WHAT IS CLAIMED IS:

1. A method of dividing a workpiece into predetermined dimensions based on a first direction and a second direction orthogonal to the first direction, the method comprising:

a dicing tape sticking step of sticking a dicing tape to the workpiece;

a first laser processing step of holding a side of the dicing tape on a holding table and irradiating the workpiece with a laser beam along the first direction to form first laser-processed grooves;

a first expanding step of expanding the dicing tape in the second direction to enlarge width of the first laser-processed grooves after carrying out the first laser processing step;

a second laser processing step of irradiating the workpiece with the laser beam along the second direction to form second laser-processed grooves while the first laser-processed grooves are enlarged in the second direction after carrying out the first expanding step; and

a second expanding step of expanding the dicing tape in the first direction to enlarge width of the second laser-processed grooves after carrying out the second laser processing step.

2. Laser processing apparatus comprising:

workpiece holding means for holding a workpiece supported by an annular frame with intermediary of a dicing tape;

laser beam irradiation means for irradiating the workpiece held by the workpiece holding means with a laser beam;

an image sensor that images the workpiece;

frame holding means for holding the frame;

means for moving the frame holding means and expanding the dicing tape in a first direction and in a second direction orthogonal to the first direction; and

means for heating a region between the workpiece on the dicing tape and the frame and shrinking the region.

3. The method of claim 1, wherein the first laser-processed grooves fully cut the workpiece and expose the dicing tape.

4. The method of claim 3, wherein the second laser-processed grooves fully cut the workpiece and expose the dicing tape.

5. The laser processing apparatus of claim 2, the means for moving comprising a piston and a cylinder.

6. The laser processing apparatus of claim 2, the frame holding means comprising a frame placement base and a clamp part.

7. The laser processing apparatus of claim 2, wherein the means for moving are configured to expand the dicing tape in the second direction only in a first expanding step and in the first

direction only in a second expanding step.