

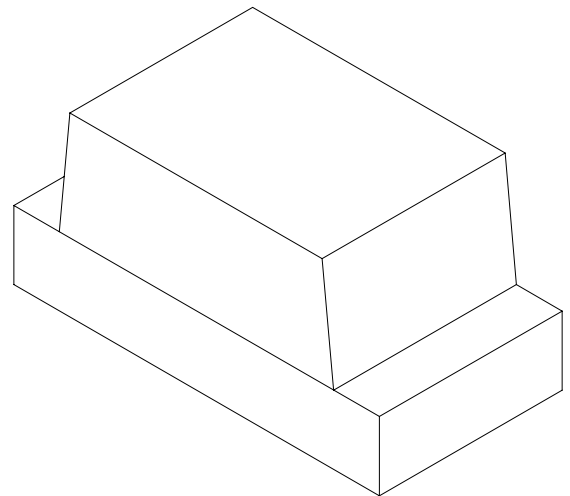


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Technical drawing of a wheel hub (Figure 1.10). The drawing shows a cross-section of the hub with a central bore and a central hole. The dimensions are as follows:

- Overall diameter: $\phi 180 \pm 1$
- Inner diameter: $\phi 62.0 \pm 0.5$
- Central bore diameter: $\phi 12.75^{+0.25}_{-0}$
- Central hole diameter: $\phi 2.5 \pm 0.5$
- Hub thickness: $8.4^{+1.5}_{-0}$
- Flange thickness: $11.0^{+0.5}_{-0}$



Progressive direction

2.0 ± 0.05

4.0

Ø 1.55 ± 0.05

0.23 ± 0.1

1.9 ± 0.1

0.9

3.5 ± 0.05

8.0

4.0

0.9

1.75

Polarity

TOLERANCES UNLESS DIMENSION ± 0.1

ANGLE ± 0.5

UNIT:mm

SCALE:3=1



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■ Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	40	mA
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +90	°C
Soldering Temperature	T _{sol}	260 (for 5 second)	°C
Power Dissipation	P _d	110	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	I _F (Peak)	180	mA

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	11	19	-----	mcd	I _F =20mA
Viewing Angle	2 θ 1/2	-----	100	-----	deg	I _F =20mA
Peak Wavelength	λ _p	-----	660	-----	nm	I _F =20mA
Dominant Wavelength	λ _d	-----	643	-----	nm	I _F =20mA
Spectrum Radiation Bandwidth	△ λ	-----	20	-----	nm	I _F =20mA
Forward Voltage	V _F	1.5	1.7	2.4	V	I _F =20mA
Reverse Current	I _R	-----	-----	10	μ A	V _R =5V



