



Technical Data Sheet

Bi-Color (Multi-Color) Top LEDs

67-22SDRUGC/S530-A2/TR8

Features

- P-LCC-4 package.
- White package.
- Optical indicator.
- Colorless clear window.
- Ideal for backlight and light pipe application.
- Inter reflector.
- Low (2mA) current operation.
- Wide viewing angle.
- Suitable for vapor-phase reflow, Infrared reflow and wave solder processes.
- Computable with automatic placement equipment.
- Available on tape and reel (8mm Tape).



Descriptions

- The 67-22 series is available in soft orange, green, blue and yellow. Due to the package design, the LED has wide viewing angle and optimized light coupling by inter reflector, this feature makes the SMT TOP LED ideal for light pipe application. The low current requirement makes this device ideal for portable equipment or any other application where power is at a premium.

Applications

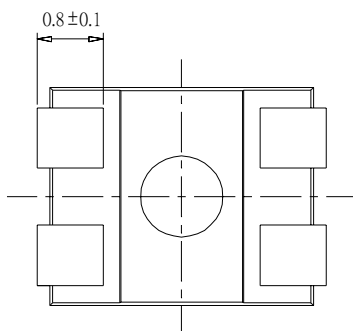
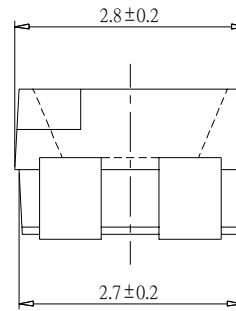
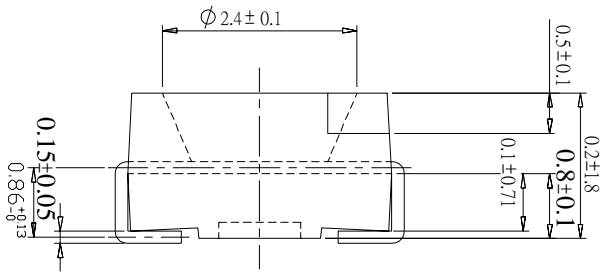
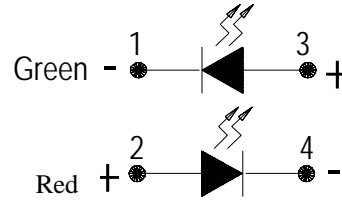
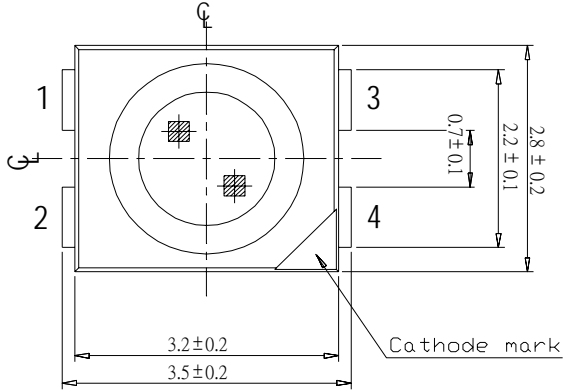
- Automotive: backlight in dashboards and switches.
- Telecommunication: indicator and backlight in telephone and fax.
- Indicator and backlight for audio and video equipment.
- Indicator and backlight in office and family equipment.
- Flat backlight for LCD's, switches and symbols.
- Light pipe application.
- General use.

Device Selection Guide

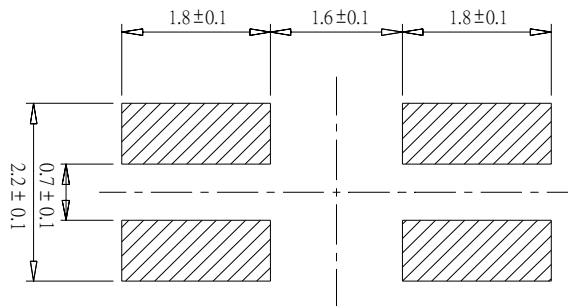
Chip		Lens Color
Material	Emitted Color	
AlGaInP	Super Deep Red	Water Clear
GaP	Super Green	

