

ABSTRACT

SOLDER REFLOW OVEN

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A solder reflow oven for the processing of ball grid array substrates bearing solder balls is described, comprising: input means for introducing substrates into the oven, a processing chamber within which the substrates are subject to a solder reflow process, and output means for discharging substrates from the oven for further processing or handling, and means for transferring the substrates through the processing chamber in a first direction towards the output means. The processing chamber comprises a plurality of heating and cooling zones arranged with a constant pitch in the first direction, and the transferring means is adapted to move the substrates in the first direction in stages, with each component moving a distance equal to the pitch between two zones in each stage, whereby the components are moved from zone to zone in stages. In addition each block of each heating zone and each block of each cooling zone is connected to a source of fresh gas, and each block of each heating zone is provided with means for heating the gas, and each block of each cooling zone is provided with means for cooling the gas, and each block is formed with a serpentine channel between the source of fresh gas and at least one opening through which the gas is discharged from the block towards a substrate.

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Fig. 1



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