




**SPECIFICATION SHEET**

<b>SPECIFICATION SHEET NO.</b>	Q1227-0603GBD0790S01	
<b>DATE</b>	Dec. 27, 2023	
<b>REVISION</b>	A1	Updated With Most Recent Data
<b>DESCRIPTION AND MAIN PARAMETRICS</b>	<p>SMD LED 0603 series Dimensions: L1.6*W0.8*H0.6mm</p> <p>Color: Green, Clear, 275 mcd Min.@5mA, 2.6V Min.</p> <p>Operating Temperature: -40 ~ 85°C</p> <p>Package: 4000pcs/Reel</p> <p>RoHS III and REACH Compliant</p>	
<b>CUSTOMER</b>		
<b>CUSTOMER PART NO.</b>		
<b>CROSS REF. PART NO.</b>		
<b>ORIGINAL MFG/PART NO.</b>	Oriental Technology/BND-0603G-BD-079	
<b>PART CODE</b>	0603GBD0790S01	

<b>VENDOR APPROVE</b>			
Issued/Checked/Approved			
Dec. 27, 2023			

<b>CUSTOMER APPROVE</b>
DATE:

**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 And REACH Compliant



**APPLICATION**

- Optical Indicator
- Indoor Display
- Backlighting In Dashboard And Switch
- Flat Backlighting For LCD, Symbol And Display

**PART CODE GUIDE**

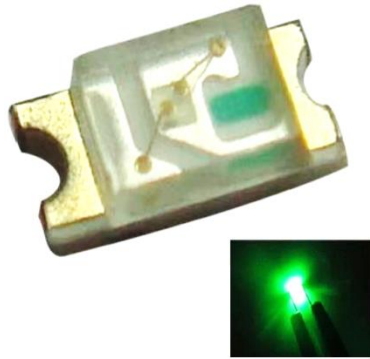
**RFQ**  
Request For Quotation

0603	GBD0790	S	01
1	2	3	4

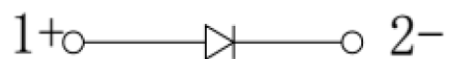
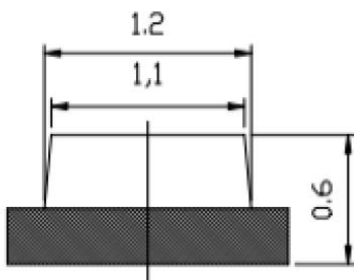
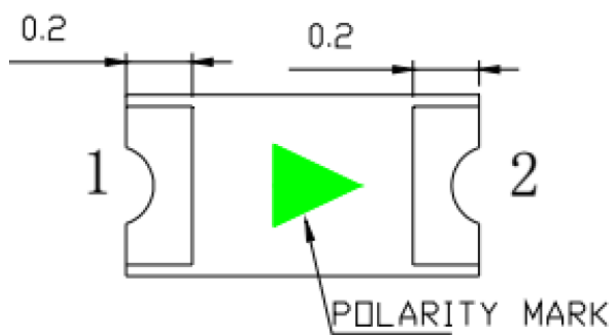
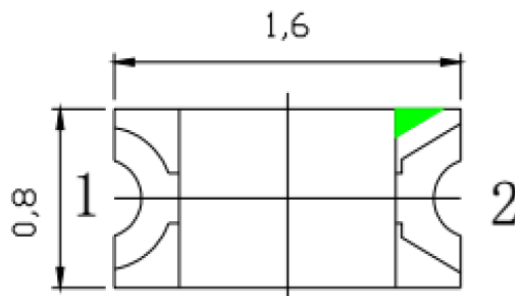
1. 0603: Part family Code for SMD LED 0603 series Dimensions: L1.6\*W0.8\*H0.6mm
2. GBD0790: Specification code for original part number BND-0603G-BD-079
3. S: Tape/Reel, Package: 4000pcs/reel
4. 01: Internal Control Code Or Special Parameters Code, Letter A~Z Or Digits (1-9); Blank: N/A

**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 2 $\theta$ 1/2		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. 2 $\theta$ 1/2 is the angle from optical centerline where the luminous intensity is 2 $\theta$ 1/2 the optical centerline value
2. The above luminous intensity measurement allowance tolerance  $\pm$ 10%.