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Package Dimensions



For reflow soldering (propose)



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

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Absolute Maximum Ratings Ta=25°C

Parameter	Symbol	Rating	Unit	
Operating Temperature	Topr	-40 ~ +85	°C	
Storage Temperature	Tstg	-40~ +100	°C	
Soldering Temperature	Tsol	260 (for 5 second)	°C	
Electrostatic Discharge	ESD	2000	V	
Reverse Voltage	V _R	5	V	
Power Dissipation	Pd	SDR	60	mW
		UG	100	
Forward Current	I _F	SDR	25	mA
		UG	30	
Peak Forward Current(Duty 1/10 @ 1KHZ)	I _F (Peak)	SDR	60	mA
		UG	60	

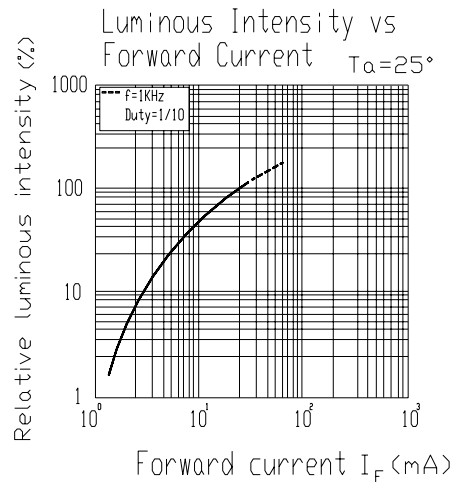
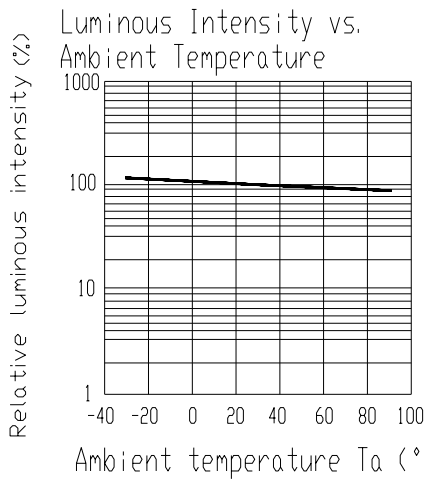
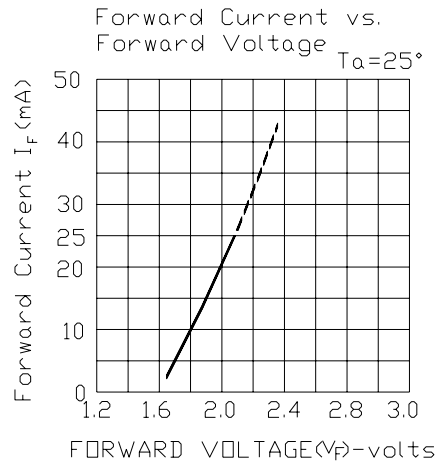
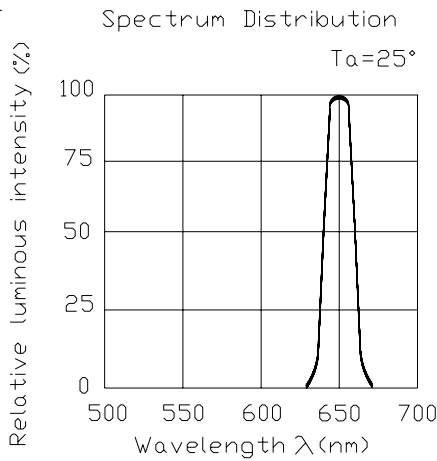
Electro-Optical Characteristics Ta=25°C

