RECOMMENDED REFLOW SOLDERING PROFILE FOR PLASTIC SURFACE MOUNT PACKAGES

Tak Cheong's SOD/SOT devices are in surface mount flat lead plastic package technology, it is important that the board soldering profile follow the suggested guidelines outlined in this document.

This document is intended to inform uses (board assembly operations) to use Reflow Soldering process for Tak Cheong plastic surface mount devices.

REFLOW SOLDERING PROFILE

Once the device is placed on the PCB by proper board mounting process, a standard surface mount reflow process is recommended to be used to mount the part. The below reflow conditions & temperature profile is based on the IPC/JEDEC joint industry standard: J-STD-020D.1.

Profile Feature	SnPb eutectic assembly	Pb-free assembly
Average ramp-up rate (T_L to T_P)	3℃/sec maximum	3℃/sec maximum
Preheat Temperature minimum (T_{smin}) Temperature maximum (T_{smax}) Time (t_{smin} to t_{smax})	 100℃ 150℃ 60 sec to 120 sec	 150℃ 200℃ 60 sec to 120 sec
Liquidous Temperature (T_L) Time maintained above T_L (t_L)	183℃ 60 sec to 150 sec	217℃ 60 sec to 150 sec
Peak package body temperature (T_P)	235℃ maximum	260℃ maximum
Time within 5℃ of actual peak temperature (T_P)	20 sec maximum	30 sec maximum
Ramp-down rate (T_P to T_L)	6℃/sec maximum	6℃/sec maximum
Time 25℃ to peak temperature	6 minutes maximum	8 minutes maximum
Number of allowed reflow cycles	3	3