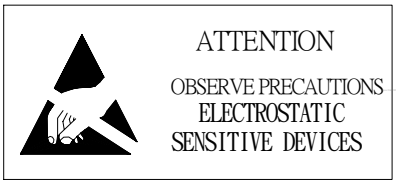
PRODUCT SPECIFICATION

Model No: SBS-0603-1FX4C-T3

Descriptions:

- SMD LED Type
- Emitting Color: Pure Green
- Viewing Angle: 130°



CUSTOMER APPROVED SIGNATURES

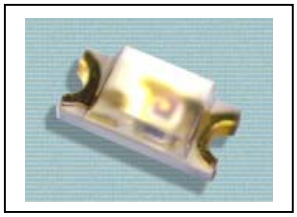
LIANXINFENG OPTO. CO., LTD.
EOI Group

Address: No.15 Bldg, Tong-Fu-Yu Ind. Park, Long-Hua Town ShenZhen City, PRC.

Tel: 0755-28140029 Fax: 0755-28140027 http://www.EOI.com.tw

■Features

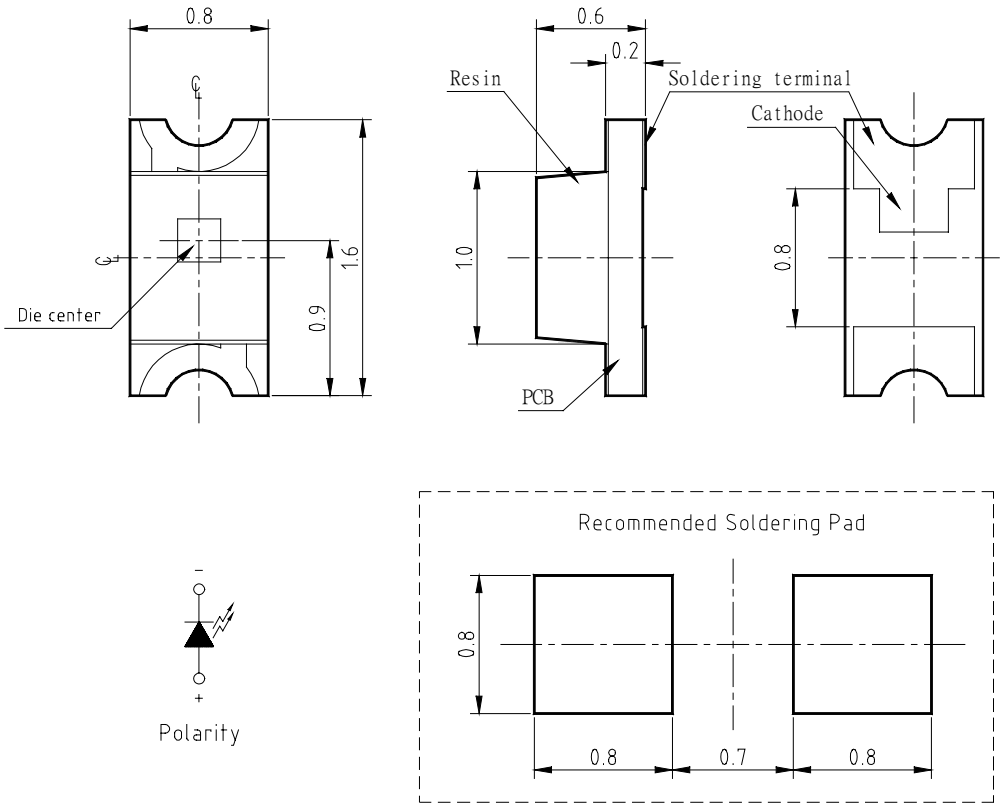
1. Mono-color type.
2. Dimensions:1.6(L)×0.8(W)×0.6(H)mm,being ultra-small size.
3. Compatible with automatic placement equipment.
4. Compatible with infrared and vapor phase reflow solder process.



■Applications

1. Automotive:backlight in dashboard and switch.
2. Telecommunication: indicator and backlighting in telephone and fax.
3. Flat backlight for LCD,switch and symbol.
4. General use.

■Dimensions



Notes:

All dimensions in mm tolerance is ±0.1mm unless otherwise noted.