Parameter	*Symbol	Min.	Typ.	Max.	Unit	Condition	
Luminous Intensity	I _v	SDR	24	41	-----	mcd	I _F =20mA
		UG	15	25	-----		
Peak Wavelength	λ _p	SDR	-----	650	-----	nm	I _F =20mA
		UG	-----	570	-----		
Dominant Wavelength	λ _d	SDR	-----	639	-----	nm	I _F =20mA
		UG	-----	571	-----		
Spectrum Radiation Bandwidth	Δλ	SDR	-----	20	-----	nm	I _F =20mA
		UG	-----	30	-----		
Forward Voltage	V _F	SDR	-----	2.0	2.4	V	I _F =20mA
		UG	1.7	2.1	2.4		
Viewing Angle	2θ 1/2	-----	130	-----	deg	I _F =20mA	
Reverse Current	I _R	-----	-----	10	μA	V _R =5V	

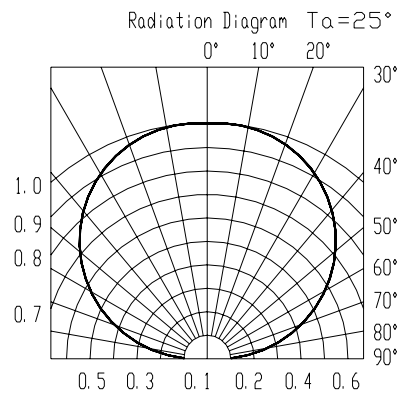
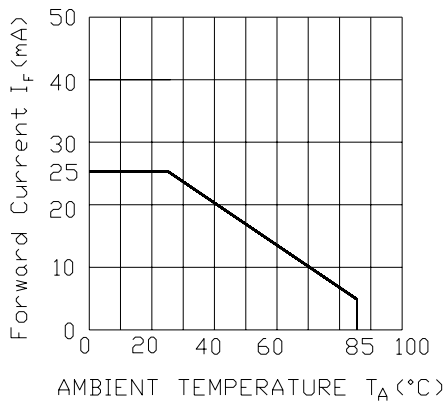
67-22SDRUGC/S530-A2/TR8

Typical Electro-Optical Characteristics Curves

SDR



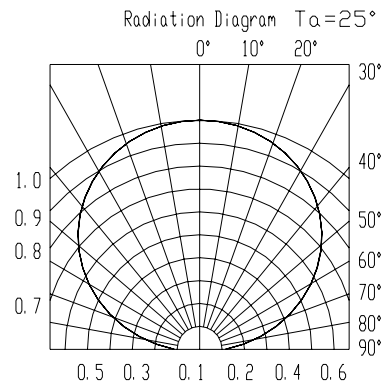
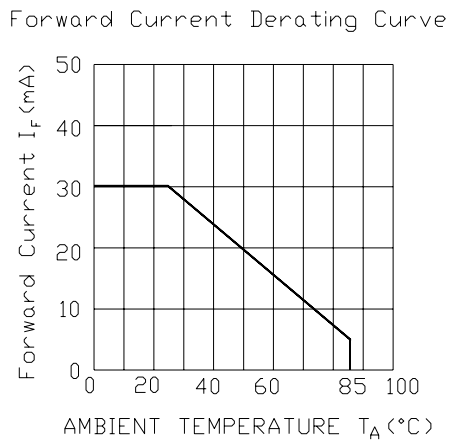
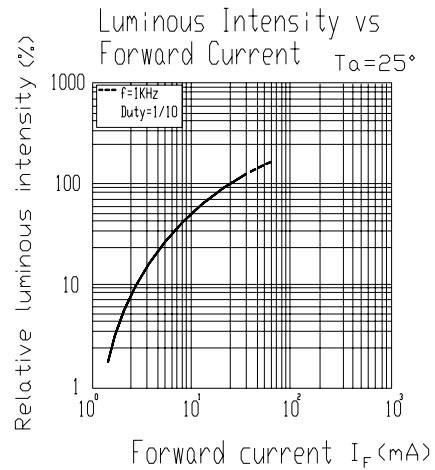
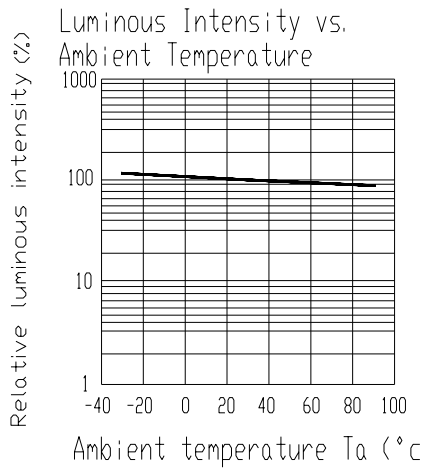
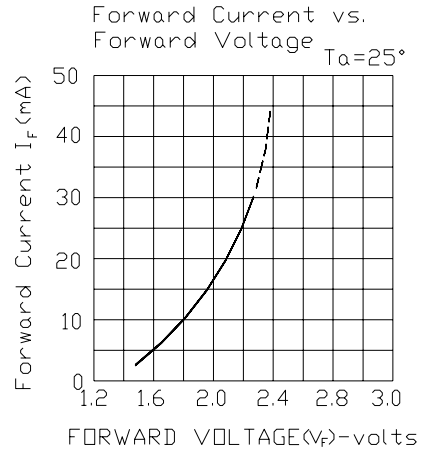
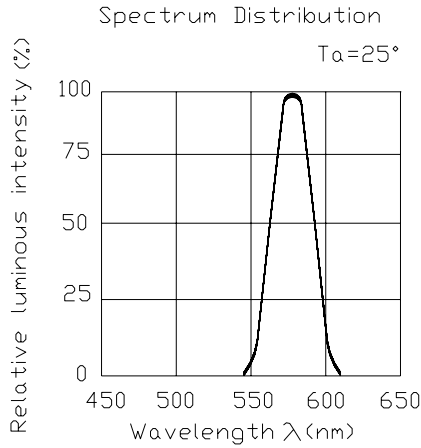
Forward Current Derating Curve



