

Pb-free Reflow Profile

This module will comply with IPC/JEDEC J-STD-020 (Moisture/Reflow Sensitivity Classification for Nonhermetic Solid State Surface Mount Devices) for both Pb-free solder profiles and MSL classification procedures. The Standard provides reflow profile based on the volume and thickness of the module. The suggested Pb-free solder paste is Sn/Ag/Cu (SAC305). The recommended reflow temperature profile using SAC305 solder is shown below.

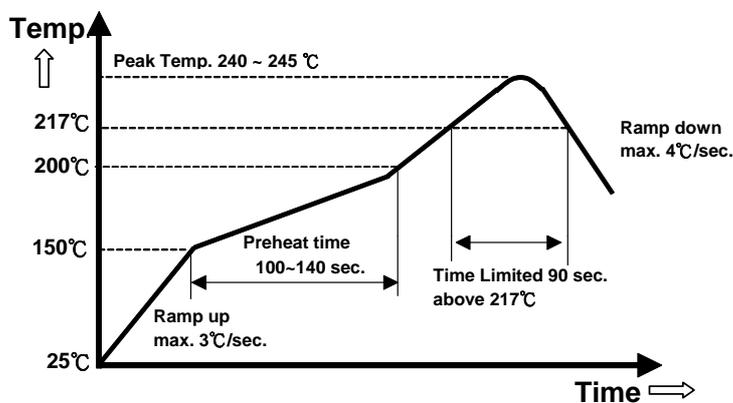


Figure 26 Recommended reflow profile using SAC305 solder paste.

Tin-Pb Reflow Profile

LGA80D modules are lead free modules and can be soldered either in a lead-free solder process or in a conventional Tin/Lead (Sn/Pb) process. It is recommended that the customer review datasheets in order to customize the solder reflow profile for each load board assembly. The following instructions must be observed when soldering these units. Failure to observe there instructions may result in the failure of or cause damage to the modules, and can adversely affect long-term reliability.

In a conventional Tin/Lead (Sn/Pb) solder process, peak reflow temperatures are limited to less than 235°C. Typically, the eutectic solder melts at 183°C, wets the land, and subsequently wicks the device connection. Sufficient time must be allowed to fuse the plating on the connection ensure a reliable solder joint. There are several types of SMTreflow technologies currently used in the industry. These surface mount power modules can be reliably soldered using natural forced convection, IR (radiant infrared), or a combination of convection/IR. For reliable soldering the solder reflow profile should be established by accurately measuring the modules block pin temperatures.

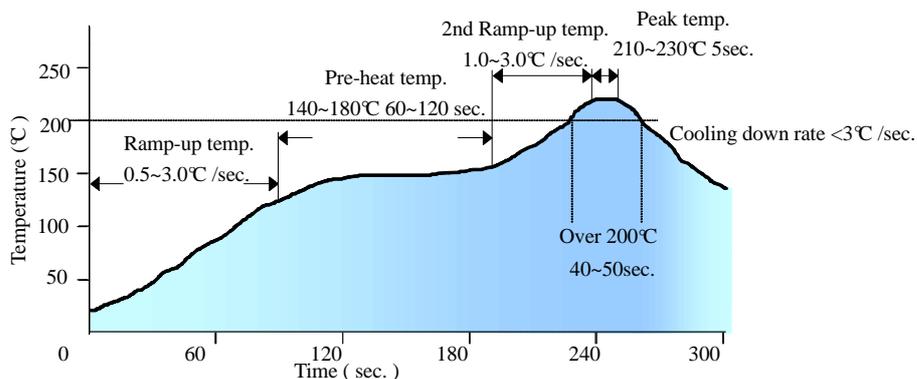


Figure 27 Recommended reflow profile

Note: The stencil thickness for soldering module to load board is recommended as 5mil