



PART NO.: 15-22VYVGC/TR8
Chip LEDs with Bi-Color(Multi-Color)

Device Number : DSE-152-033 REV. 1.2

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Features:

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

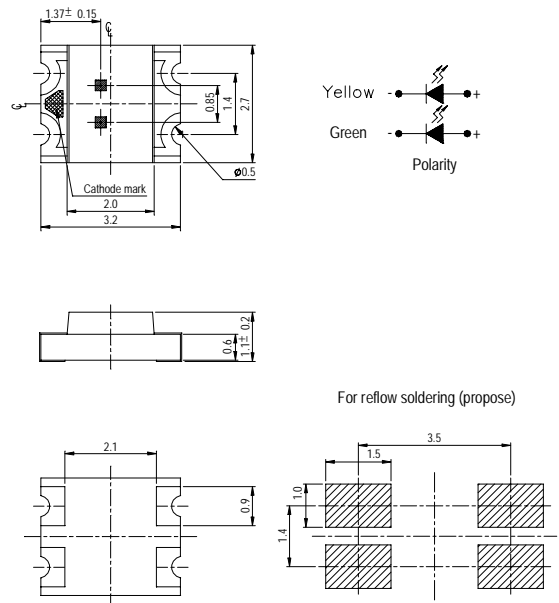
Descriptions:

- The 15-22 SMD Taping is much smaller than lead components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
- Besides, light Weight makes them ideal for miniature applications, etc.

Applications:

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

Package Dimensions :



Notes :

Tolerances Unless Dimension $\pm 0.1\text{mm}$
 Angle $\pm 0.5^\circ$ Unit = mm

PART NO.	Chip		Lens Color
	Material	Emitted Color	
15-22VYVGC/TR8	VY:	GaAsP/GaP	Water Clear
	VG:	GaP	

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

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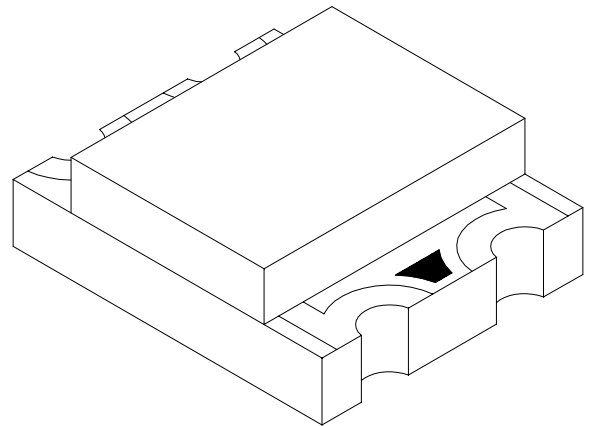
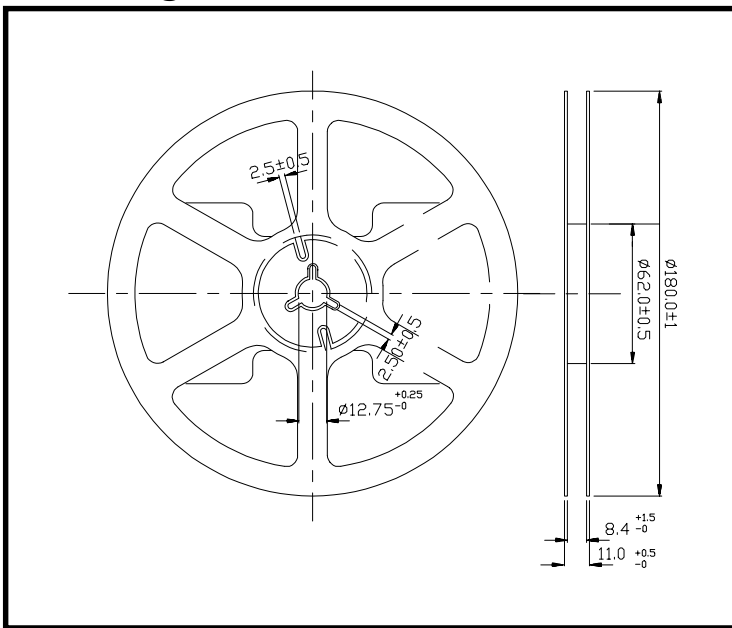


