WHAT IS CLAIMED IS:

1. A method of manufacturing a glass interposer by dividing a glass substrate along a plurality of division lines set in a grid pattern into glass interposers of a reduced size, the glass substrate including a plurality of through electrodes penetrating a front surface and a back surface of the glass substrate, stacked bodies having wiring layers and resin layers alternately formed on the front surface and the back surface of the glass substrate, and the division lines, the method comprising:

a first groove forming step of processing the stacked bodies, formed on the front surface and the back surface of the glass substrate, along the division lines to form first grooves having a first width and such a depth as not to reach the glass substrate, while leaving a residual resin portion at bottoms of the first grooves;

a second groove forming step of applying a laser beam of such a wavelength as to be absorbed in the resin layer to the bottoms of the first grooves formed in the first groove forming step to perform ablation processing of the residual resin portion, thereby exposing the front surface and the back surface of the glass substrate and forming second grooves in the residual resin portion having a second width narrower than the first width;

a modified layer forming step of applying a laser beam of such a wavelength as to be transmitted through the glass substrate through the second groove on the front surface or the back surface of the glass substrate along the division lines, with a focal point set in inside of the glass substrate, to form modified layers in the inside of the glass substrate; and

a dividing step of exerting an external force on the glass substrate to divide the glass substrate, with the modified layers as division starting points,

wherein the glass interposers obtained by dividing the glass substrate to the reduced size are provided with the stacked bodies on the front surface and the back surface, the stacked bodies each formed at an outer peripheral portion thereof with the residual resin portion formed in the first groove forming step.

2. The method of manufacturing the glass interposer according to claim 1, wherein the first groove forming step includes forming the first grooves by use of a cutting blade.