DATA SHEET

●DEVICE NUMBER：BL-X4361

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2006.12.22	2.0	2.0	2.0	2.0	2.0						Format of sheet

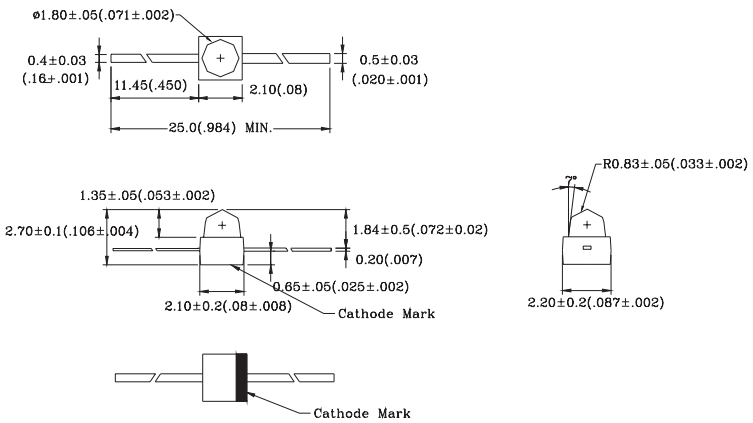
● Features:

1. Emitted Color: Hi-Eff Red.
2. Lend Appearance: Water Clear.
3. Wide range of collector current.
4. Low cost plastic package
5. This product doesn't contain restriction Substance, comply ROHS standard.

● Applications:

1. Smoke Detector
2. Automatic Control System

●Package Dimensions:



NOTES:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.10mm (0.004") unless otherwise specified.
3. Specifications are subject to change without notice.

● Absolute Maximum Ratings(Ta=25℃)

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	52	mW
Forward Current	I_F	20	mA
Peak Forward Current ＊1	I_{FP}	150	mA
Reverse Voltage	V_R	5	V
Operating Temperature	Topr	-40℃~85℃	-
Storage Temperature	Tstg	-40℃~85℃	-
Soldering Temperature	Tsol	See Page 4	-

＊1 Condition for I_{FP} is pulse of 1/10 duty and 0.1msec width.

● Electrical and optical characteristics(Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	Vf	I_F=20mA	-	2.0	2.6	V
Luminous Intensity	Iv	I_F=20mA	18.5	40	-	mcd
Reverse Current	I_R	V_R=5V	-	-	1	μA
Peak Wave Length	λp	I_F=20mA	-	640	-	nm
Dominant Wave Length	λd	I_F=20mA	626		636	nm
Spectral Line Half-width	Δλ	IF=20mA		40	-	nm
Viewing Angle	2θ1/2	IF=20mA	-	35	-	deg

● Typical Electro-Optical Characteristics Curves

Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

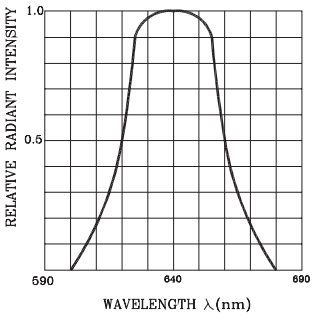


Fig.2 FORWARD CURRENT DERATING CURVE

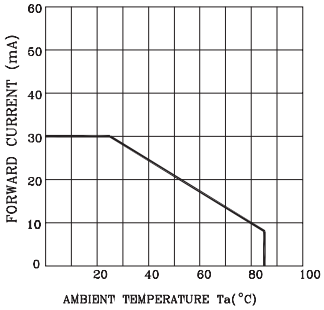


Fig.3 FORWARD CURRENT VS. FORWARD VOLTAGE

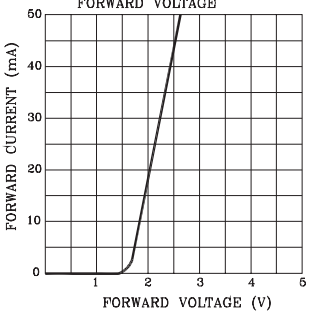


Fig.4 RELATIVE LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

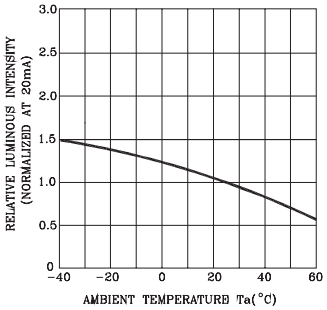
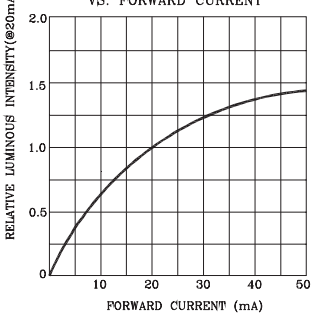
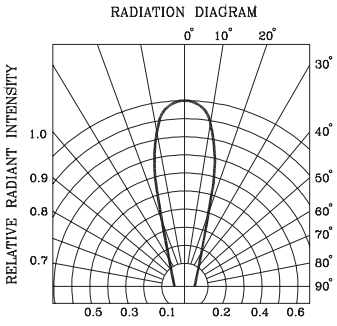


