CLAIMS:

1. Method of molding a substrate containing a plurality of electronic devices, comprising the steps of:

providing a carrier comprising a frame including an adhesive film;

mounting the substrate onto the adhesive film of the carrier such that the frame surrounds the substrate;

placing the carrier in a mold such that the frame is located at a clamping area of the mold and the substrate is located at a molding area of the mold where molding cavities are located;

clamping the frame at the clamping area while locating the electronic devices in the molding cavities; and thereafter

molding the electronic devices located in the molding cavities with an encapsulant.

2. Method as claimed in claim 1, wherein the carrier comprises an outer frame and an inner frame mounted within a perimeter of the outer frame, wherein the adhesive film is attached to the inner frame for mounting the substrate.

3. Method as claimed in claim 2, wherein the outer frame but not the inner frame is clamped at the clamping area during molding.

4. Method as claimed in claim 2, wherein the outer frame comprises a frame of a wafer ring.

5. Method as claimed in claim 1, wherein the mold comprises a top mold and a bottom mold which move relative to each other to close onto and apply a clamping force on the carrier when clamping the frame at the clamping area.

6. Method as claimed in claim 5, further comprising a track plate on the top mold which is operative to grip the carrier and move it relative to both the top and

bottom molds, wherein the track plate applies a holding force on the carrier against the top mold after the carrier is placed in the mold.

7. Method as claimed in claim 6, wherein after molding, the track plate is lowered away from the top mold and releases its holding force on the carrier against the top mold.

8. Method as claimed in claim 5, wherein the top mold includes a top support plate and the bottom mold includes a bottom support plate, and the top and bottom support plates are spring biased towards the substrate to apply a compression force onto the substrate via said spring bias after the frame has been clamped at the clamping area.

9. Method as claimed in claim 1, wherein the molding area comprises a mold insert which is detachably insertable into the mold, and wherein the mold insert contains the molding cavities, each cavity being sized and configured to insert an electronic device into the molding cavity.

10. Method as claimed in claim 9, wherein the molding cavity is dome-shaped.

11. Method as claimed in claim 9, wherein the mold insert is moved relative to the substrate after the frame of the carrier has been clamped so as to contact the substrate and to press the molding cavities against the substrate during molding.

12. Method as claimed in claim 1, wherein the carrier has a plurality of mounting positions surrounded by multiple frames for mounting multiple substrates.

13. Method as claimed in claim 1, wherein the substrate is a ceramic or silicon substrate.

14. Method as claimed in claim 1, wherein the electronic devices are light-emitting diode devices.

CLAIMS

1. A method of molding a substrate containing a plurality of electronic devices, comprising the steps of:

providing a carrier comprising a frame on which an adhesive film is attached, the frame being arranged to surround at least one mounting position of the adhesive film;

mounting the substrate onto the at least one mounting position of the adhesive film of the carrier such that the frame surrounds the substrate, and, thereafter;

placing the carrier in a mold such that the frame is located at a clamping area of the mold and the substrate is located at a molding area of the mold where molding cavities are located, wherein the mold comprises a top mold and a bottom mold which move relative to each other to close onto and apply a clamping force on the carrier when clamping the frame at the clamping area;

clamping the frame at the clamping area while locating the electronic devices in the molding cavities; and

molding the electronic devices located in the molding cavities with an encapsulant.

2. The method as claimed in claim 1, wherein the carrier comprises an outer frame and an inner frame mounted within a perimeter of the outer frame, wherein the adhesive film is attached to the inner frame for mounting the substrate.

3. The method as claimed in claim 2, wherein the outer frame but not the inner frame is clamped at the clamping area during molding.

4. The method as claimed in claim 2 or claim 3, wherein the outer frame comprises a frame of a wafer ring.

5. The method as claimed in any one of the preceding claims, further comprising a track plate on the top mold which is operative to grip the carrier and move it relative to both the top and bottom molds, wherein the track plate applies a holding force on the carrier against the top mold after the carrier is placed in the mold.

6. The method as claimed in claim 5, wherein after molding, the track plate is lowered away from the top mold and releases its holding force on the carrier against the top mold.

7. The method as claimed in any one of the preceding claims, wherein the top mold includes a top support plate and the bottom mold includes a bottom support plate, and the top and bottom support plates are spring biased towards the substrate to apply a compression force onto the substrate via said spring bias after the frame has been clamped at the clamping area.

8. The method as claimed in any one of the preceding claims, wherein the molding area comprises a mold insert which is detachably insertable into the mold, and wherein the mold insert contains the molding cavities, each cavity being sized and configured to permit the insertion of an electronic device into the molding cavity.

9. The method as claimed in any one of the preceding claims, wherein each of the molding cavities is dome-shaped.

10. The method as claimed in claim 8 or claim 9, wherein the mold insert is moved relative to the substrate after the frame of the carrier has been clamped so as to contact the substrate and to press the molding cavities against the substrate during molding.

11. The method as claimed in any one of the preceding claims, wherein the carrier has a plurality of mounting positions surrounded by multiple frames for mounting multiple substrates.

12. The method as claimed in any one of the preceding claims, wherein the substrate is a ceramic or silicon substrate.

13. The method as claimed in any one of the preceding claims, wherein the electronic devices are light-emitting diode devices.