■ Absolute Maximum Ratings (Ta = 25℃)

Items	Symbol	Absolute maximum Rating	Unit
Power Dissipation	P_D	100	mW
Forward Current(DC)	I_F	25	mA
Peak Forward Current*	I_{FP}	100	mA
Operation Temperature	T_{opr}	-20~ +75	℃
Storage Temperature	T_{stg}	-30 ~ +80	℃
Reflow Soldering Temperature	Tsol	260℃ for 5 seconds(Max)	℃

*Pulse width≦0.1msec duty≦1/10

■ Typical Electrical & Optical Characteristics (Ta = 25℃)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F = 20mA	2.8	3.2	3.6	V
		I_F = 5mA	2.6	2.8	3.4	
Dominant Wavelength	λ_D	I_F = 20mA	518	525	533	nm
		I_F = 5mA	521	527	533	
Luminous Intensity	I_V	I_F = 20mA	285	400	563	mcd
		I_F = 5mA	72	110	143	
Reverse Current	I_R	V_R = 5V	---	---	50	μA
Viewing Angle	$2\theta_{1/2}$	I_F = 20mA	---	130	---	Deg

■ Ranks Combination

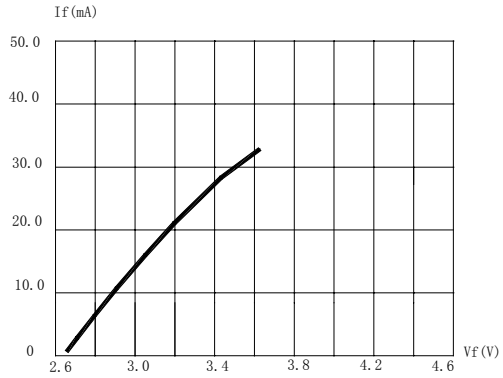
Items	Condition	Ranks			
Luminous Intensity(mcd)	I_F = 20mA	T1(285-360)	T2(360-450)	U1(450-563)	---
	I_F = 5mA	Q1(72-90)	Q2(90-113)	R1(113-143)	---
Dominant Wavelength(nm)	I_F = 20mA	B0(518-521)	C0(521-524)	D0(524-527)	E0(527-530)
	I_F = 5mA	C0(521-524)	D0(524-527)	E0(527-530)	F0(530-533)
Forward Voltage(v)	I_F = 20mA	G0(2.8-3.0)	H0(3.0-3.2)	J0(3.2-3.4)	K0(3.4-3.6)
	I_F = 5mA	F0(2.6-2.8)	G0(2.8-3.0)	H0(3.0-3.2)	J0(3.2-3.4)

■ Notes:

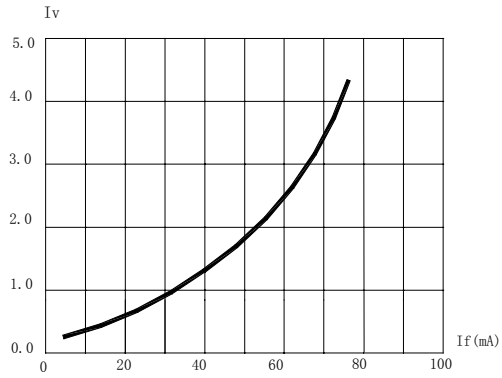
1. Dominant Wavelength Rank:3nm/Bin Forward Voltage Rank :0.2v/Bin.
2. Tolerance of measurement of luminous intensity : ±15%
3. Tolerance of measurement of dominant wavelength : ±1.0nm
4. Tolerance of measurement of forward voltage : ±0.1V
5. All ranks will be included per normal delivery and rank rations will be determined by EOI.
6. Please confirm with EOI salesman, if your request different from standard specification.

■ Typical Electrical/ Optical Characteristics Curves

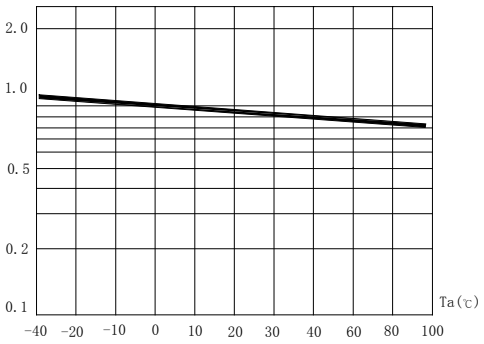
(Ta=25°C Unless Otherwise Noted)



