

Specification for approval

Customer name: _____

Product name: 0603SR 0.6mm _____

Product model: XHY-STB0603SR _____

Number: _____

Version: A0 _____

Date: 2023.02.16 _____

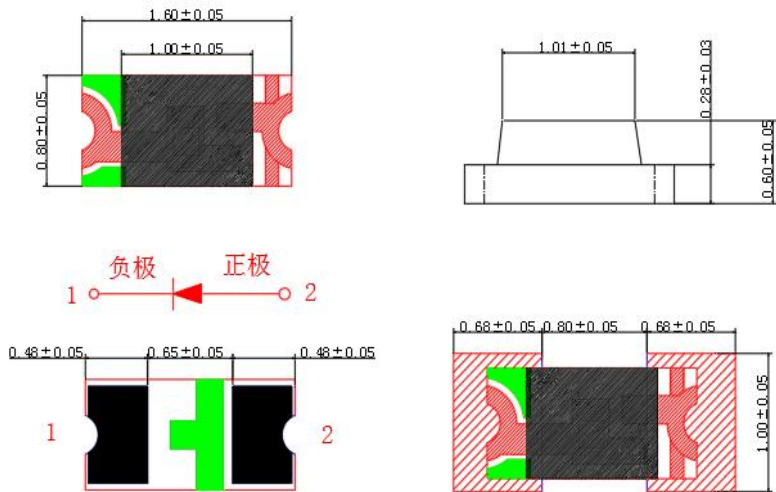
Company Signature			
Formulate	Audit	QC	Approve
<u>Yang zengqiang</u>	<u>Chen zhengbiao</u>	<u>Zhou yongfang</u>	<u>Yan hongmei</u>

Client Signature		
Approved	Acceptance	Stamp

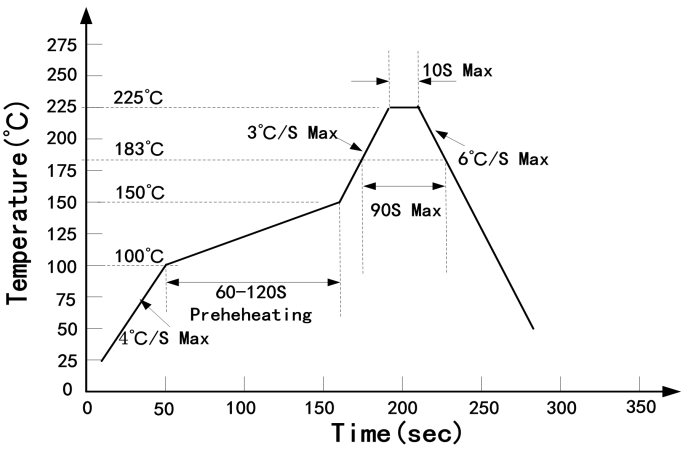
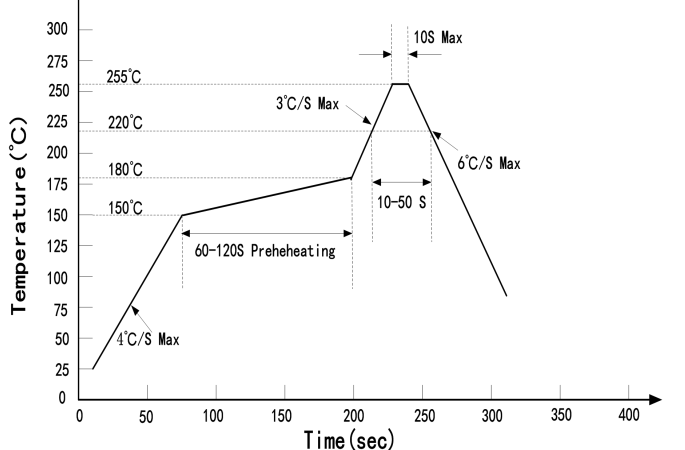
	Shenzhen Corehy Technology Co.Ltd.	Ver	A0
	XHY-STB0603SR	Release date	2023.02.16
		Page	2of8

◆DESCRIPTIONS
● 1.6x0.8x0.6mm SMD LED ● Emitting Color: Red ● Lens Color: Water Clear
◆Features
● SIDE VIEWING ANGLE. ● IDEAL FOR BACKLIGHT AND INDICATOR. ● PACKAGE : 4000PCS / REEL OR 20000PCS / REEL. ● RoHS COMPLIANT.

◆ Package Dimensions



- Notes:
1. All dimensions are in millimeters.
 2. Tolerance is $\pm 0.1\text{mm}$ unless otherwise noted.
 3. Specifications are subject to change without notice.

