



MODEL NO: 11-21 UGC/TR8
1206 Package Chip LEDs with Inner Lens

Device Number : DSE-111-048 REV. 1.0

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■ **Features :**

- Package in 8mm tape on 7" diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Mono-color type.

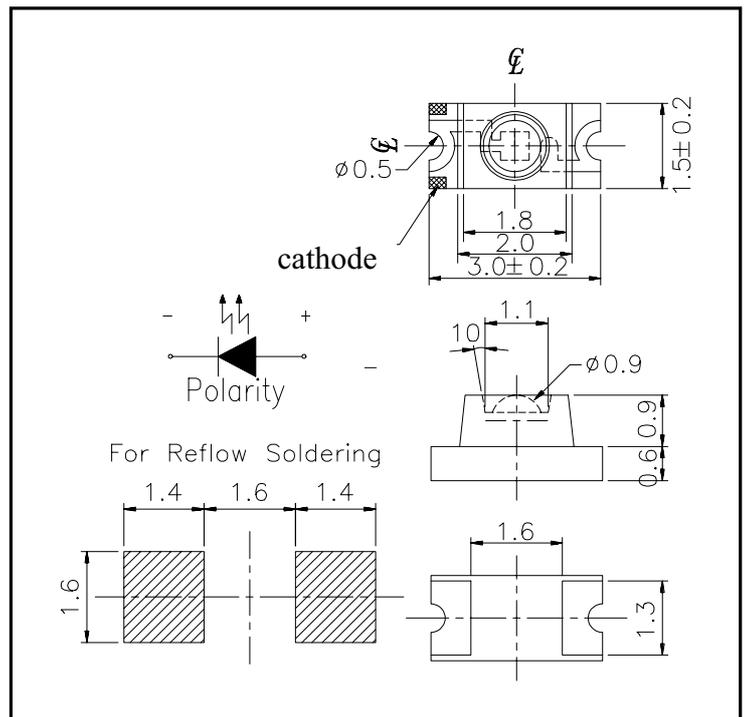
■ **Descriptions :**

- The 11-21 SMD Taping is much smaller than leaded components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
- Besides, LightWeight makes them ideal for miniature applications, etc.

■ **Applications :**

- Automotive: backlighting in dashboards and switches.
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switches and symbols.
- General use.

■ **Package Dimensions :**



■ **Notes :**

Tolerances Unless Dimension ±
 0.1mm
 Angle± 0.5°

PART NO	CHIP		Lens Color
	Material	Emitted Color	
11-21UGC/TR8	GaP	Super Green	Water Clear

Office: NO. 25, Lane 76, Sec.3, Chung Yang Rd., Tucheng 236, Taipei, Taiwan, R.O.C.

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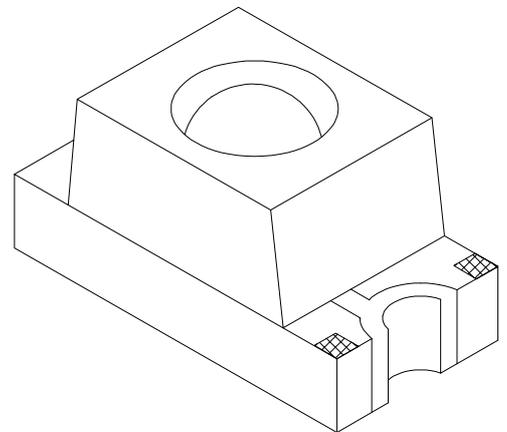
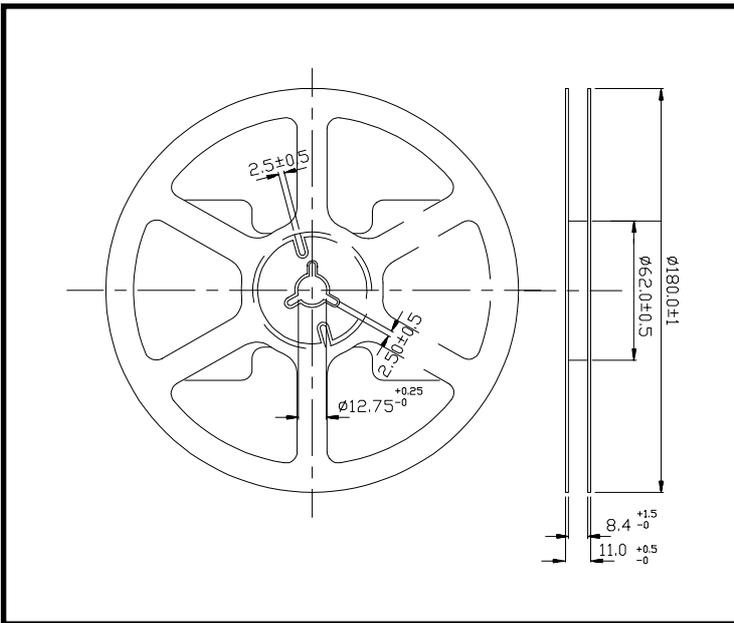


