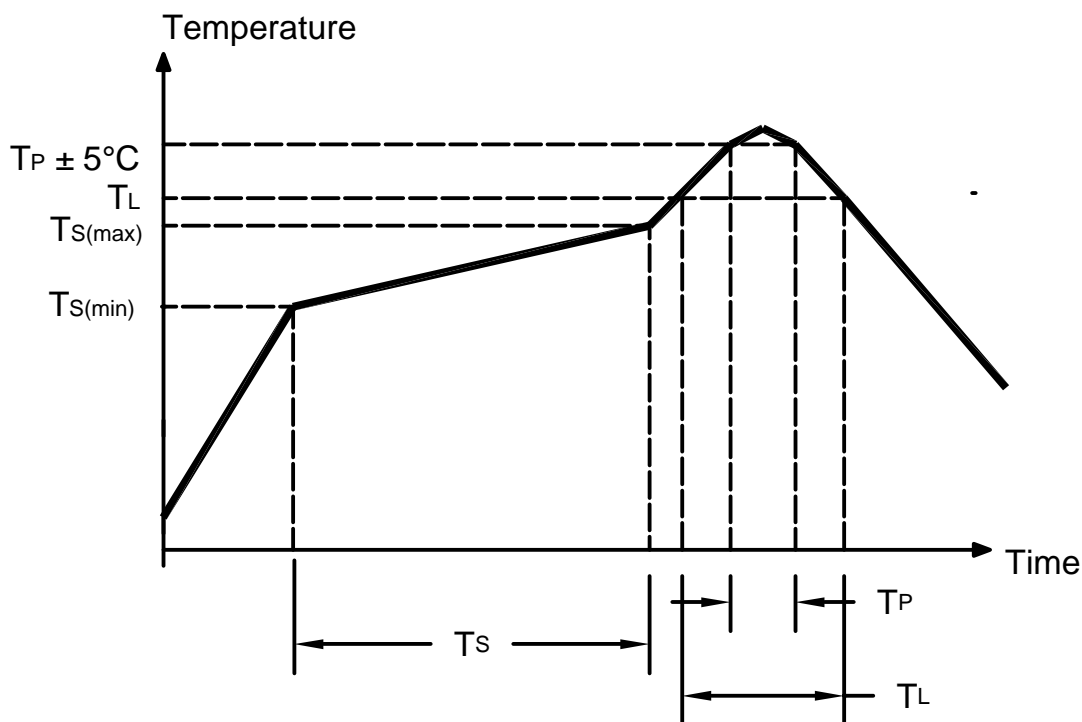


# MAXIMUM RECOMMENDED REFLOW PROFILE FOR SMT ASSEMBLY PRODUCTS

PARAMETER	SPECIFICATION FOR EUTECTIC TIN/LEAD SOLDER	SPECIFICATION FOR LEAD-FREE SOLDER
Ramp up rate	3° C/sec. maximum	3° C/sec maximum
Soak temperature $T_{s(min)} - T_{s(max)}$	135° C -- 155° C	150° C -- 200° C
Soak time $T_s$	2 min. maximum	3 min. maximum
Liquidus temperature $T_L$	183° C	217° C
Time above $T_L$	150 sec. maximum	150 sec. maximum
Peak temperature $T_P$	220 ± 5° C	255° C ± 5° C
Time at peak temperature $T_P$	30 sec. maximum	30 sec. maximum
Ramp down rate	3° C/sec.	3° C/sec.
Total number of reflows	3 maximum	3 maximum



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## REWORK/REMOVAL RECOMMENDATION FOR SMT ASSEMBLY PRODUCTS

### Rework Station:

Rework Station (with vacuum pickup): **Hakko 852**

Pre-heater: **Hakko 853**

Rework Fixture: **C1392**

(<http://www.hakkousa.com>)

### Rework Nozzles:

Signal Source Package Sizes	Leister Nozzle Size	Leister Nozzle Part Number
T-package VCO	12.6 X 12.6 mm	104.533
U-package VCO	10.1 X 10.1 mm	104.583
PLL250 package	25.3 X 25.3 mm	104.438
PLL300 package	15.4 X 20.5 mm	104.861
PLL350 package	20.1 X 14.1 mm	104.478
PLL400 package	15.4 X 15.4	104.527
X-package	9.8 X 7.3 mm	104.593
W-package	8.5 X 6 mm	104.599
N-package	12 X 11 mm	31D6/12x11.01

(<http://www.leister.com/>)

### Suggested Removal Procedure using Hakko 852

1. Mount circuit board assembly approximately 2" above the pre-heater. Set the pre-heater to 150°C. Allow the assembly to pre-heat.
2. Pre-set the temperature of the rework station to  $T_p$ . Pre-set removal time to 70 seconds. Set airflow to 12L/min.  $T_p = 315^\circ\text{C}$  for eutectic Tin/Lead solder.  $T_p = 375^\circ\text{C}$  for Lead-free solder.
3. Position the hand tool above the package.
4. Lower the hand tool down around the package to about 2.5-mm above the circuit board assembly. Press the start button on the rework tool to start the automatic removal sequence.

Note: Cycle parameters will vary based upon the type of rework station, PCB thickness and construction, as well as package size.

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