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(21) International Application Number: PCT/US99/21885 (22) International Filing Date: 20 September 1999 (20.09.99) (30) Priority Data: 09/161,323 25 September 1998 (25.09.98) US (71) Applicant: AEHR TEST SYSTEMS [US/US]; 1667 Plymouth Street, Mountain View, CA 94043 (US). (72) Inventor: ANDBERG, John, W.; 305 Highview Court, Santa Cruz, CA 95060 (US). (74) Agents: HIGGINS, Willis, E.; Cooley Godward L.L.P., 3000 El Camino Real, Five Palo Alto Square, Palo Alto, CA 94306-2155 (US) et al.		(81) Designated States: IL, JP, KR, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>

(54) Title: WAFER LEVEL BURN-IN AND TEST THERMAL CHUCK AND METHOD**(57) Abstract**

A thermal chuck or heat sink (10) has a lower surface (12) covered with fins (14) parallel to air flow (16), to increase the surface area and promote heat transfer. A pair of slots (32) near pedestal (20) (along the fins) effectively lowers the conductivity of the metal in the direction across the fins. Heat flowing through this region of lowered conductivity experiences a greater temperature drop. This raises the temperature at the adjacent parts of the top surface, and (for properly sized slots) results in circular isotherms. The circular isotherms are turned into a nearly isothermal surface by a precisely dimensioned groove (36) parallel to the top surface (22), extending around the circumference of the pedestal (20). Heat flowing into the outer regions of the circular surface (22) is forced to travel radially inward, thus raising the edge temperature (which would naturally be lower than the center). For properly sized slots (32) and groove (36), it is possible to achieve a nearly constant temperature top surface (22).