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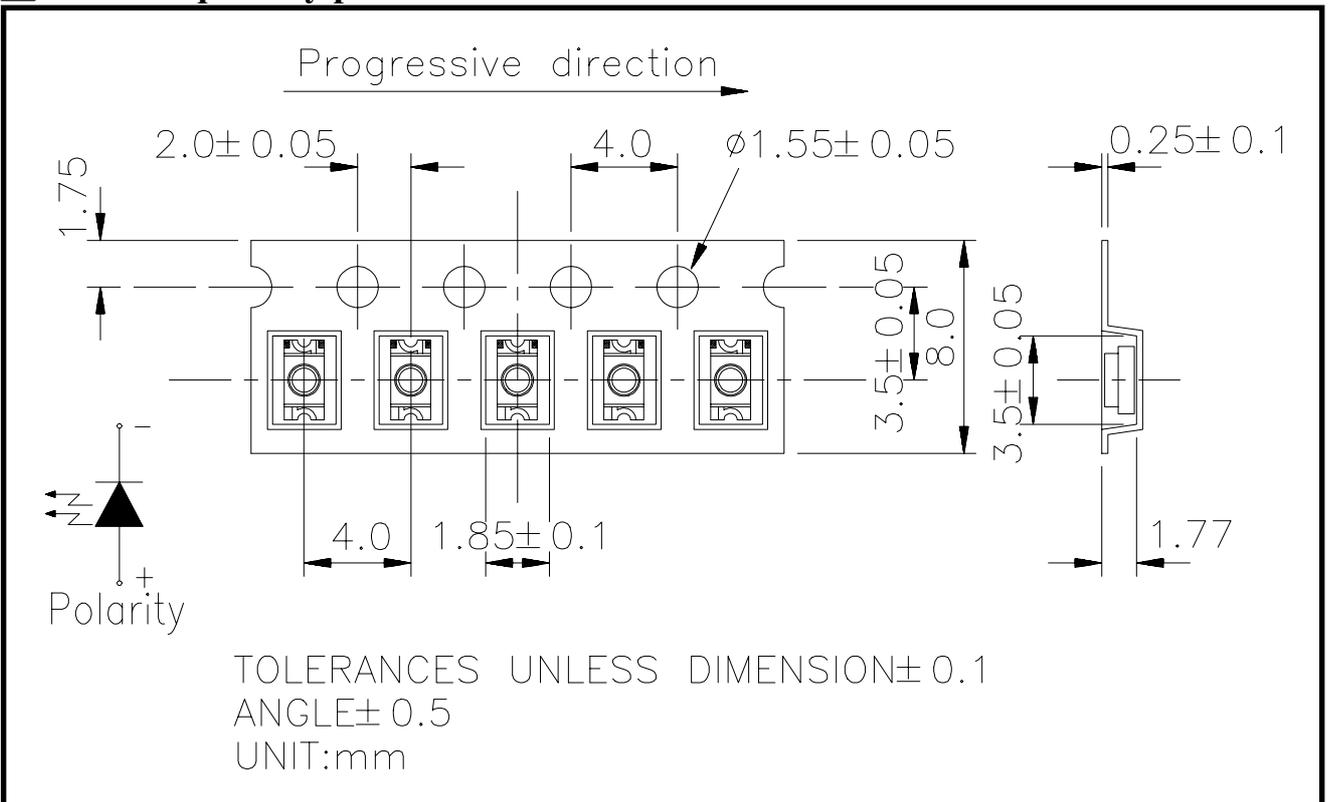
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■ **Package Dimensions :**