◆Soldering Profile
 Lead process  Free lead process

	Shenzhen Corehy Technology Co.Ltd.		Ver	A0
	XHY-STB0603SR		Release date	2023.02.16
			Page	3of8

◆ **Absolute Maximum Ratings at TA=25° C**

Parameter	Symbol	Value	Unit
Power Dissipation	PD	60	mW
Forward Current	IF	10	mA
Peak Forward Current*1	IFP	60	mA
Reverse Voltage	VR	5	V
Operating Temperature	Topr	-40°C To +85°C	
Storage Temperature	Tstg	-40°C To +85°C	
Reflow Soldering temperature	Tsol	250±5(for10sec)°C	
Manual welding Temperature	Tsol	300±5(for4sec)°C	

Notes:

1. Pulse width≤0.1ms,Duty cycle≤1/10
2. (Product is highest resistant to 265°C reflow but suggested the highest temperature of 250°C within)

◆ **Electrical / Optical Characteristics at TA=25° C**

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Forward Voltage	VF	1.8		2.1	V	IF=10mA
Reverse Current	IR	—	—	10	μA	VR=5V
Peak Wavelength	λp	—	625	—	nm	IF=10mA
Dominant Wavelength	λd	620	—	630	nm	
Luminous Intensity	IV	42		88	mcd	IF=10mA
Viewing Angle	2θ1/2	—	120	—	Deg.	IF=10mA

Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or Dominant Wave Length), the typical accuracy of the sorting process is as follows:

1. Dominant Wave Length: ±1nm
2. Luminous Intensity: ±10%
3. Forward Voltage: ±0.05V

◆ Typical Electrical/Optical Characteristics Curves

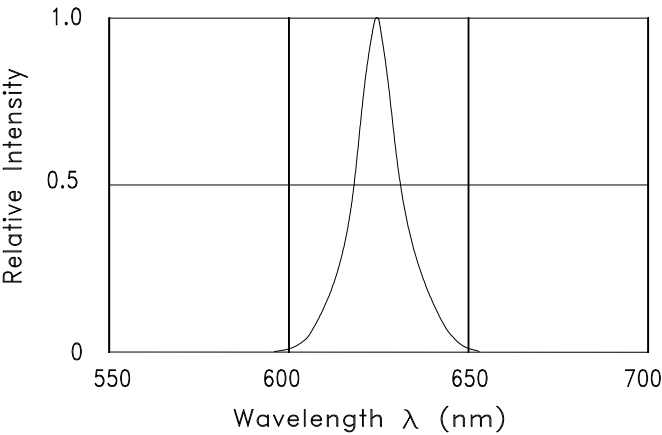


Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

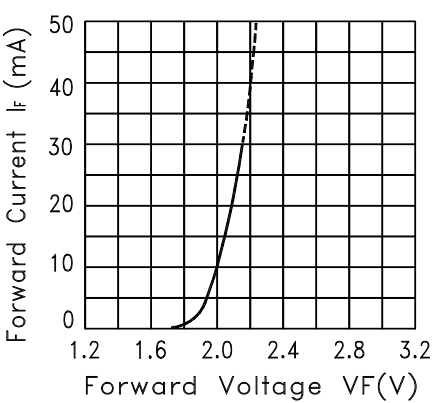


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

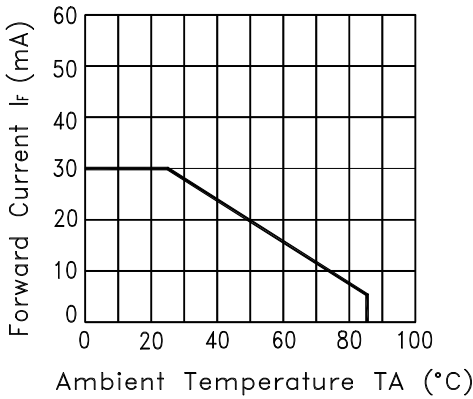


Fig.3 FORWARD CURRENT DERATING CURVE

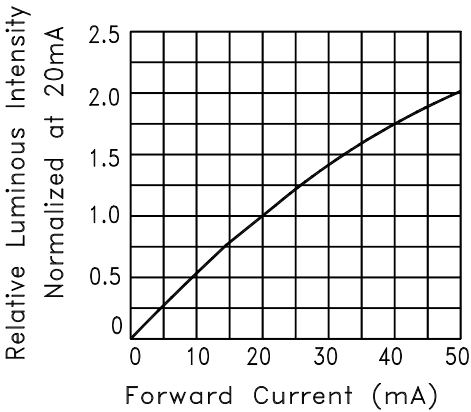


Fig.4 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

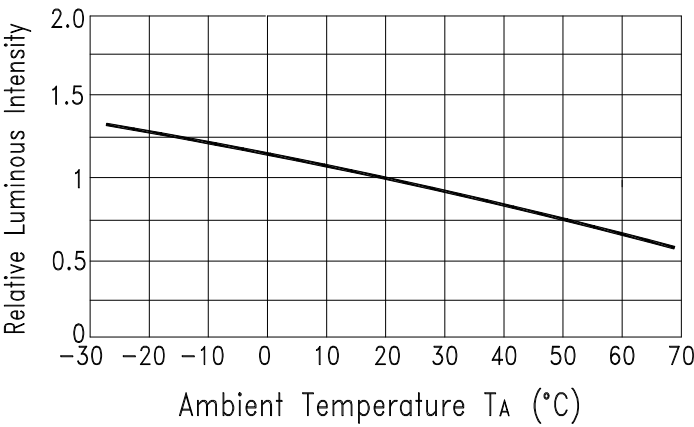


Fig.5 Luminous Intensity vs.Ambient Temperature

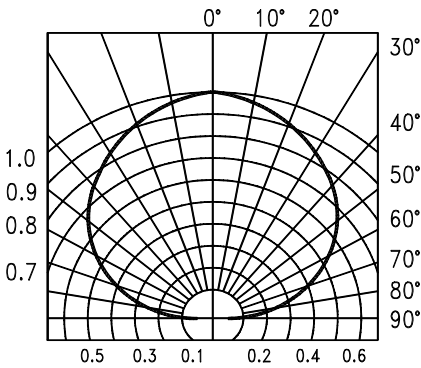


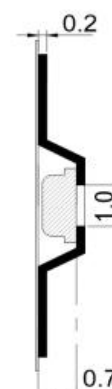
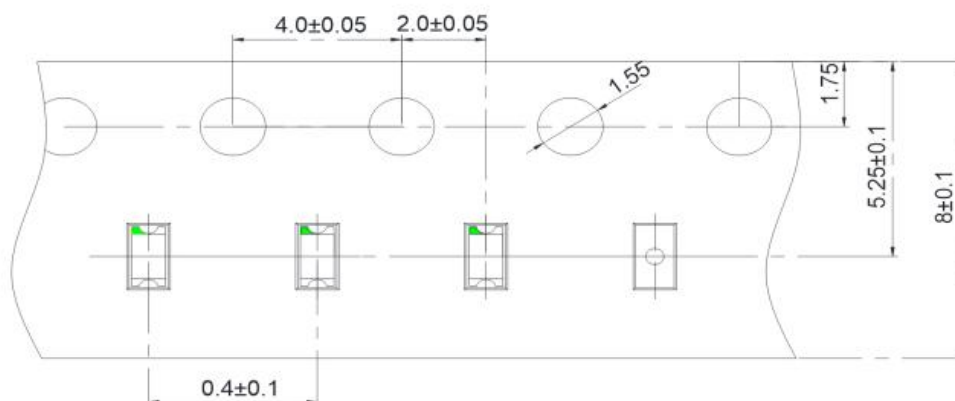
Fig.6 SPATIAL DISTRIBUTION



Voltage (unit (v))

Product model	→	Type: XHY-STB0603SR	Red
Product batch number	→	Lot NO: F-XX	
			
Test conditions	→	①10MA Min Max EIN: X	
Wavelength	→	VD/X.Y:	
Relative intensity	→	IV:	
Voltage	→	VF:	22.XX.XX ← date of manufacture
Package quantity	→	Qty: xxxxpcs	
			
		ROHS	QC PASS

Please use 60 °C ± 5 °C to dehumidify 6H before use

[illegible]

2. Tolerance is $\pm 0.1\text{mm}$ unless otherwise noted.

	Shenzhen Corehy Technology Co.Ltd.		Ver	A0
	XHY-STB0603SR		Release date	2023.02.16
			Page	6of8