**ELECTRONICAL/OPTICAL CHARACTERISTICS @ Ta = 25 °C**

PARAMETER	SYMBOL	UNIT	VALUE			TEST CONDITION
			MIN	TYP.	MAX.	
Forward Voltage	V <sub>F</sub>	V	2.6	-	3.0	I <sub>F</sub> = 20mA
Reverse Current	I <sub>R</sub>	μA			10	V <sub>R</sub> = 5.0V
Dominate Wavelength	λ <sub>d</sub>	nm	520		525	I <sub>F</sub> = 20mA

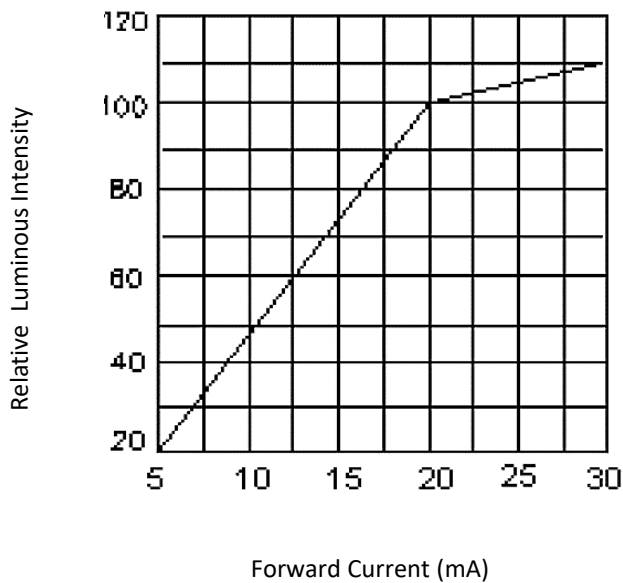
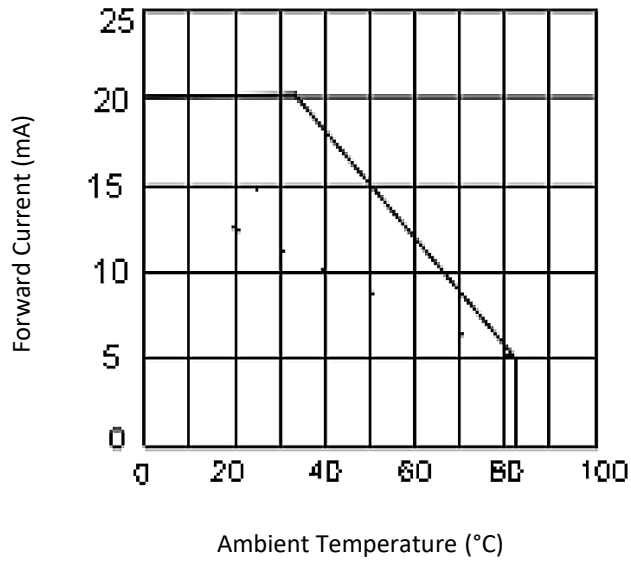
**ABSOLUTE MAXIMUM RATINGS @ Ta = 25 °C**

PARAMETER	SYMBOL	UNIT	VALUE		
			MIN	TYP.	MAX.
Power Dissipation	P <sub>d</sub>	mW		60	
DC Forward Current	I <sub>F</sub>	mA		20	
Peak Forward Current	I <sub>FP</sub>	mA		40	
Reverse Voltage	V <sub>R</sub>	V		5	
Electrostatic Discharge (HBM)	ESD	V		2000	
Operating Temperature Range	T <sub>opr</sub>	°C	-40		+85
Storage Temperature Range	T <sub>stg</sub>	°C	-40		+100