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



RADIATION DIAGRAM



● Reliability Test

Classification	Test Item	Reference Standard	Test Conditions	Result
Endurance Test	Operation Life	MIL-STD-750D:1026 MIL-STD-883D:1005 JIS-C-7021 :B-1	Connect with a power If=20mA Ta=Under room temperature Test time=1,000hrs	0/20
	High Temperature High Humidity Storage	MIL-STD-202F:103B JIS-C-7021 :B-11	Ta=+85℃±5℃ RH=90%-95% Test time=240hrs	0/20
	High Temperature Storage	MIL-STD-883:1008 JIS-C-7021 :B-10	High Ta=+100℃±5℃ Test time=1,000hrs	0/20
	Low Temperature Storage	JIS-C-7021 :B-11	Low Ta=-40℃±5℃ Test time=1,000hrs	0/20
Environmental Test	Temperature Cycling	MIL-STD-202F:107D MIL-STD-750D:1051 MIL-STD-883D:1010 JIS-C-7021 :A-2	-35℃±5℃~+25℃~+85℃±5℃~+25℃ 30min 5min 30min 5min Test Time=10cycle	0/20
	Thermal Shock	MIL-STD-202F:107D MIL-STD-750D:1051 MIL-STD-883D:1011	-40℃±5℃ ~+85℃±5℃ 20min 20min Test Time=10cycle	0/20
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS-C-7021 :A-1	Preheating： 140℃-160℃,within 2 minutes. Operation heating： 260℃(Max.), within 10seconds. (Max.)	0/20

● Judgment criteria of failure for the reliability

Measuring items	Symbol	Measuring conditions	Judgment criteria for failure
Forward voltage	V_F (V)	I_F=20mA	Initial Level*1.1
Reverse current	I_R(uA)	V_R=5V	Over U*2
Luminous intensity	Iv (mcd)	I_F=20mA	Initial Level*0.7

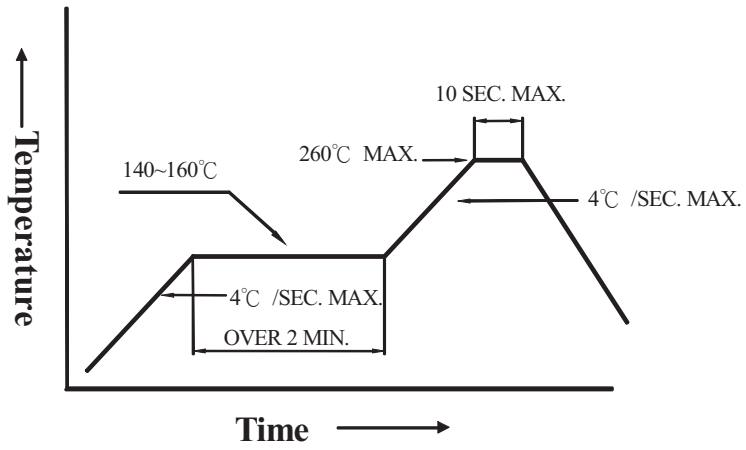
Note: 1.U means the upper limit of specified characteristics.

2.Measurment shall be taken between 2 hours and after the test pieces have been returned to normal ambient conditions after completion of each test.

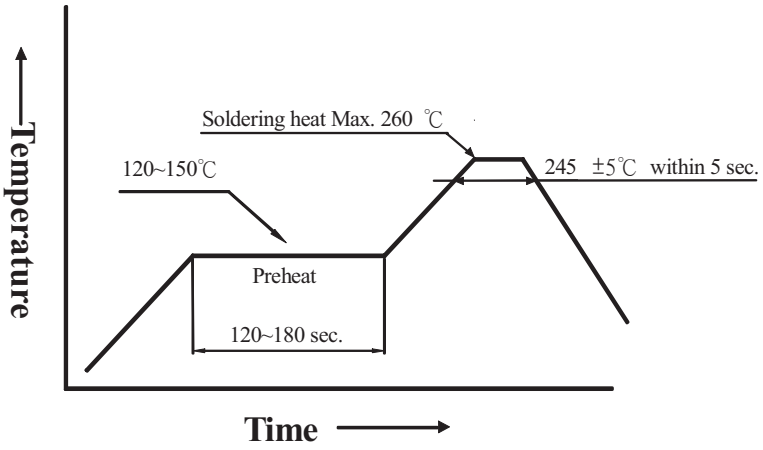
● Soldering :

1. Manual Of Soldering
   The temperature of the iron tip should not be higher than 300℃(572℉) and Soldering within 3 seconds per solder-land is to be observed.

2. Reflow Soldering
   Preheating : 140℃~160℃±5℃,within 2 minutes.
   Operation heating : 260℃(Max.) within 10 seconds.(Max)
   Gradual Cooling (Avoid quenching).



3. DIP soldering (Wave Soldering) :
   Preheating : 120℃~150℃,within 120~180 sec.
   Operation heating : 245℃±5℃ within 5 sec.260℃ (Max)
   Gradual Cooling (Avoid quenching).



● Handling :

Care must be taken not to cause to the epoxy resin portion of BRIGHT LEDs while it is exposed to high temperature.
Care must be taken not rub the epoxy resin portion of BRIGHT LEDs with hard or sharp article such as the sand blast and the metal hook.