WHAT IS CLAIMED IS:

1. A method for making a support structure for a probing device, comprising the steps of:

a) providing a substrate having a plurality of first internal conductive lines, a carrier having a plurality of second internal conductive lines and a thickness less than 2 mm for packaging an integrated circuit chip, a plurality of photoresist support blocks made by lithography, and a plurality of solder balls in a way that the photoresist support blocks and the solder balls are disposed between the substrate and the carrier, the photoresist support blocks are separately arranged, and at least one of the photoresist support blocks is disposed between two adjacent said solder balls; and

b) soldering the carrier and the substrate with the solder balls by reflow soldering to electrically connect the first internal conductive lines with the second internal conductive lines respectively;

wherein the carrier is a space transformer having a first surface, a second surface that is opposite to the first surface and faces toward the substrate, a plurality of first conductive contact pads separately arranged on the first surface, and a plurality of second conductive contact pads separately arranged on the second surface and electrically connected with said plurality of first conductive contact pads through said plurality of second internal conductive lines, respectively; two adjacent said first conductive contact pads define a first interval that is smaller than a second interval defined by two adjacent said second conductive contact pads;

wherein a plurality of intervals are defined between two adjacent said photoresist support blocks, and the intervals include at least two different lengths; and

wherein said plurality of photoresist support blocks are arranged in a pattern having multiple rows; any two adjacent rows of the photoresist support blocks in the

pattern define a gas guiding path in which one or more of the solder balls are located; at least one of the gas guiding paths has at least two different widths.

2. The method as claimed in claim 1, wherein the at least one of the photoresist support blocks is disposed between two adjacent said solder balls in a way that the two adjacent said solder balls define therebetween an interval larger than 20 μm.

3. The method as claimed in claim 1, wherein the photoresist support blocks have a shape of cylindrical column or rectangular column.

4. The method as claimed in claim 1, wherein the surfaces of the photoresist support blocks that face toward the carrier or the substrate have at least two different areas.

5. The method as claimed in claim 1, wherein the substrate is selected from the group consisting of a printed circuit board, a board having a multi-layered ceramic structure, and a board having a multi-layered ceramic structure and a multi-layered organic structure.

6. The method as claimed in claim 1, wherein the step a) further comprises a substep of providing a reinforcing board and disposing the reinforcing board between the substrate and the carrier; the reinforcing board has a plurality of through holes that accommodate the solder balls respectively.

7. The method as claimed in claim 6, wherein the photoresist support blocks are directly pre-formed on a first surface or a second surface of the reinforcing board; the first surface of the reinforcing board faces toward the carrier, and the second surface of the reinforcing board faces toward the substrate.

8. The method as claimed in claim 1, wherein the photoresist support blocks are directly pre-formed on a surface of the carrier or a surface of the substrate; the surface of the carrier faces toward the substrate, and the surface of the substrate faces toward the carrier.

9. The method as claimed in claim 1, wherein the photoresist support blocks are arranged among the solder balls in an aperiodic manner.

10. The method as claimed in claim 1, wherein at least one of the gas guiding paths extends in a non-linear manner.

11. The method as claimed in claim 1, wherein the solder balls that are located in one of the gas guiding paths have at least two different diameters.

12. The method as claimed in claim 1, wherein four adjacent said solder balls define an imaginary quadrilateral; at least one of the photoresist support blocks is located in a centroid of the imaginary quadrilateral.

13. The method as claimed in claim 12, wherein the at least one of the photoresist support blocks that is located in the centroid of the imaginary quadrilateral

is a reuleaux curved-edge squad having four vertices and four curved edges each connected between two adjacent said vertices; each said curved edge faces toward one respective said solder ball.

14. The method as claimed in claim 1, wherein at least one of the photoresist support blocks has an L-shaped, V-shaped, U-shaped or Y-shaped profile.

15. The method as claim in claim 1, wherein a probe module is disposed on the first surface of the space transformer; the photoresist support blocks are separately arranged at least in a region corresponding to the probe module.