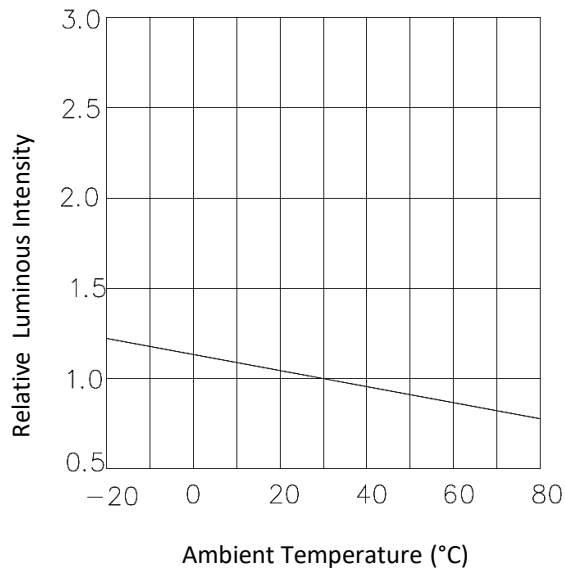
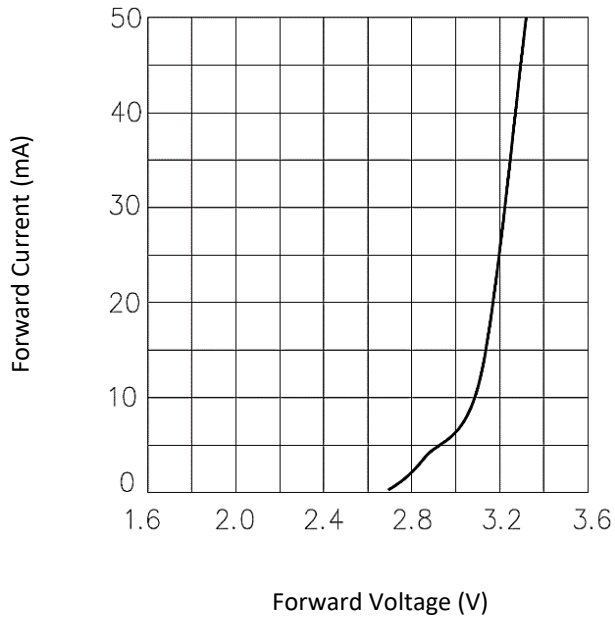
**Reminds**

