

WHAT IS CLAIMED IS:

1. A mounting head for bonding a chip to a bonding target, the mounting head comprising:
a mounting tool having a bottom surface which functions as a suction surface for sucking
and holding the chip;

5 a heater arranged on a surface of the mounting tool opposite to the suction surface and
heating the mounting tool;

a cooling mechanism having a plurality of cooling channels, which are independent of one
another and guide a refrigerant respectively to a plurality of cooling areas set in the heater, and
being capable of cooling the plurality of cooling areas independently of one another; and

10 a controller controlling driving of the heater and the cooling mechanism,

wherein the controller independently controls a flow rate of the refrigerant flowing through
the plurality of cooling channels so as to obtain a desired temperature distribution during heating
of the heater,

wherein the heater is a single ceramic heater in which a heat generating resistor is
15 embedded inside ceramics having the same shape as the suction surface, and

the controller independently controls the flow rate of the refrigerant flowing through the
plurality of cooling channels so that a temperature distribution is uniform during heating of the
heater,

wherein the flow rate of the refrigerant is higher in cooling areas of higher temperature as
20 compared to the flow rate in cooling areas of lower temperature.

2. The mounting head according to claim 1, wherein

the controller stores in advance condition data, which records a relationship among a
temperature distribution, a driving condition of the heater, and the flow rate of the refrigerant
flowing through the plurality of cooling channels, and controls driving of the heater and the

cooling mechanism based on the condition data.

3. The mounting head according to claim 1 or 2, wherein

a channel cross-sectional area of the cooling channel increases as the cooling channel approaches the heater.

5 4. The mounting head according to any one of claims 1 to 3, wherein

the controller causes the refrigerant to flow through the plurality of cooling channels in both a heating process of the chip and a cooling process of the chip performed after the heating process.