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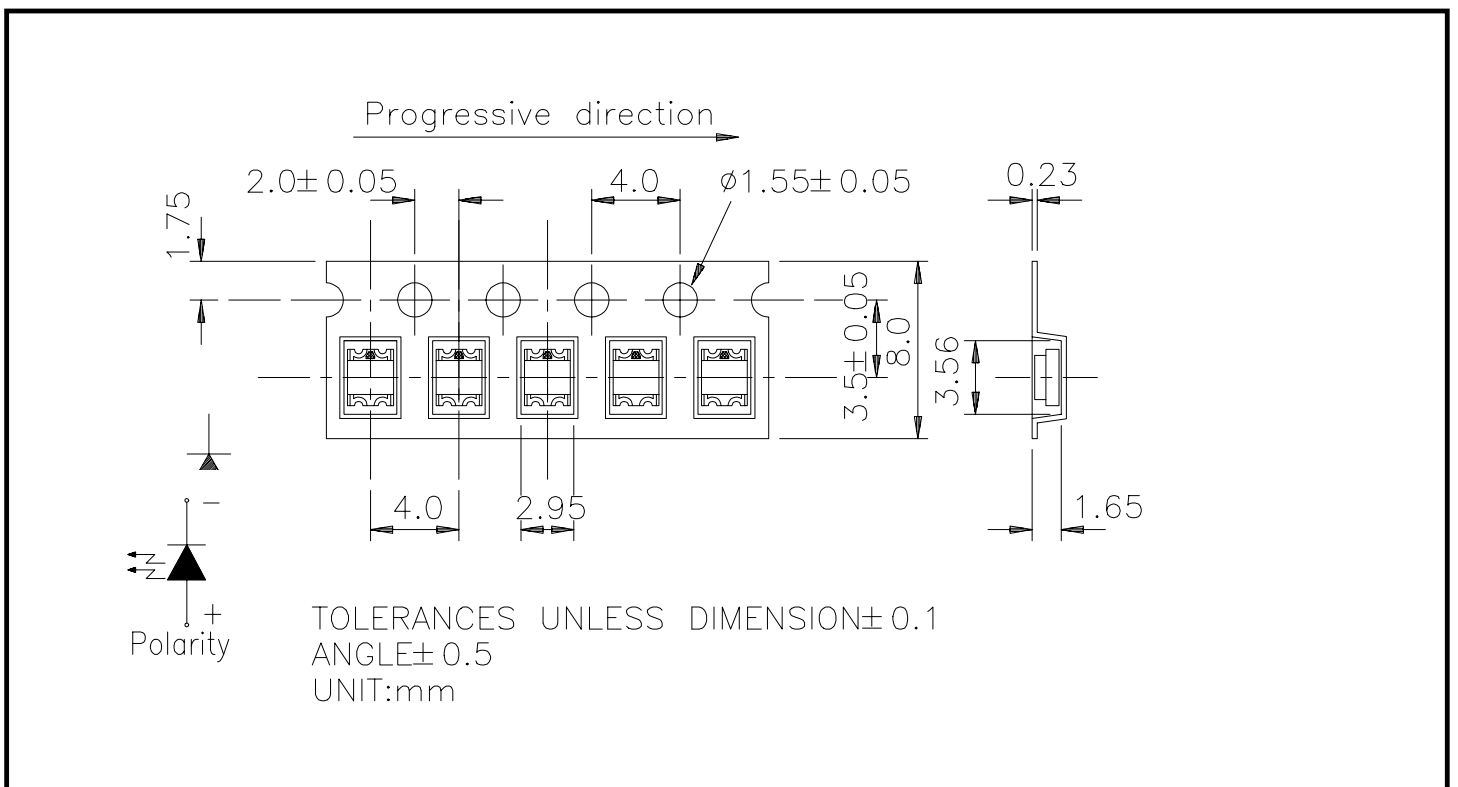
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■ **Package Dimensions :**



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



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■ Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	VY: 30 VG: 30	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	VY: 100 VG: 100	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	I _{F(Peak)}	VY: 160 VG: 160	mA