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

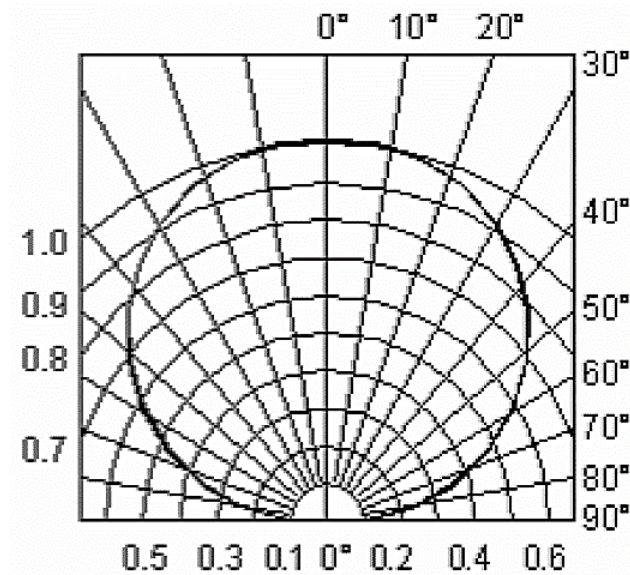
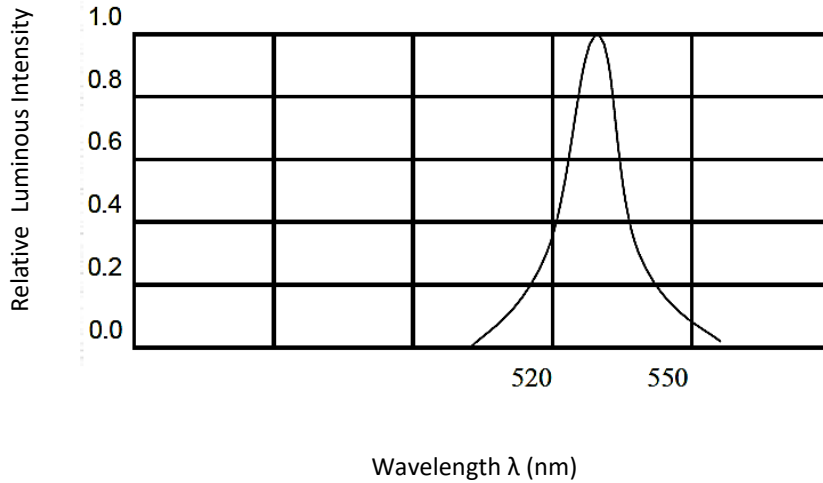
**TYPICAL OPTICAL CHARACTERISTICS CURVES**



**TYPICAL OPTICAL CHARACTERISTICS CURVES**



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Radiation Diagram @ Ta =25



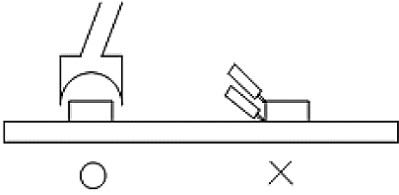
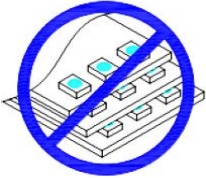

**RELIABILITY TEST ITEMS AND CONDITION**

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.	