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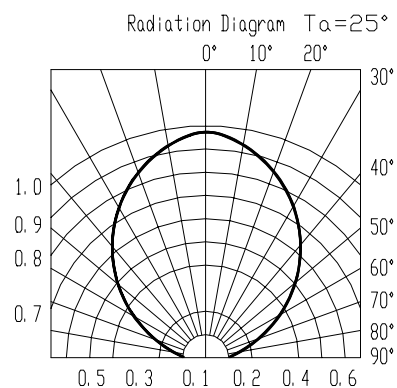
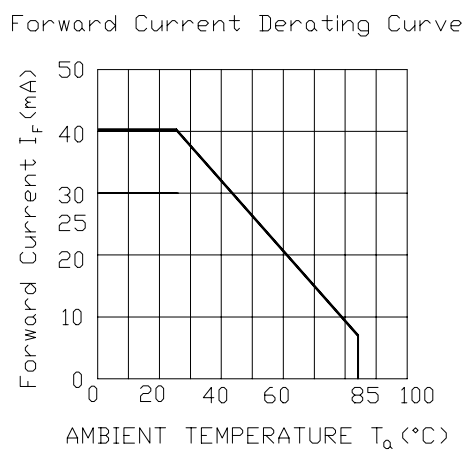
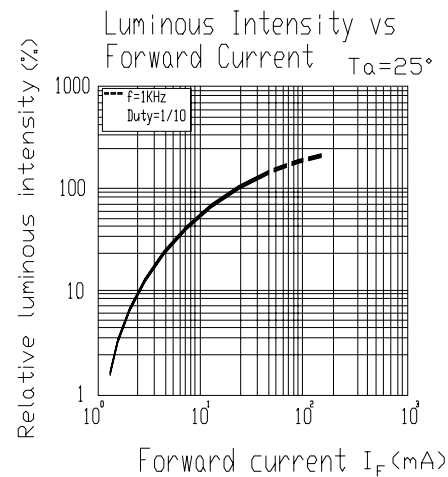
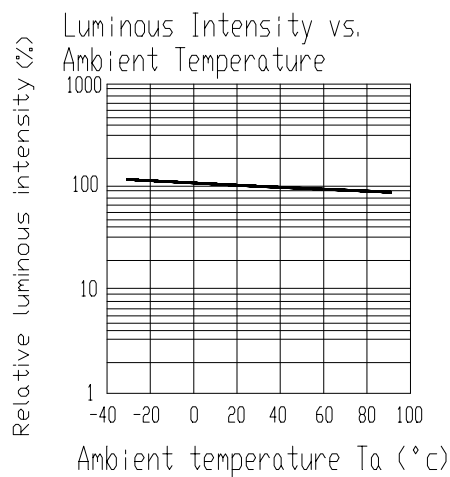
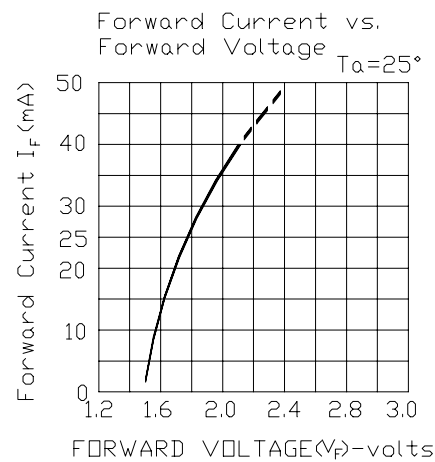
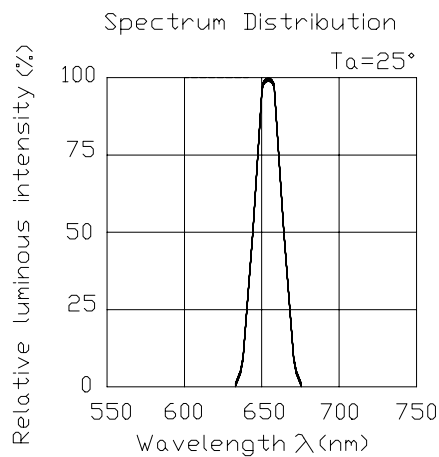
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Typical Electro-Optical Characteristic Curves





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■ Reliability Test Items And Conditions:

NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5 °C	5 SEC	76 PCS	0/1
2	Temperature Cycle	H : +85°C 30min ∫ 5 min L : -55°C 30min	50 CYCLE	76 PCS	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	50 CYCLE	76 PCS	0/1
4	High Temperature Storage	TEMP : 100°C	1000 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP : -55°C	1000 HRS	76 PCS	0/1
6	DC Operating Life	I _F = 20 mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C/85% RH	1000 HRS	76 PCS	0/1



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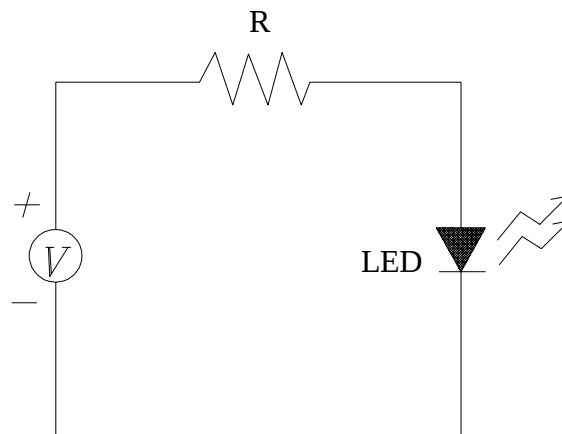
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■ Test Circuit



■ Precautions For Use

1. Over-current-proof

Customer must apply resistors for protection , otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage time

2.1 The operation of temperature and R.H. are : $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$, R.H.60%.

2.2 Once the package is opened , the products should be used within a week.

Otherwise , they should be kept in a damp proof box with desiccating agent.

