CnC Tech
Industrial Cable and Connector Technology

CnC Tech Soldering Recommendations for the 3X10, 3X20, and 3221 Series

Reflow Soldering

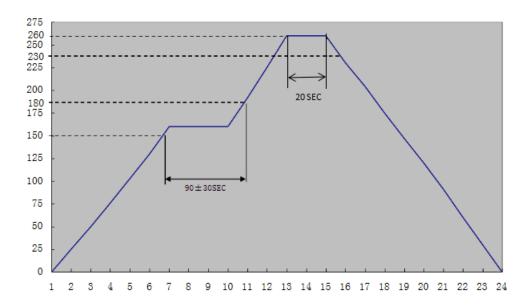## Recommended temperature and time periods for the soldering process

Series	Soldering method	Temperature in the furnace (lead -free)	Plastic	Furnace time	Soldering time
3X10	WAVE soldering	220°C to 230°C	PBT	1 to 3 minutes	0.3 to 3 seconds
3X20	Reflow soldering	260°C	Nylon 6T	6 minutes	10 to 30 seconds
3221	Reflow soldering	260°C	Nylon 6T	6 minutes	10 to 30 seconds

Nylon 6T reflow soldering profile:

1. Preheat zone: Temperature from room temperature to 150°C, the temperature rise rate controlled is at about

   2°C / seconds, the time zone from 60 to 150 seconds.

2. The average temperature zone (thermal soak zone): Temperatures from 150°C to 200°C, slowly warming stability, rate of temperature

rise of less than 1°C / second and the time control in the area of 60 to 120 seconds;

3. Reflux zone (reflow zone): Temperature from 210~220°C degrees, the whole interval time control in 60 to 90 seconds

4. Peak temperature: 240°C to 260°C for about 10~30 seconds

5. Melt temperature: 285°C

6. Cooling zone: Temperature from max 180°C, the temperature drop rate cannot exceed 4°C per second.

7. Heating from room temperature of 25°C to 250°C time should not exceed 6 minutes.

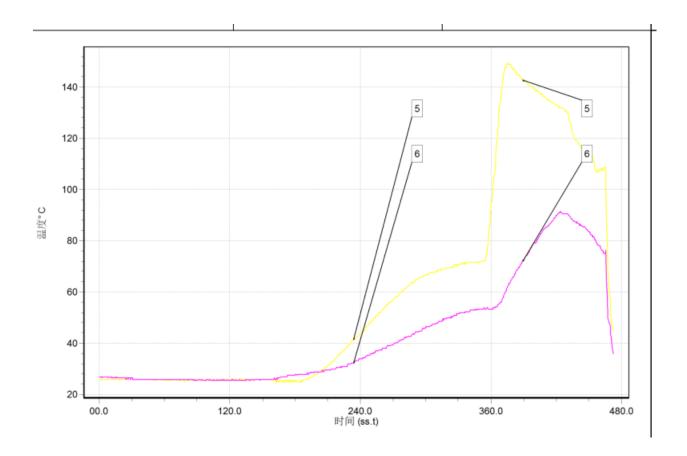8. Reflux zone (reflow zone) time of 30 to 90 seconds should be the goal

The time period shown in this graph above is 240 seconds.

Wave Soldering

About the wave soldering process, the temperature for wave solder machine needs to be set, then place the IDC with the board into the wave solder machine.

The tin contact temperature is 140°C - 180°C soldered to the IDC pin. There is no standard about the temperature for the board, because it is only 3 seconds when the tin contact the part, and then the tin attach the product, so 140°C to 230°C degree is allowed.

Below is the graph for wave soldering, based on factory self-testing:

The yellow line (5) shows the temp/seconds for the bottom board, the purple line (6) for above of board.