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Typical Electro-Optical Characteristics Curves

UG



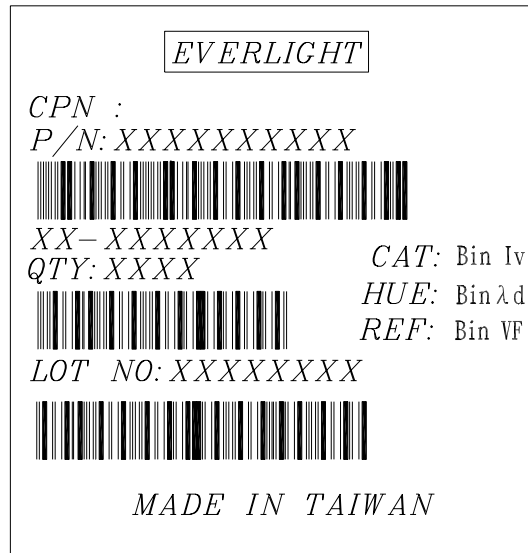
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■ **Label explanation**

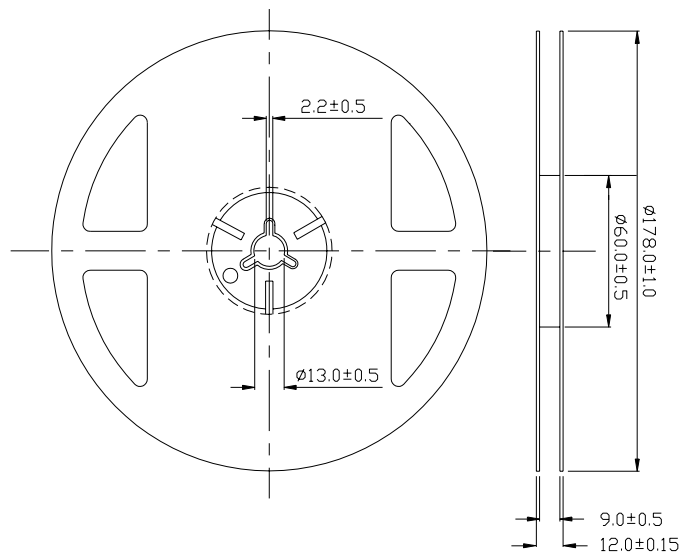
CAT: Luminous Intensity (mcd)