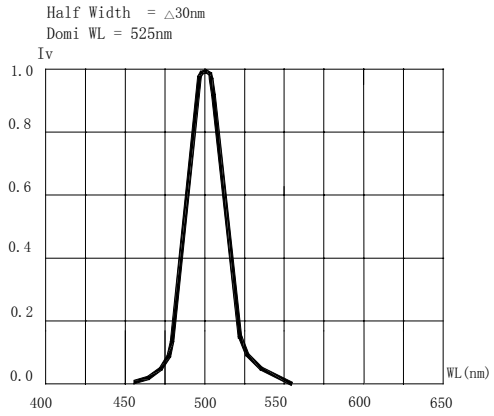
Forward Current vs. Forward Voltage



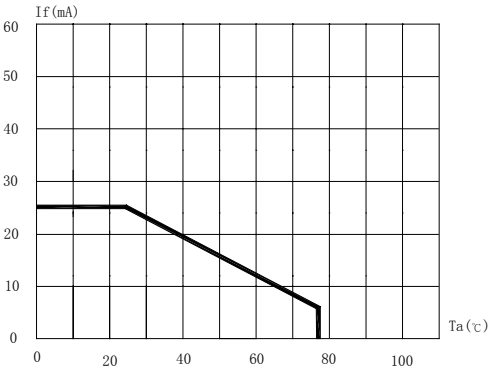
Relative Luminous Intensity vs. Forward Current



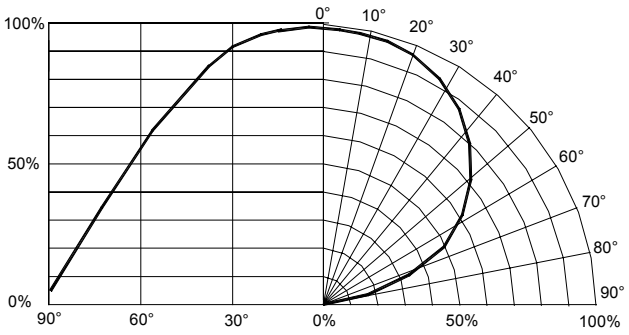
Relative Luminous Intensity vs. Ambient Temperature



Relative Luminous Intensity vs. Wavelength



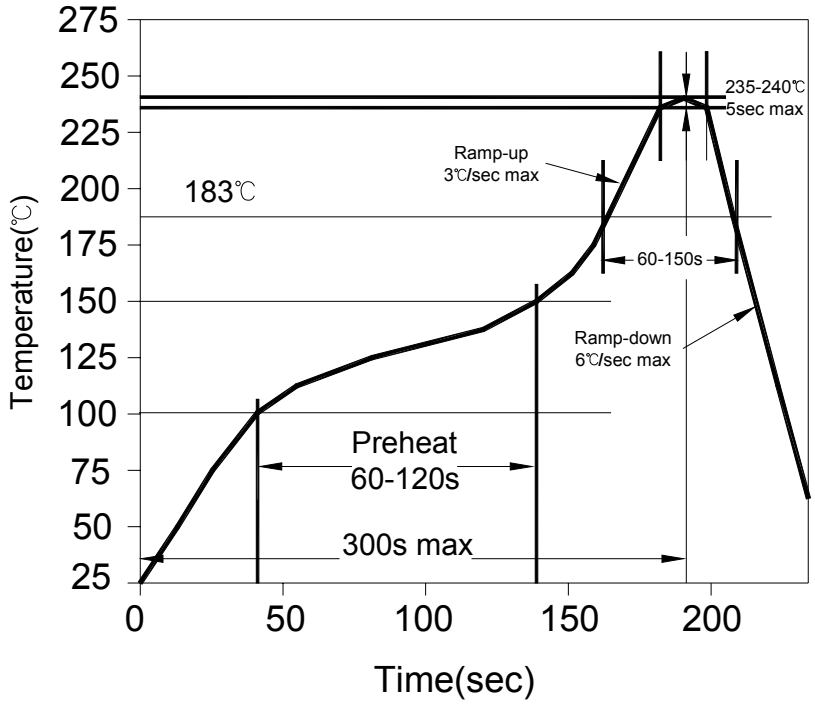
Maximum Forward Current vs.Ambient Temperature



