

ABSTRACT

A substrate support having a removable edge ring, which is made of a material having a lower coefficient of thermal expansion (CTE), than that of the substrate support is provided. The edge ring and the substrate support are configured for pin and slot coupling. Specifically, either the edge ring, or the substrate support comprises a plurality of pins, and the other of the edge ring or the substrate support comprises a plurality of hollow regions or slots in which the pins may be inserted. The slots are at least as wide as a corresponding one of the plurality of pins and extend in the direction in which the substrate support expands and contracts during thermal cycling. Each of the slots extends a length which is sufficient to compensate for the difference between the CTE of the substrate support and the CTE of the edge ring, over the range of process temperatures to which the apparatus is exposed. Preferably the susceptor is made of aluminum, and the edge ring is made of ceramic. A restrictor gap may be defined between a surface of the substrate support and a surface of the purge ring so as to restrict a volume of purge gas flowing to an edge of a substrate positioned on the substrate support. The purge gas delivery channel may have an exposed outlet and may be upwardly angled to facilitate cleaning.

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This Sheet Has Been Replaced