HUE: Dom. Wavelength (nm)

REF: Forward Voltage (V)



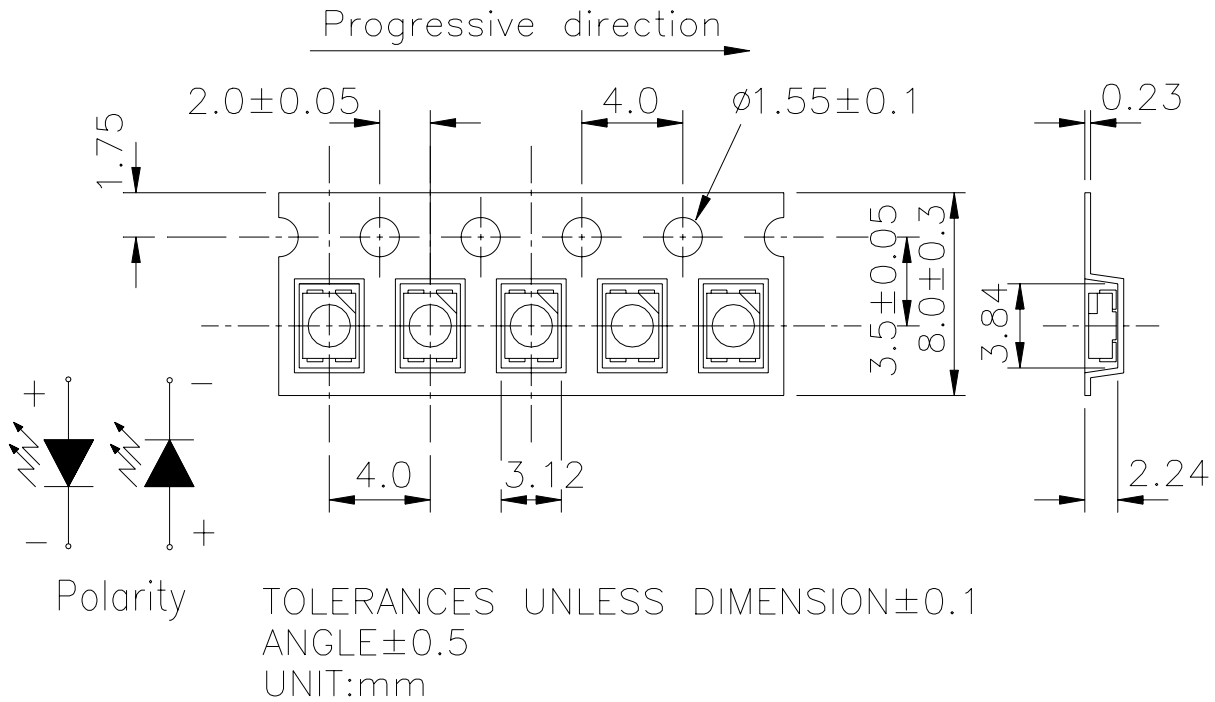
■ **Reel Dimensions**



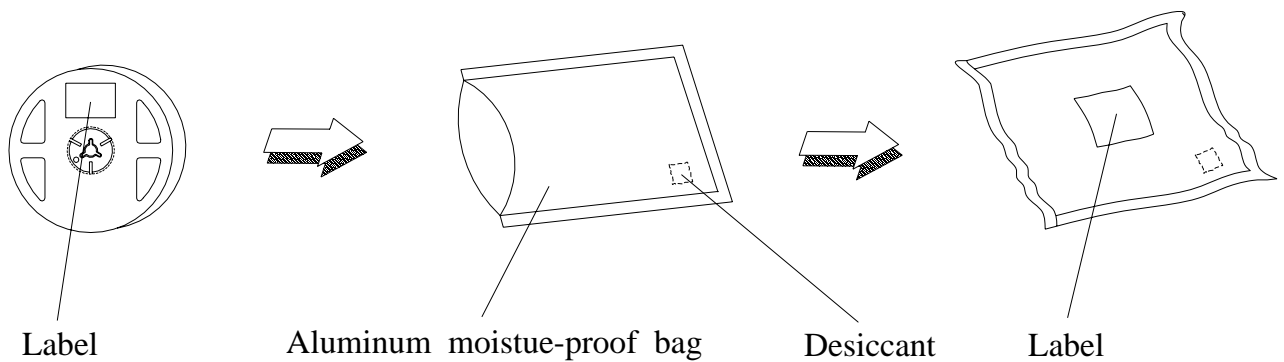
Note: Tolerances Unless Dimension $\pm 0.1\text{mm}$, Angle $\pm 0.5^\circ$, Unit = mm