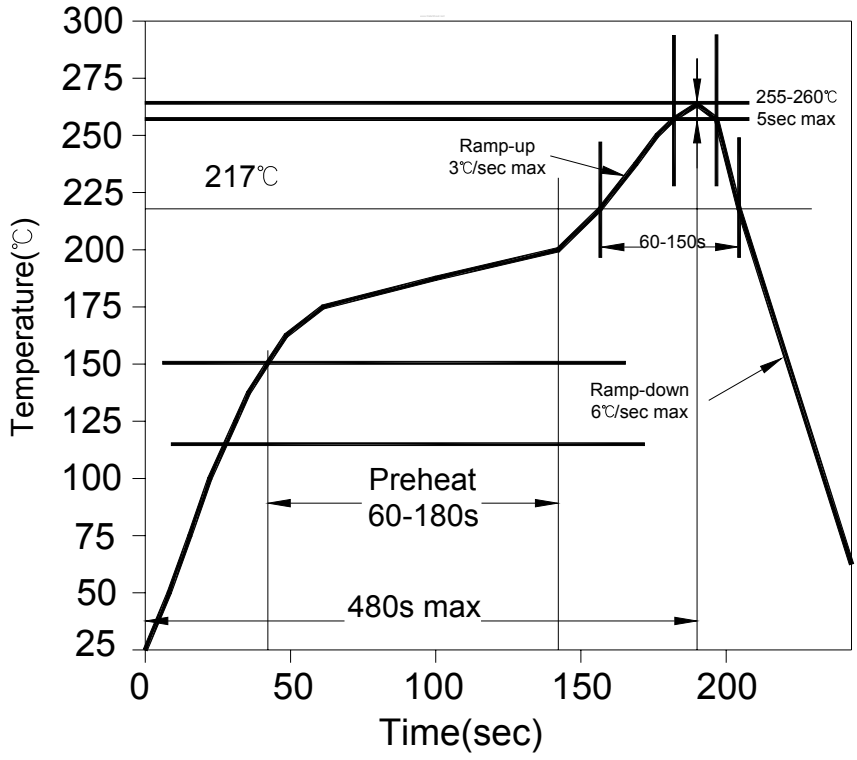
Relative Luminous Intensity vs.Radiation Angle

■ Soldering heat reliability:

Lead Solder



Lead-Free Solder

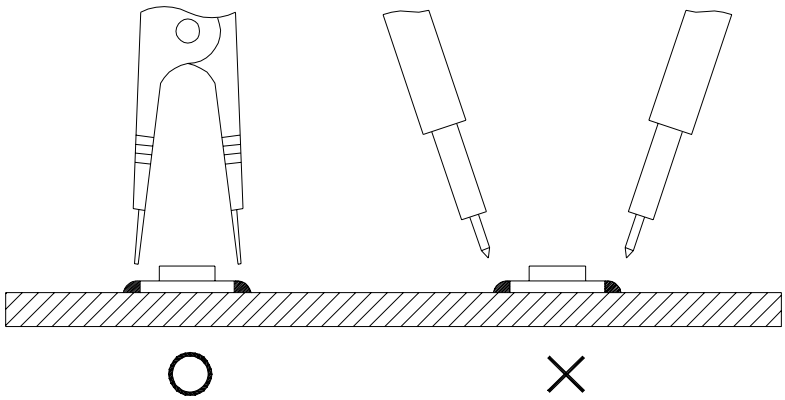


Note:

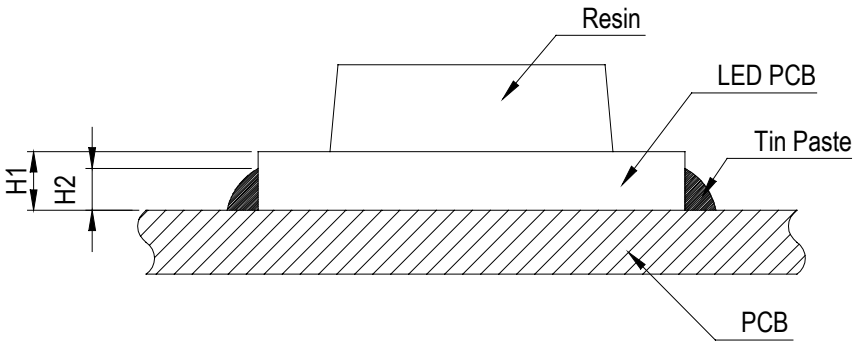
1. Don’t cause stress to the epoxy resin it is exposed to high temperature
2. Number of reflow process shall be 2 times less

