WHAT IS CLAIMED IS:

1. A method of processing a wafer having a plurality of devices formed in respective areas on a face side of the wafer, the areas being demarcated by a plurality of intersecting projected dicing lines, wherein the devices include protrusions on face sides thereof, the method comprising:

a resin applying step of coating the face side of the wafer with a liquid resin to cover an area of the wafer where the plurality of devices are present;

a resin curing step of curing the liquid resin into a protective film;

a planarizing step of planarizing the protective film, wherein the protective film has been formed to a thickness sufficiently large to embed the protrusions;

a modified layer forming step of forming modified layers in the wafer along the respective projected dicing lines by applying a laser beam having a wavelength transmittable through the wafer to the wafer from a reverse side of the wafer along the projected dicing lines while positioning a focused spot of the laser beam within the wafer; and

a dividing step of grinding the reverse side of the wafer with grindstones to finish the wafer to a

predetermined thickness and dividing the wafer into individual device chips along the modified layers.

2. A method of processing a wafer having a plurality of devices formed in respective areas on a face side of the wafer, the areas being demarcated by a plurality of intersecting projected dicing lines, wherein the devices include protrusions on face sides thereof the method comprising:

a resin applying step of coating the face side of the wafer with a liquid resin to cover an area of the wafer where the plurality of devices are present;

a resin curing step of curing the liquid resin into a protective film;

a planarizing step of planarizing the protective film, wherein the protective film has been formed to a thickness sufficiently large to embed the protrusions; and

a laser ablation step of performing laser ablation on the wafer along the projected dicing lines by positioning a focused spot of a laser beam having a wavelength absorbable by the wafer on the face side of the wafer along the projected dicing lines and applying the laser beam to the wafer.

3. The method of processing a wafer according to

claim 1 or claim 2, wherein the planarizing step includes the steps of holding a reverse side of the wafer on a chuck table, exposing the face side of the wafer, and cutting the protective film to planarize the protective film with a cutting unit having a single-point cutting tool.

4. The method of processing a wafer according to any one of claims 1 to 3, wherein surface irregularities of the protective film are removed in the planarizing step.

5. The method of processing a wafer according to claim 1, wherein the modified layer forming step is carried out after a grinding step of grinding the reverse side of the wafer with grindstones to finish the wafer to a predetermined thickness, and wherein the dividing step includes dividing the wafer into individual device chips by exerting external forces to the wafer.