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	VY: 4 VG: 7.5	7 13	-----	mcd	I _F =20mA
Viewing Angle	2θ 1/2	-----	140	-----	deg	I _F =20mA
Peak Wavelength	λ _p	VY: ----- VG: -----	585 570	-----	nm	I _F =20mA
Dominant Wavelength	λ _d	VY: ----- VG: -----	590 571	-----	nm	I _F =20mA
Spectrum Radiation Bandwidth	Δλ	VY: ----- VG: -----	35 30	-----	nm	I _F =20mA
Forward Voltage	V _F	VY: 1.7 VG: 1.7	2.0 2.1	2.4 2.4	V	I _F =20mA
Reverse Current	I _R	-----	-----	10	μA	V _R =5V



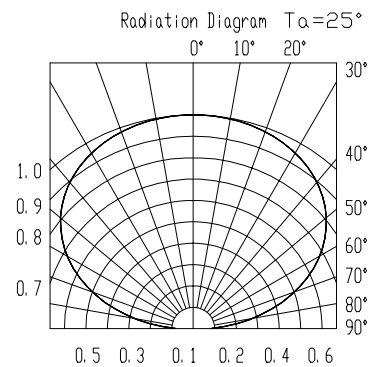
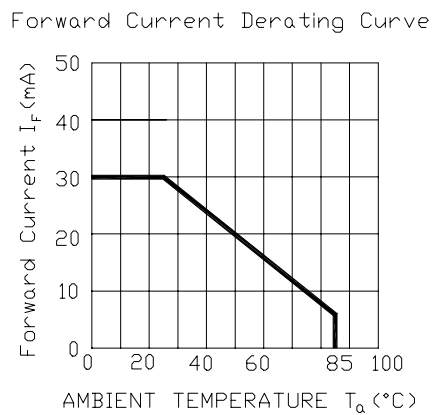
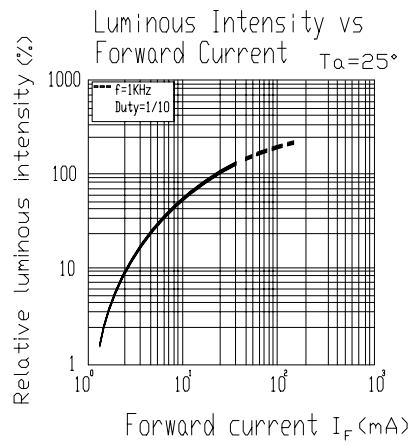
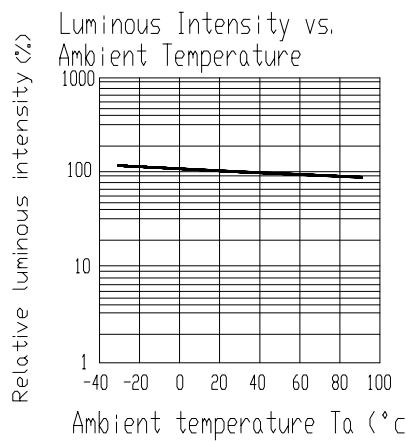
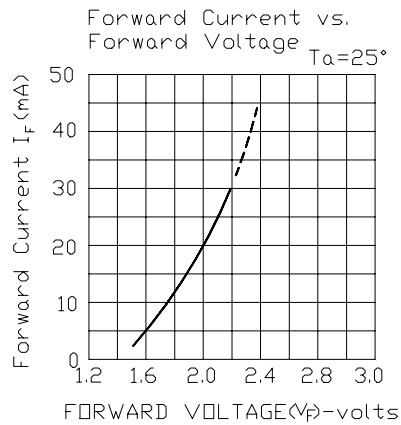
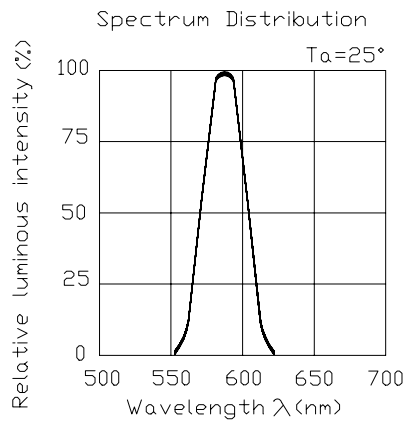
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Typical Electro-Optical Characteristic Curves

