HEAD TRANSDUCER TO SUSPENSION LEAD TERMINATION BY SOLDER BALL PLACE/REFLOW

ABSTRACT

A method for forming electrical solder connections (90) between a thin film magnetic head transducer (88) and the conductors (86) in an integrated suspension after the head has been mechanically attached to a suspension. A solder ball (30) is placed between the head and conductor termination pads (18, 28). A focused laser beam is used to produce solder reflow. The resulting solder connection (90) has a very fine grain structure and includes a pair of extremely thin layers of intermetallic compounds in the regions where the solder connection abuts the head and the conductor termination pads. The solder connection has excellent mechanical properties and reliability. The method avoids the creation of solder bumps during the wafer stage, and therefore the component processing cost is low, and the process is both fast and manufacturable.

Fig. 2