Considering the tape life , we suggest our customers to use our products within a year(from production date).

2.3 If opened more than one week in an atmosphere $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$, R.H.60%, they should be treated at $60^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 15hrs.

2.4 When you discover that the desiccant in the package has a pink color (Normal=blue) , you should treat them in the same conditions as 2.3.



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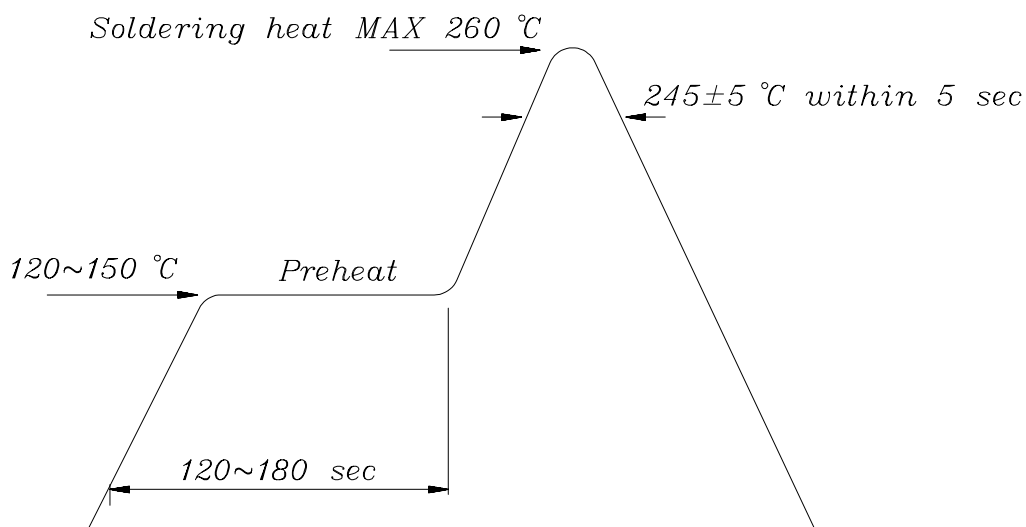
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■ Soldering heat reliability (DIP)

Please refer to the following figure :

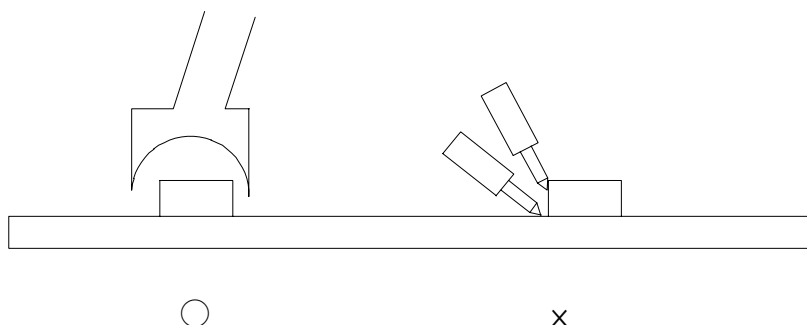


■ Soldering Iron

Basic spec is ≤ 5 sec when 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1\text{sec}$). Power dissipation of iron should be smaller than 15 W , and temperature should be controllable. Surface temperature of the device should be under 230°C .

■ Rework

1. Customer must finish rework within 5 sec under 260°C .
2. Copper foil can not be touched by the head of iron.
3. Twin-head type is preferred.





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■ Reflow Temp / Time :