■ Rework

1. Customer must finish rework within 3sec.Under 300℃
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.

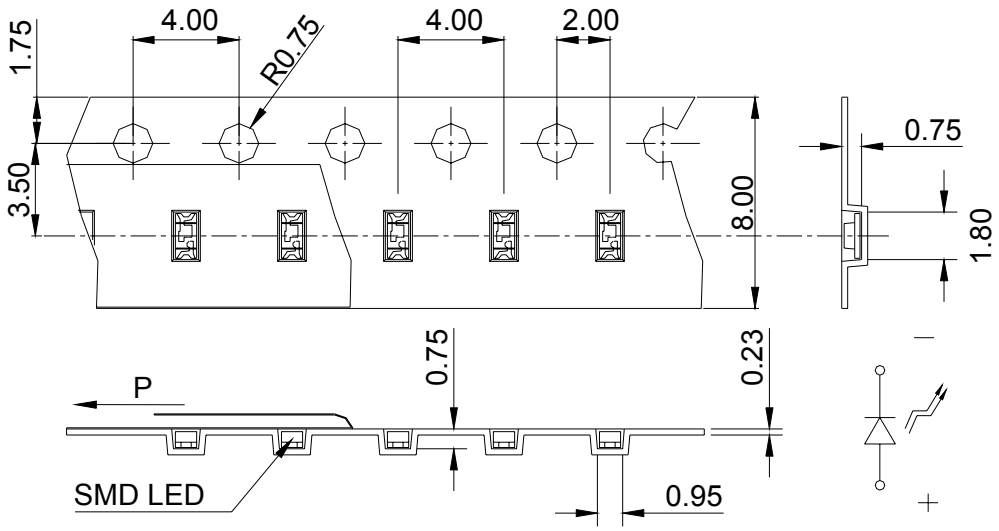


■ Thickness of Tin Paste

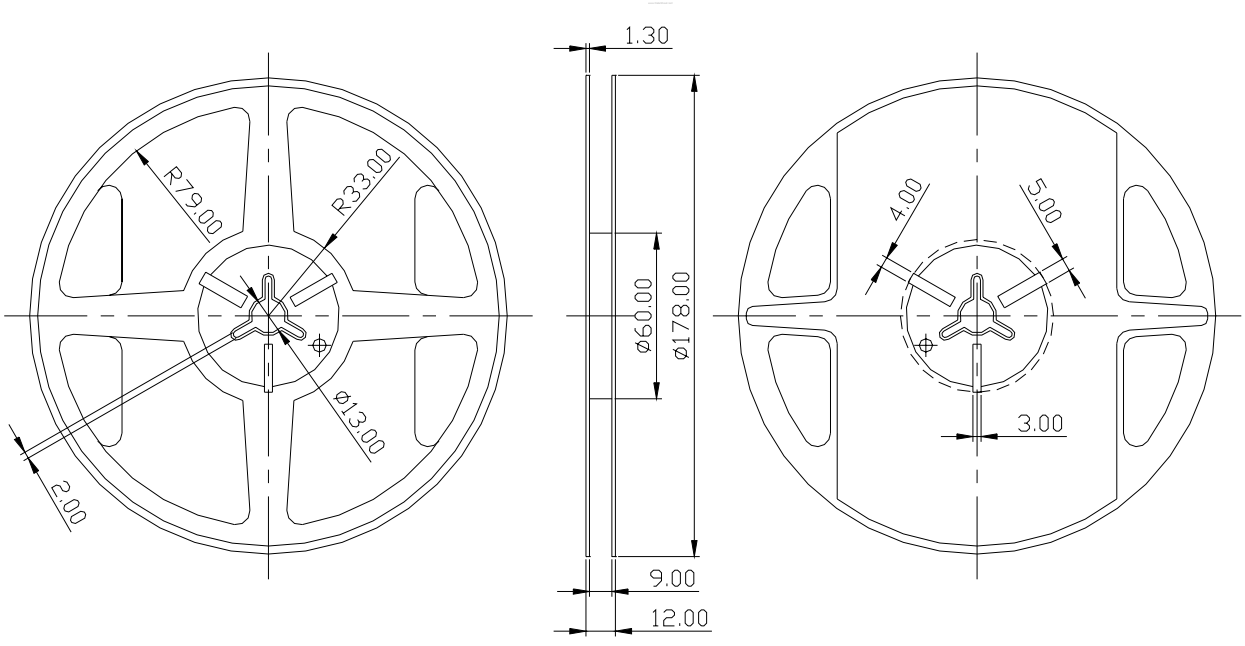


1/2 H1 ≤H2 ≤H1

■ Taping Specification(3000pcs/reel):