VY

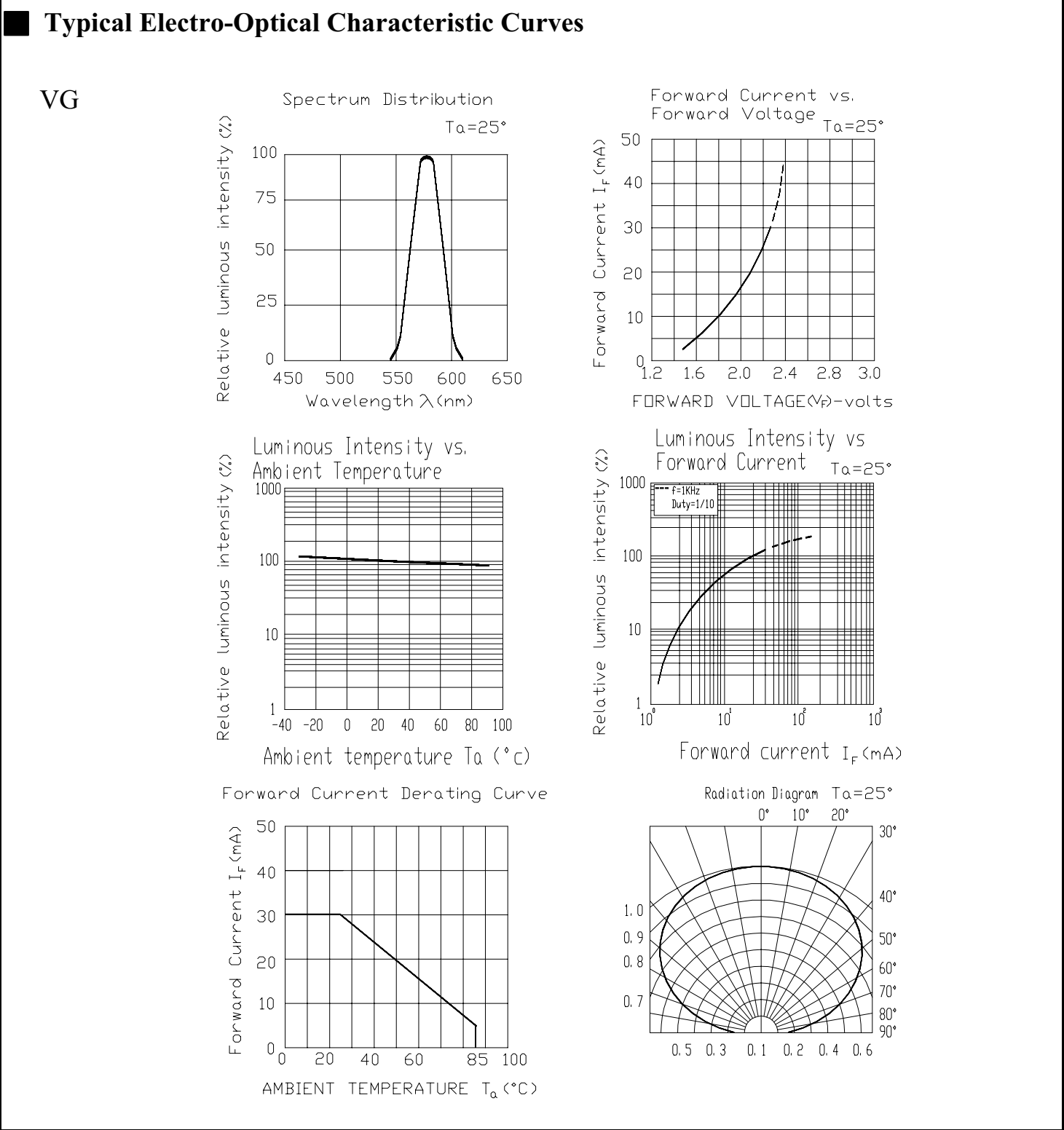




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■ **Reliability Test Items And Conditions:**