■ **Loaded quantity per reel 2000 PCS/reel :**





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■ **Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Rating	Unit
Reverse Voltage	Vr	5	V
Forward Current	If	30	mA
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +90	°C
Soldering Temperature	Tsol	260 (for 5 second)	°C
Power Dissipation	Pd	100	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	If(Peak)	160	mA

■ **Electronic Optical Characteristics :**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	22	38	-----	mcd	If=20mA
Viewing Angle	2θ 1/2	-----	20	-----	deg	If=20mA
Peak Wavelength	λp	-----	570	-----	nm	If=20mA
Dominant Wavelength	λd	-----	571	-----	nm	If=20mA
Spectrum Radiation Bandwidth	Δλ	-----	30	-----	nm	If=20mA
Forward Voltage	Vf	1.7	2.1	2.4	V	If=20mA
Reverse Current	Ir	-----	-----	10	μA	Vr=5V



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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	If = 20 mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C/85% RH	1000 HRS	76 PCS	0/1

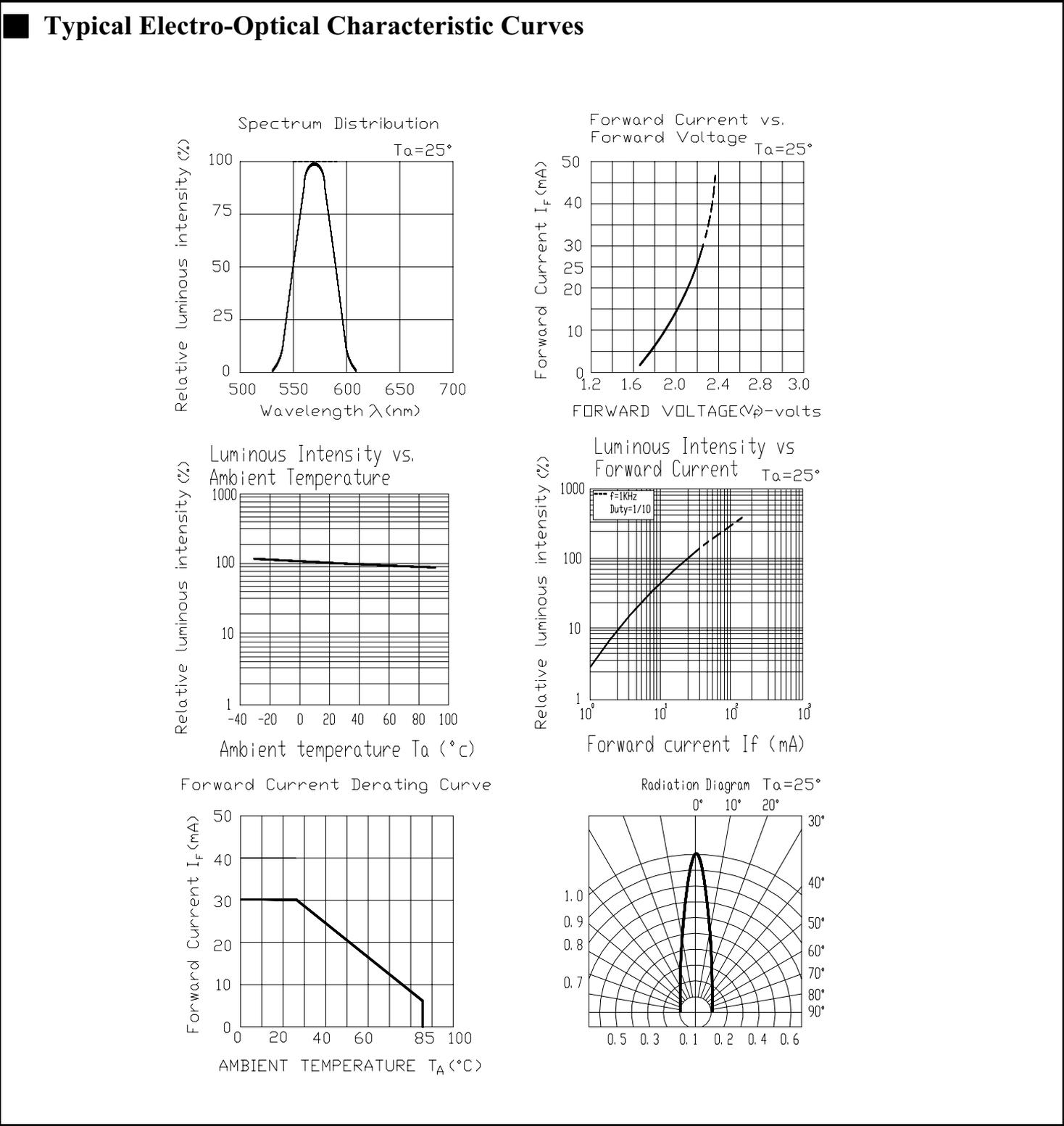


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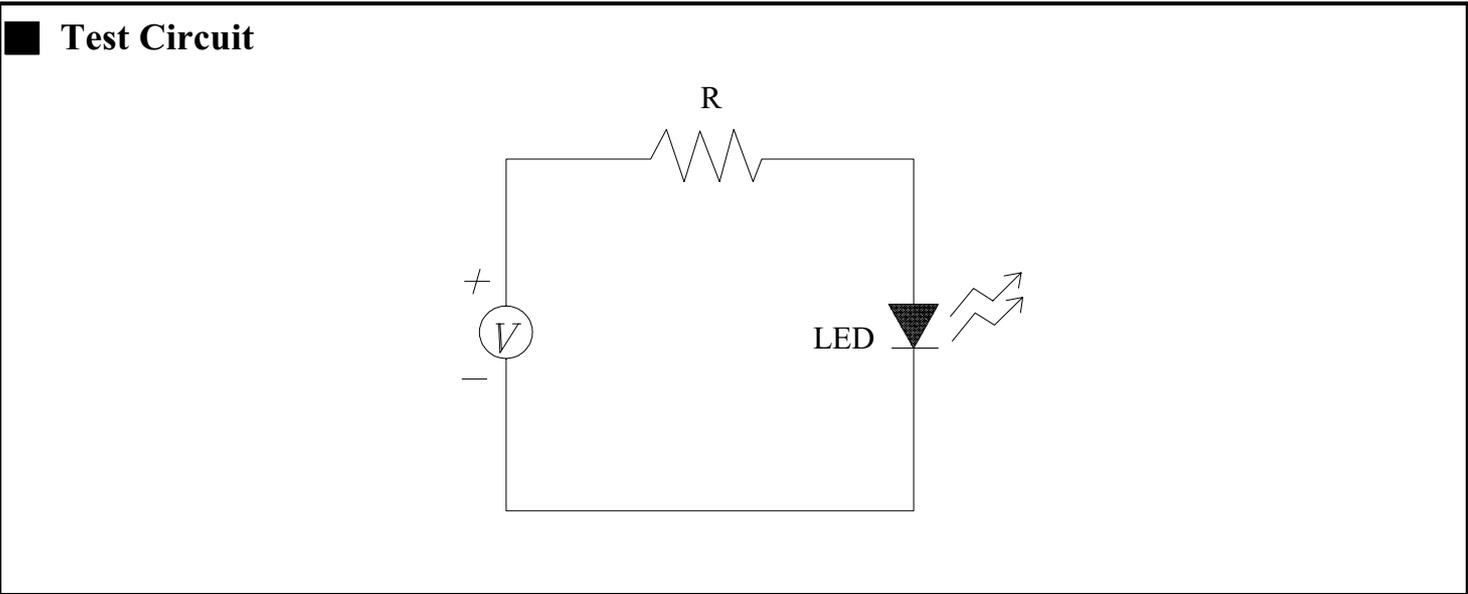




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■ **Precautions For Use**

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 keeping 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.