◆ Reliability test items and conditions				
Category	Test Items	Test Condition	Test time	Ref.Standard
Durability test	Operating life	Continuous lighting at maximum rated current at room temperature test at 20mA	1000 hours (-24h,+72h)	MIL-STD-750D:1026 MIL-STD-883D:1005 JIS C 7021:B-1
	High temperature and humidity storage	IR-Reflow In-Board, 2 Times Ambient temperature Ta= 85±5℃,relative humidity RH= 90~95%	240 hours (+ 2h)	MIL-STD-202F:103B JIS C 7021:B-11
	High Temperature Storage	Ambient temperature Ta= 85±5℃	1000 hours (-24h,+72h)	MIL-STD-883D:1008 JIS C 7021:B-10
	Low Temperature Storage	Ambient temperature Ta= -40±5℃	1000 hours (-24h,+72h)	JIS C 7021:B-12
Environment test	Temperature Cycle	105℃ ~ 25℃ ~ -55℃ ~ 25℃ 30mins 5mins 30mins 5mins	50 cycles	MIL-STD-202F:107D MIL-STD-750D:1051 MIL-STD-883D:1010
	Thermal Shock	IR-Reflow In-Board, 2 Times 100± 5℃ ~ -40℃ ± 5℃ 20mins 20mins	50 cycles	MIL-STD-202F:107D MIL-STD-750D:1051 MIL-STD-883D:1011
	Tin resistance test	Soldering temperature T.sol= 260 ± 5℃	10 ± 1secs 2 times	MIL-STD-202F:210A MIL-STD-750D:2031 JIS C 7021:A-1
	Infrared reflow soldering Lead process	Heating rate (183 ℃ to maximum) : Max 3℃/S Maintain the temperature at 125 (± 25) ℃: ≤120S Maintain the temperature above 183 ℃: 60-150S Maximum temperature limit range: 235℃+5/-0℃ Maintain at 235 ℃+5/- 0 ℃ for a time: 10-15 S Cooling rate: Max 6℃/S	-----	MIL-STD-750D:2031.2 J-STD-020C

	Shenzhen Corehy Technology Co.Ltd.		Ver	A0
	XHY-STB0603SR		Release date	2023.02.16
			Page	7of8

	Infrared reflow soldering lead free	Heating rate (217 °C to maximum) : Max 3°C/S Maintain the temperature at 175 (± 25) °C: ≤ 180S Maintain the temperature above 217 °C: 60-120S Maximum temperature limit range: 255°C+0/-5°C Maintain at 255 °C+0/- 5 °C: 5-10S Cooling rate: Max6°C/S	-----	MIL-STD-750D:2031.2 J-STD-020C
	Solderability test	Soldering temperature T.sol= 235 ± 5°C Immersion speed: 25±2.5 mm/S Tin loading rate ≥95% Soldering rate pad area	Immersion time: 2±0.5S	MIL-STD-202F:208D MIL-STD-750D:2026 MIL-STD-883D:2003 IEC 68 Part 2-20 JIS C 7021:A-2

◆ **CAUTIONS:**

1.Storage

• In order to avoid the absorption of moisture, it is recommended to store in the dry box (or desiccators) with a desiccant. Otherwise, to store them in the following environment is recommended. Temperature: 5°C~30°C Humidity: 60%HR max.

• Attention after opened

However LED is corresponded SMD, when LED be soldered dip, interfacial separation may affect The light transmission efficiency, causing the light intensity to drop. Attention in followed. a. After opened and mounted, the soldering shall be quickly. b. Keeping of a fraction Temperature: 5°C~40°C Humidity: less than 30%

• In case or more than 1 week passed after opening or change color of indicator on desiccant components shall be dried 10-12hours at 60°C±3°C.

2.ESD (Electrostatic Discharge)

Static Electricity or power surge will damage the LED.

The following procedures may decrease the possibility of ESD damage.

- All production machinery and test instruments must be electrically grounded.
- Use a conductive wrist band or anti-electrostatic glove when handling these LEDs.
- Maintain a humidity level of 50% or higher in production areas.
- Use anti-static packaging for transport and storage.

3.Please be careful when using in an environment with high concentrations of sulphur or sulphuric gases,as sulphuration can lead to disconnection from the chip resistor or a poor contact connection.

◆ **Distinguish between brightness, voltage and color levels**

	Shenzhen Corehy Technology Co.Ltd.		Ver	A0
	XHY-STB0603SR		Release date	2023.02.16
			Page	8of8

1.Brightness level（IF=10mA）		
level	IV	
	Min（mcd）	Max（mcd）
L1	42	50
L2	50	60
L3	60	73
L4	73	88
The tolerance of each set of data is ±10%.		
2. Dominant Wavelength level（IF=10mA）		
Rank	λd	
	Min（nm）	Max（nm）
R1	620	625
R2	625	630
The tolerance of each set of data is ±1nm.		
3.Voltage grade（IF=10mA）		
Rank	VF	
	Min（v）	Max（v）
V1	1.85	1.9
V2	1.9	1.95
V3	1.95	2.0
The tolerance of each set of data is ±0.05v.		