

CLAIMS:

1. A wafer boat for supporting a plurality of semiconductor wafers in a furnace comprising:

a first vertical rod;

a first set of fingers that extend radially inward from the first vertical rod along a first finger axis, the first finger axis extending over a chord of a circle centered about the longitudinal central axis of the wafer boat, the chord not intersecting the longitudinal central axis of the wafer boat, each finger of the first set comprising:

an elongated segment that extends from the first vertical rod;

and

a contact protuberance disposed on the elongated segment toward a distal end of the finger for contacting and supporting a semiconductor wafer, at least a portion of the contact protuberance being raised with respect to the elongated segment;

a second vertical rod;

a second set of fingers that extend radially inward from the second vertical rod along a second finger axis, the second finger axis extending over a chord of the circle, the chord not intersecting the longitudinal central axis of the wafer boat, each finger of the second set comprising:

an elongated segment that extends from the second vertical rod; and

a contact protuberance disposed on the elongated segment toward a distal end of the finger for contacting and supporting a semiconductor wafer, at least a portion of the contact protuberance being raised with respect to the elongated segment;

a third vertical rod;

a third set of fingers that extend radially inward from the third vertical rod along a third finger axis, the third finger axis extending over a chord of the circle, the chord intersecting the longitudinal central axis of the wafer boat, each finger of the third set comprising:

an elongated segment that extends from the third vertical rod;

and

a contact protuberance disposed on the elongated segment toward a distal end of the finger for contacting and supporting a semiconductor wafer, at least a portion of the contact protuberance being raised with respect to the elongated segment,

wherein the contact protuberances of the first, second, and third sets of fingers are spaced 120° about the wafer boat, and wherein each contact protuberance is rounded by increasing in height from sides of the contact protuberance to an apex that extends along the finger axis, and wherein each contact protuberance has a longitudinal contact protuberance axis, a length extending along the longitudinal contact protuberance axis, and a width perpendicular to the length, the width of each contact protuberance being 3 mm to 20 mm, the length of each contact protuberance being 10 mm to 50 mm, and the distance from the contact protuberance to a longitudinal central axis of the wafer boat being from 75 mm to 125 mm, for resting the semiconductor wafer on the rounded contact protuberance along the longitudinal contact protuberance axis.

2. The wafer boat as set forth in claim 1 wherein the contact protuberance has a width of 8 mm, a length of 30 mm, and the distance from the contact protuberance to a longitudinal central axis of the wafer boat is 100 mm.