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■ **Carrier Tape Dimensions: Loaded quantity 2000 PCS per reel**



■ **Moisture Resistant Packaging**



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Reliability Test Items And Conditions

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

LTPD : 10%

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Rc
1	Reflow	Temp. : 240°C ±5°C Min 5sec.	6 Min	22 PCS.	0/1
2	Temperature Cycle	H : +100°C 15min § 5 min L : -40°C 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	H : +100°C 5min § 10 sec L : -10°C 5min	300 Cycles	22 PCS.	0/1
4	High Temperature Storage	Temp. : 100°C	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Temp. : -55°C	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life	I _F = 20 mA	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85°C /RH85%	1000 Hrs.	22 PCS.	0/1

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°C~35°C , RH60%.

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

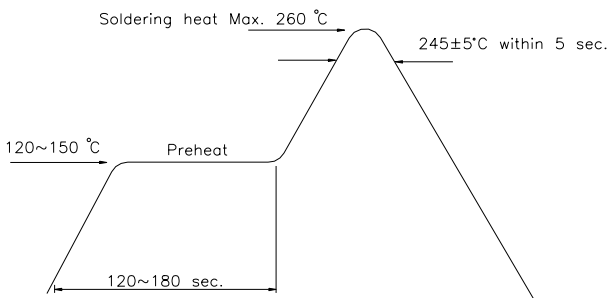
Otherwise, they should be kept in a damp proof box with descanting agent.

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

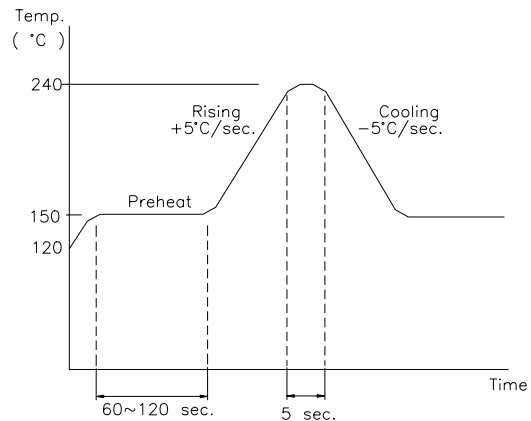
2.3 If opened more than one week in an atmosphere 5°C~35°C , RH 60%, they should be treated at 60°C±5°C for 15hrs.

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.

Soldering heat



Reflow Temp / Time

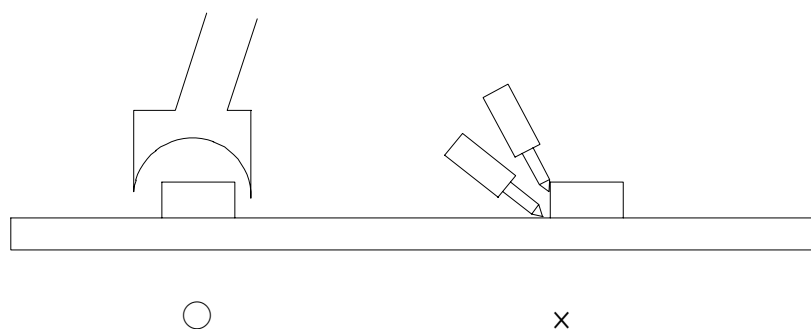


Soldering Iron

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 245°C.
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.



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