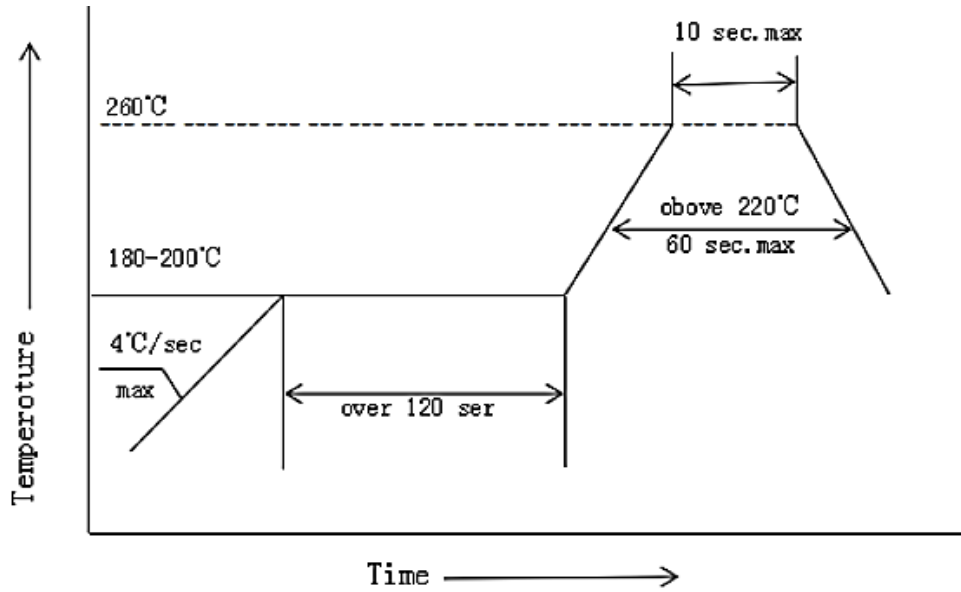
**Reminds**

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	<ol style="list-style-type: none"> <li>The temperature of Iron must be lower than 300 °C, 3 second by hand soldering</li> <li>The hand solder should be done only one times</li> </ol>
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> <div data-bbox="692 901 1086 1094" style="text-align: center;">  </div>
Storage	<ol style="list-style-type: none"> <li>Package is sealed: Recommended storage condition @ 5°C ~30°C and Humidity 90% RH Max. for 24 months</li> <li>Package is opened: Recommended storage condition @ 5°C ~30°C and Humidity 60% RH Max. for 1 months</li> </ol>
Caution	<ol style="list-style-type: none"> <li>Don't stack together assembled PCBs containing LEDs. Impact may scratch the silicone lens or damage <div data-bbox="748 1483 951 1659" style="text-align: center;">  </div> </li> <li>Not available in the situation of Acidity for PH <div data-bbox="762 1736 936 1912" style="text-align: center;">  </div> </li> </ol>

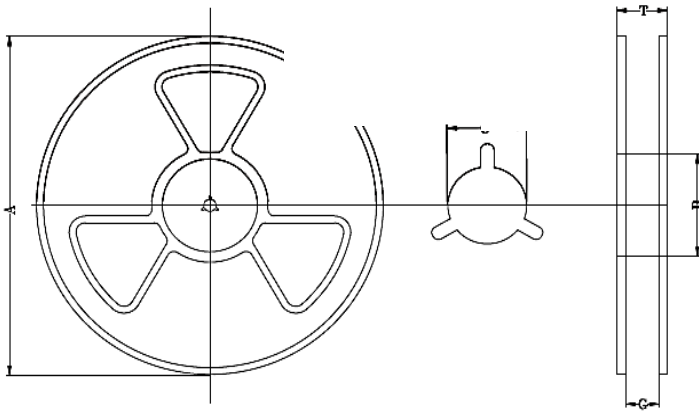
**RECOMMENDED REFLOW SOLDERING**



**Reminds**

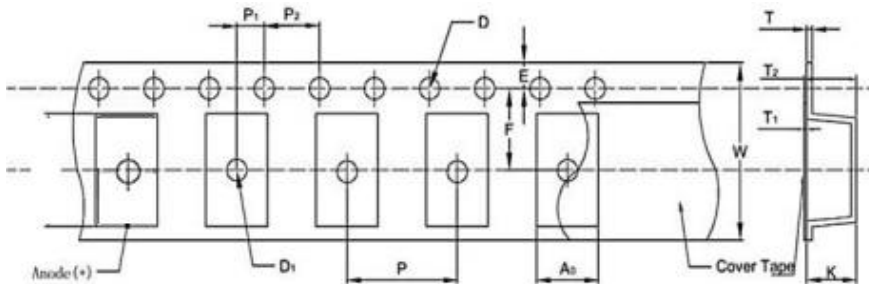
1. The times of Reflow Soldering don't exceed 1 times.
2. Don't stress on the LEDs during heating

**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
P 2	4.00+/-0.10
D	1.50+/-0.20
D 1	1.10+/-0.10

## IMPORTANT NOTES AND DISCLAIMER

1. **ROHS COMPLIANCE:** The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained can be obtained at Download Center.
2. **REACH COMPLIANCE:** REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained can be obtained at Download Center.
3. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
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7. *NextGen* products are not authorized for use as critical components in life support devices or systems without express written approval by *NextGen*.
8. *NextGen* requires that customers first obtain an RMA (Returned Merchandise Authorization) number prior to returning any products. Returns must be made within 30 days of the date of invoice, be in the original packaging, unused and like-new condition. At the time of quoting or purchasing, a product may say that it is Non-Cancelable/ Non-Returnable (NCNR). These products are not returnable and not refundable.