

Handling

The LEDs should only be picked up by making contact with the sides of the LED body; the hand tool should not put any pressure on the lens. Do not puncture or push the lens.

Thermal Management

The die junction temperature will be over the limit under large electronic driving and the LED lifetime will decrease critically. Thermal management should be worked to lower the product's thermal resistance.

The LED package could be mounted on a metal core printed circuit board (MCPCB). It is recommended that the surface area of the MCPCB is at least 30 cm² for 1W LED (and 80 cm² for 3W LED), and the MCPCB material with a thermal conductivity greater than 2.0 W/mK. The thermal glue or paste should have a thermal conductivity greater than 1.0 W/mK and its thickness must be less than 100 μm.

Soldering/Reflow Soldering

- The LEDs can be soldered in place using the reflow soldering method and the dip soldering method.
- Recommended soldering conditions

	Reflow Soldering		Hand Soldering	
	Lead Solder	Lead-free Solder	Temperature	350°C Max.
Pre-heat	120 ~ 150°C	180 ~ 200°C	Soldering time	3 sec. Max. (one time only)
Pre-heat time	120 sec. Max.	120 sec. Max.		
Peak	240°C Max	260°C Max.		
temperature Soldering time Condition	5 sec. Max. refer to Temperature - profile ①.	5 sec. Max. refer to Temperature - profile ②. (N ₂ reflow is recommended.)		

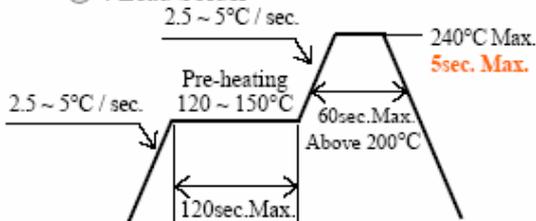
* Although the recommended soldering conditions are specified in the above table, reflow, dip or hand soldering at the lowest possible temperature is desirable for the LEDs.

* A rapid-rate process is not recommended for cooling the LEDs down from the peak temperature.

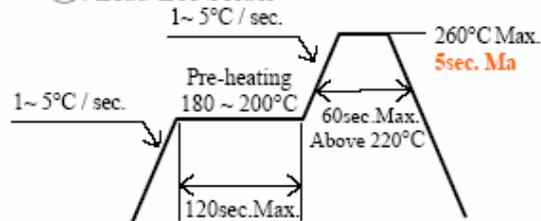
[Temperature-profile (Surface of circuit board)]

Use the conditions shown to the under figure.

<① : Lead Solder>



<② : Lead-free Solder>



- Occasionally there is a brightness decrease caused by the influence of heat or ambient atmosphere during air reflow, It is recommended that the User use the nitrogen reflow method.
- Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used. It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.
- Reflow soldering should not be done more than two times.
- Dip soldering should not be done more than one time.
- When soldering, do not put stress on the LEDs during heating.
- After soldering, do not warp the circuit board.

Cleaning

If an emitter requires cleaning, use isopropyl alcohol to gently remove dirt from the lens. Do not use other solvents (eg. Acetone) as they may adversely react with the LED assembly.

Application Note
Xeon Power LED

■ **Handling of Silicone Lens LEDs**

Notes for handling of silicone lens LEDs

- Please do not use a force of over 3kgf impact or pressure on the silicone lens, otherwise it will cause a catastrophic failure.
- The LEDs should only be picked up by making contact with the sides of the LED body.
- Avoid touching the silicone lens especially by sharp tools such as Tweezers.
- Avoid leaving fingerprints on the silicone lens.
- Please store the LEDs away from dusty areas or seal the product against dust.
- When populating boards in SMT production, there are basically no restrictions regarding the form of the pick and place nozzle, except that mechanical pressure on the silicone lens must be prevented.
- Please do not mold over the silicone lens with another resin. (epoxy, urethane, etc)

