CLAIMS

1. A method of generating a layout for optimizing the use of semiconducting material wafer for a die component of an ophthalmic lens, the method comprising:

dividing intact ring designs of die components into two or more arc segments, wherein at least a portion of each arc segment comprises an internal arcuate edge and an external arcuate edge;

generating the layout for the semiconducting material wafer by arranging the arc segments proximate to each other and

providing a dicing street width between the arc segments.

2. The method of Claim 1, wherein the internal arcuate edge and the external arcuate edge of each arc segment are arc matched.

3. The method of Claim 1, wherein the radius of the internal arcuate edge is different than the radius of the external arcuate edge.

4. The method of any one of Claims 1, 2 or 3, wherein the two or more arc segments are generally of the same shape.

5. The method of any one of Claims 1, 2, 3 or 4, wherein multiple of the two or more arc segments of the ring design are generally positioned in concentric rows.

6. The method of any one of Claims 1, 2, 3 or 4, wherein the arc segments of the ring design are generally positioned in interdigitated columns.

7. The method of any one of Claims 1, 2, 3 or 4, wherein at least a portion of an arc segment is positioned near the interior arcuate edge of another arc segment.

8. The method of any preceding claim, wherein the intact ring is divided into two ring segment designs.

9. The method of Claim 8, wherein the apex of the exterior convex edges of two ring segments placed near the center of the wafer are facing towards the outside of the wafer.

10. The method of Claim 1, wherein the intact ring is divided into three ring segments.

11. The method of Claim 10, wherein three segments of the multiple divided intact rings are positioned near the center of the wafer with concentric circles of arc segments around the three segments of the multiple divided intact rings.

12. The method of Claim 1, wherein the intact ring is divided into four ring segment designs.

13. The method of Claim 12, wherein the arc segments of the ring design are generally positioned in columns.

14. The method of Claim 13, wherein the columns are interdigitated with one of the edges of each arc segment.

15. The method of any preceding claim, wherein one or more of the ring segments include curvature designed to match the external arc of the fully arc-matched ring segment with arc-matched ends.

16. The method of any preceding claim, wherein one or both ends of the one or more segments include ends designed to allow interdigitation of columns of arc segments on a wafer.

17. A method of manufacturing a die component of an ophthalmic lens, the method comprising:

defining arc segments proximate to each other on a semiconducting material wafer with a dicing street width between the arc segments,

wherein two or more arc segments form a die component and wherein at least a portion of each arc segment comprises an internal arcuate edge and an external arcuate edge.

18. A semiconducting wafer comprising:

a layout of arc segments proximate to each other on the semiconducting wafer, wherein at least a portion of each arc segment comprises an internal arcuate edge and an external arcuate edge and wherein two or more arc segments form a ring die component; and

wherein the layout comprises a dicing street width between the arc segments.

CLAIMS

1. A method of generating a layout for optimizing the use of semiconducting material wafer for a die component of an ophthalmic lens, the method comprising:

dividing intact ring designs of die components into two or more arc segment designs, wherein at least a portion of each arc segment design comprises an internal arcuate edge and an external arcuate edge;

generating the layout for the semiconducting material wafer by positioning the arc segment designs proximate to each other, and

providing a dicing street width between the arc segments.

2. The method of Claim 1, wherein the internal arcuate edge and the external arcuate edge of each arc segment design are arc matched.

3. The method of Claim 1, wherein the radius of the internal arcuate edge is different than the radius of the external arcuate edge.

4. The method of any one of Claims 1, 2 or 3, wherein the two or more arc segment designs are generally of the same shape.

5. The method of any one of Claims 1, 2, 3 or 4, wherein multiple of the two or more arc segment designs of the ring design are generally positioned in concentric rows.

6. The method of any one of Claims 1, 2, 3 or 4, wherein the arc segment designs of the ring design are generally positioned in interdigitated columns.

7. The method of any one of Claims 1, 2, 3 or 4, wherein at least a portion of an arc segment design is positioned near the interior arcuate edge of another arc segment.

8. The method of any preceding claim, wherein the intact ring is divided into two ring segment designs.

9. The method of Claim 8, wherein the apex of the exterior convex edges of two ring segments placed near the center of the wafer are facing towards the outside of the wafer.

10. The method of Claim 1, wherein the intact ring is divided into three ring segments.

11. The method of Claim 10, wherein three segments of the multiple divided intact rings are positioned near the center of the wafer with concentric circles of arc segment designs around the three segments of the multiple divided intact rings.

12. The method of Claim 1, wherein the intact ring is divided into four ring segment designs.

13. The method of Claim 12, wherein the arc segment designs of the ring design are generally positioned in columns.

14. The method of Claim 13, wherein the columns are interdigitated with one of the edges of each arc segment design.

15. The method of any preceding claim, wherein one or more of the ring segments include curvature designed to match the external arc of the fully arc-matched ring segment with arc-matched ends.

16. The method of any preceding claim, wherein one or both ends of the one or more segments include ends designed to allow interdigitation of columns of arc segments on a wafer.

17. A method of manufacturing a die component of an ophthalmic lens, the method compnsmg:

defining arc segment designs proximate to each other on a semiconducting material wafer with a dicing street width between the arc segment designs,

wherein two or more arc segment designs form a die component and wherein at least a portion of each arc segment design comprises an internal arcuate edge and an external arcuate edge.

18. A semiconducting wafer comprising:

a layout of arc segment designs proximate to each other on the semiconducting wafer, wherein at least a portion of each arc segment design comprises an internal arcuate edge and an external arcuate edge and wherein two or more arc segments form a ring die component;

and

wherein the layout comprises a dicing street width between the arc segments.