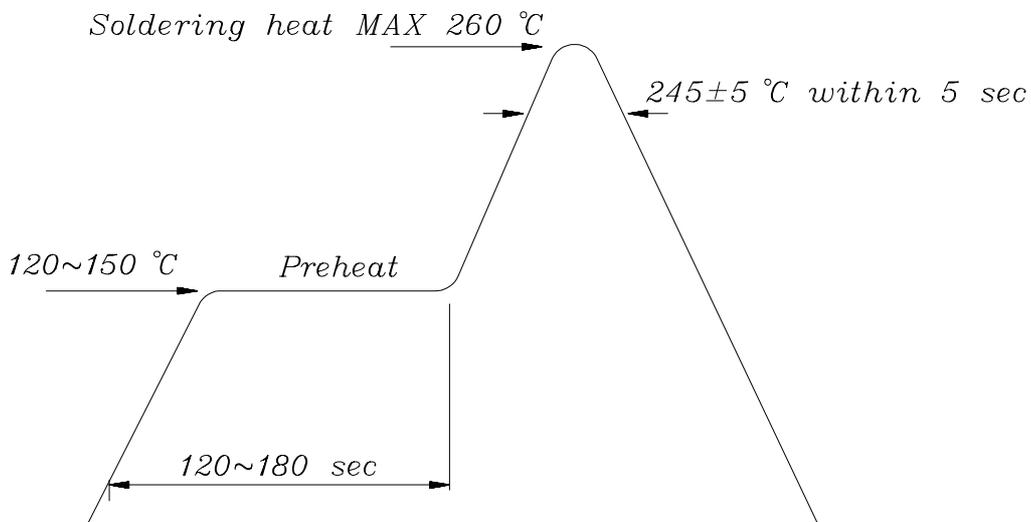
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■ **Soldering heat reliability (DIP)**

Please refer to the following figure :

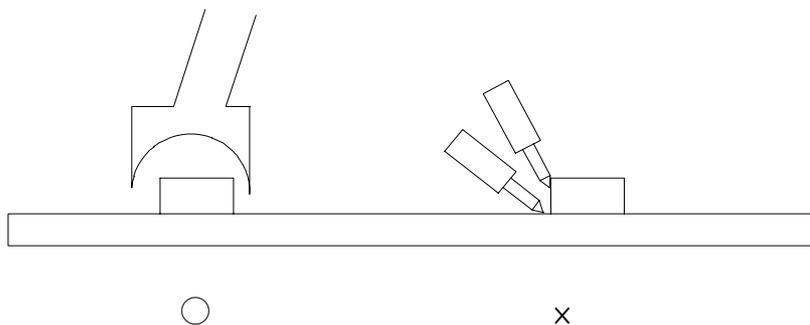


■ **Soldering Iron**

Basic spec is ≤ 5 sec when 260°C. If temperature is higher, time should be shorter (+10°C → -1sec). 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. The head of iron can not touch copper foil.
3. Twin-head type is preferred.





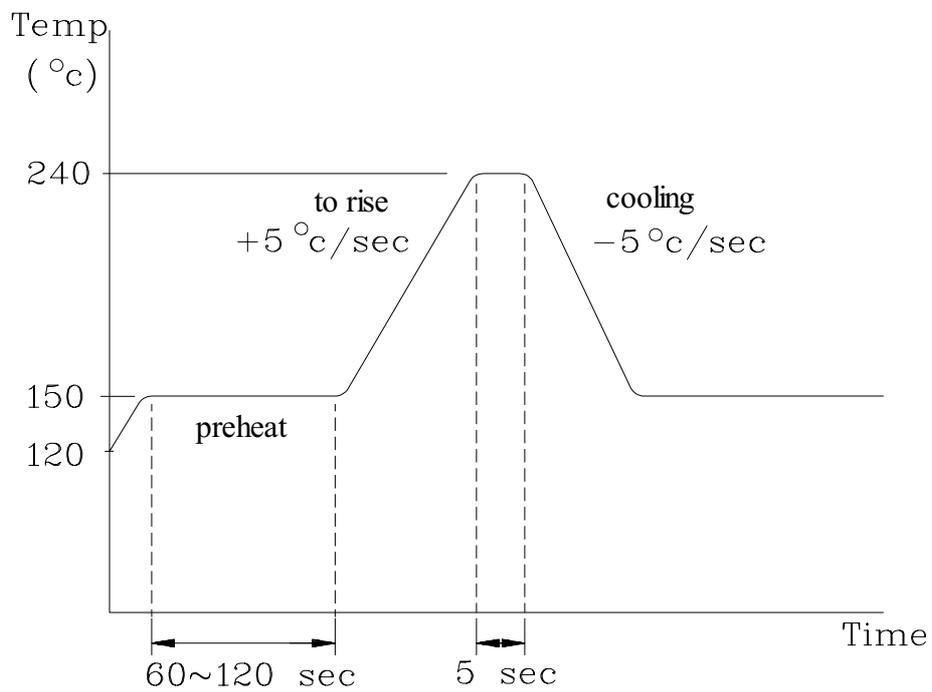
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■ Reflow Temp / Time :



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