■ Reel Specification



Dimensions ate specified as follows:mm

■ Reliability

1.Test Items And Results

Classi-fication	Test Item	Standard Test Method	Test Conditions	Duration	Units Tested	Number of Damaged
Life Test	Operating Life Test	‘----------	T_A=25℃±5℃ ，IF=20mA	1000 Hrs	22	0/22
Environment Test	High Temperature Storage	JEITA ED-4701 200 201	T_A=100℃±5℃	1000 Hrs	22	0/22
	Low Temperature Storage	JEITA ED-4701 200 202	T_A=-40℃±5℃	1000 Hrs	22	0/22
	Temperature Humidity Storage	JEITA ED-4701 100 103	T_A=60℃±5℃ ，RH=85%±5%RH	1000 Hrs	22	0/22
	Thermal Shock Test	JEITA ED-4701 300 307	-10C°±5℃ ←→100℃±5℃ 5min 5 min	50 Cycles	22	0/22
	Temperature Cycling Test	JEITA ED-4701 100 105	-40℃~25℃~100℃~ 25℃ 30min 5min 30min 5min	50 Cycles	22	0/22
	Steady State Operating Life of High Humidity Heat	“----------	T_A=60℃±5℃ ，RH=85±5%RH,IF=10mA	500 Hrs	22	0/22
	Steady State Operating Life of Low Temperature	‘----------	T_A=-40℃±5℃, IF=15mA	500 Hrs	22	0/22
	Reflow Soldering	‘----------	255-260℃ ，6 sec	1 time	22	0/22

Note: Resistance to Soldering Heat is the first test in all the tests.

2. Criteria for Judging The Damage

Item	Symbol	Test Conditions	Criteria for Judgment	
			Min.	Max.
Forward Voltage	V_F	I_F =20 mA	---	Initial Data ×1.1
Luminous Intensity	I_V	I_F =20 mA	Initial Data × 0.5	---
Reverse Current	I_R	V_R = 5V	---	≦100μA

■ Warranty:

1. EOI warrants that its LEDs conform to the foregoing specifications and that EOI will convey good title to all LEDs sold.
2. In the event any LED supplied by EOI is found not to conform to the foregoing specifications within ninety days of receipt. EOI will repair or replace the LED, at EOI's option, provided that user
   a) promptly notifies EOI in writing of the details of the defect
   b) ships the LED at user's expense to EOI for examination, and the defect is due to the negligence of EOI and not mishandling or misuse by user.
3. EOI cannot take any responsibility for any troubles that are caused by using the LEDs at conditions exceeding our specifications.
4. These specifications are applied only when a LED stands alone and it is strongly recommended that the user of the LED confirms the properties upon assembly. EOI is not responsible for failures caused during and after assembling.
5. A claim report stating details about the defect shall be made when returning defective LEDs. EOI will investigate the report immediately and inform the user of the results.
6. These LEDs are designed and manufactured for standard applications such as electric home appliances, communication equipment, office equipment, electronic instrumentation and so on. It is recommended to consult with EOI in advance if user's application requires any particular quality or reliability that concerns human life. Examples would be medical equipment, aerospace applications, traffic signals, safety system equipment and so on.
7. EOI's liability for defective lamps shall be limited to replacement and in no event shall EOI be liable for consequential damages or lost profits.
8. Both EOI and the user confirm that any agreement regarding the quality is based only on the specifications herein. The agreement confirmed before this specifications shall become ineffective if it is not stated in these specifications.
9. Both parties shall sincerely try to find a solution when any inconvenience is found in these specifications.
10. These specifications can be revised on mutual agreement.
11. EOI understands that user accepts the content of this specification, if user does not return these specifications with your signature within 3 weeks after your receipt.

EOI LianXinFeng Optoelectronics Inc.

Revision History

Rev.No	Change Description	Date	Prepared By	Checked By	Approved By
01	New-made specification	2008/3/21	Xue	Javis	Javis
02	Add the 5mA test Spec	2008/6/10	Xue	Javis	Javis