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 CYCLES	76 PCS	0/1
3	Thermal Shock	H : +100°C 5min. ∫ 10 sec. L : -10°C 5min.	50 CYCLES	76 PCS	0/1
4	High Temperature Storage	TEMP. : 100°C	1000 HR.	76 PCS	0/1
5	Low Temperature Storage	TEMP. : -55°C	1000 HR.	76 PCS	0/1
6	DC Operating Life	IF= 20 mA	1000 HR.	76 PCS	0/1
7	High Temperature / High Humidity	85°C/RH85%	1000 HR.	76 PCS	0/1



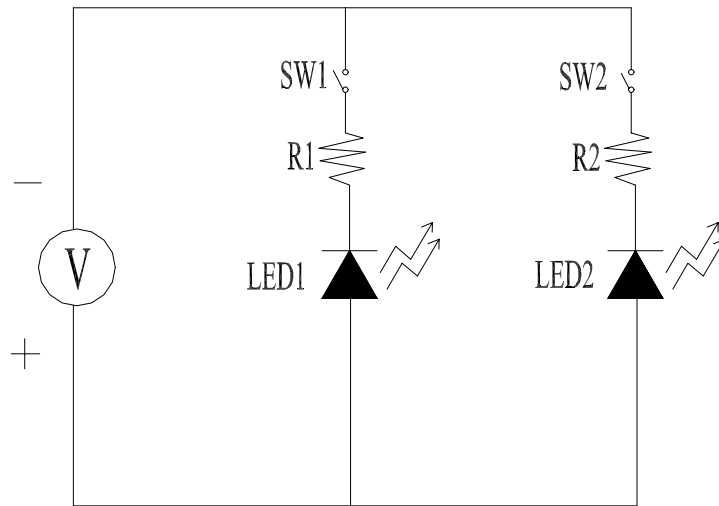
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■ **Test Circuit**



■ **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 RH are : $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$, RH60%.

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

Otherwise , they should be keep in a damp proof box with desiccants.

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 $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$, RH60%, 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.



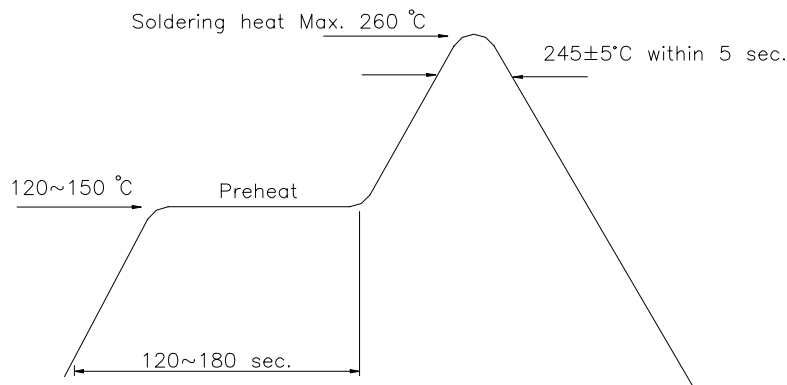
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■ **Soldering heat reliability (DIP)**

Please refer to the following figure :



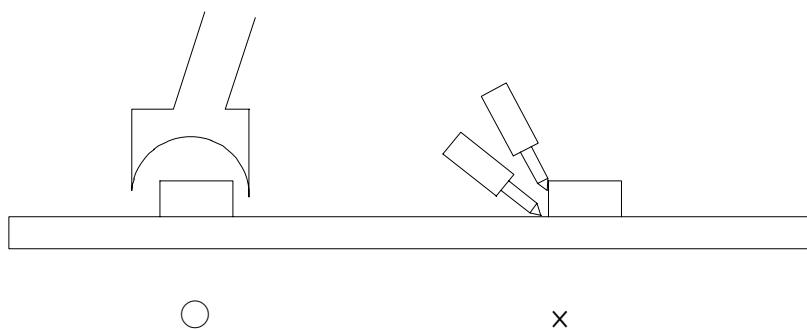
■ **Soldering Iron**

Basic spec is ≤ 5 sec. when 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1\text{sec.}$). 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 :

