Silanna Semiconductor

AN0102

Reflow Solder Profile for Silanna Power Products

Introduction

Silanna recommends that a standard solder reflow profile is used based on IPC/JEDEC J-STD-020E for all power products as shown in Figure 1.

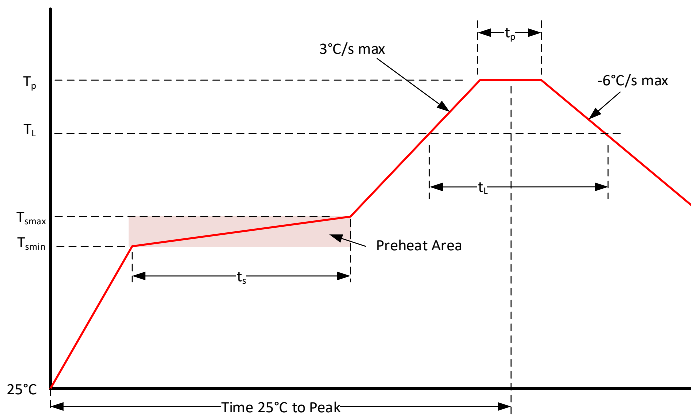

Figure 1: Solder reflow temperature profile

From J-STD-020E, the recommended profile parameters are:

Profile Feature	Pb Free Assembly
Preheat soak Minimum temperature T_{smin} Maximum Temperature T_{smax} Time (t_s) T_{smin} to T_{smax}	 150 °C 200 °C 60 – 120 seconds
Ramp up rate (T_L to T_p)	3 °C/second, maximum
Liquidous temperature (T_L) Time (t_L) above T_L	217 °C 60 – 150 seconds
Peak package temperature (T_p)	260 °C
Time (t_p) spent within 5°C of T_p	30 seconds
Ramp down rate, T_p to T_L	-6 °C/second maximum
Time 25 °C to peak temperature	8 minutes maximum

Revision History

Date	Revision	Notes	Author
February 2, 2018	1.0	Initial Release	KH
June 18, 2018	2.0	Reformatting and text edits.	AR
July 15, 2019	3.0	Text edits. Update headers/footers and update to new logo	CR