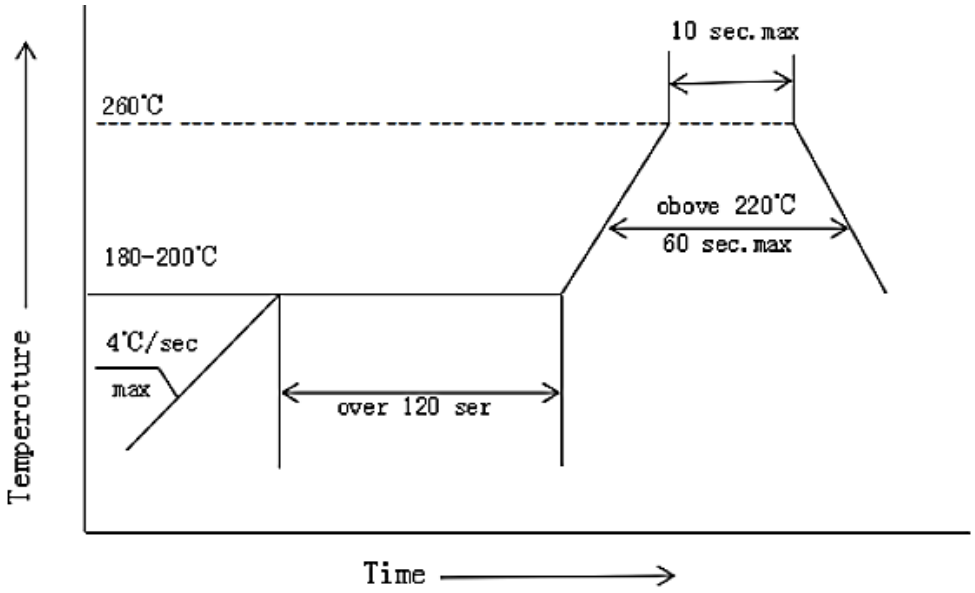
Reminds

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	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	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 
Storage	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	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 

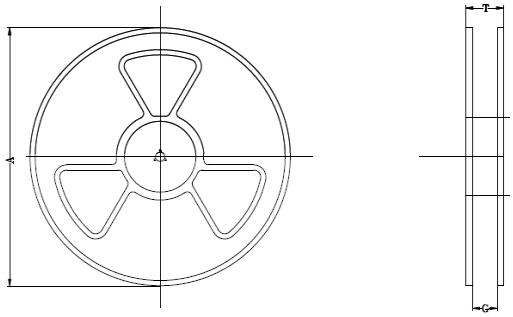
RECOMMENDED REFLOW SOLDERING



Reminds

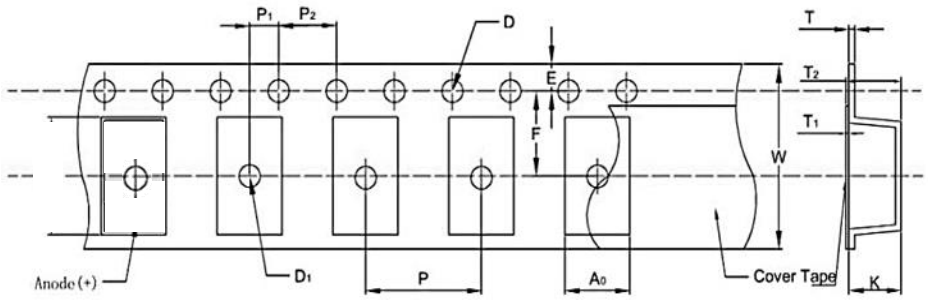
1. The times of Reflow Soldering don't exceed 1 times.
2. Don't stress on the LEDs during heating

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

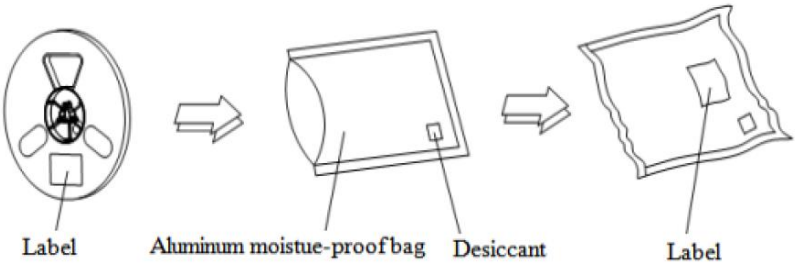


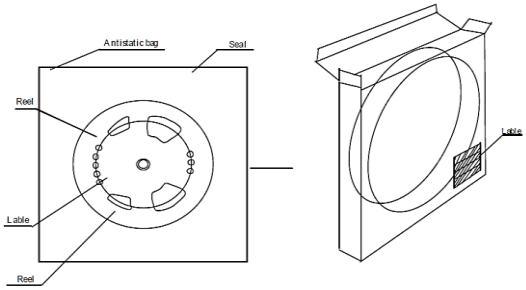
Code	Dimension
A	178.0+/-1.0
T	0.30+/-1.0

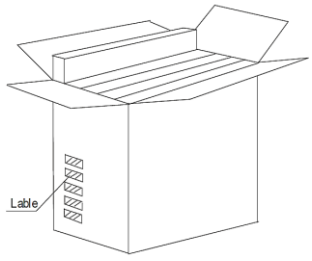
TAPE WIDE 8MM DIMENSION (Unit: mm)



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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