Claims:

1. An optical module comprising:

a first substrate having a top side on which a first active optical component is present;

a second substrate having a bottom side;

wherein the first substrate and the second substrate are interconnected such that the top side of the first substrate faces the bottom side of the second substrate with no further substrate in between the first and second substrates, and the second substrate is stacked onto the first substrate;

wherein the second substrate has

a material region which is a laterally defined region in which material of the second substrate is present and having a top side on which a second passive optical component is present, the top side of the material region being on a side of the second substrate opposite that of the bottom side of the second substrate; and

at least one open region which is a laterally defined region in which no material of the second substrate is present;

wherein at least a portion of the first active optical component is laterally located within the at least one open region.

2. The optical module according to claim 1, wherein the first active optical component is laterally positioned in a first region and the second passive optical component is laterally positioned in a second region, wherein the first region and the second region do not overlap.

3. The optical module according to claim 1, wherein the first active optical component is arranged such that it vertically extends beyond the bottom side of the second substrate.

4. The optical module according to claim 1, wherein the first active optical component is surrounded by a boundary between the material region and the at least one open region.

5. The optical module according to claim 1, further comprising a third substrate and a first spacer, wherein the first spacer is present between the first substrate and the third substrate.

6. The optical module according to claim 1, comprising a second spacer, the second spacer extending from a top side of the second substrate opposite to the bottom side of the second substrate into a direction opposite to a direction pointing from the bottom side of the second substrate to the top side of the first substrate.

7. The optical module according to claim 5, comprising a second spacer, the second spacer extending from a top side of the second substrate opposite to the bottom side of the second substrate into a direction opposite to a direction pointing from the bottom side of the second substrate to the top side of the first substrate, the second spacer being at a distance from the third substrate.

8. The optical module according to claim 1, wherein at least one conductor path is present on the top side of the first substrate in the material region.

9. The optical module according to claim 1, wherein no part or component of the optical module is present between the first active optical component and the second passive optical component.

10. The optical module according to claim 1, wherein the second substrate is structured in such a way that an undercut between the second substrate and the top side of the first substrate is established.

11. The optical module according to claim 1, wherein a lateral distance between the first active optical component and the second passive optical component is smaller than 800 µm.

12. A wafer stack comprising a plurality of optical modules according to claim 1.

13. A wafer stack comprising:

— a first substrate wafer on which a plurality of first active optical components is present on a top side of the first substrate wafer;

— a second substrate wafer having one or more openings and a material region which is a continuous laterally defined region in which material of the second substrate is present, wherein a plurality of second passive optical components is present on a top side of said material region;

wherein the top side of the first substrate wafer faces a bottom side of the second substrate wafer with no further wafer in between, and wherein at least a portion of each

first active optical component of the plurality of first active optical components is present in a respective one of the one or more openings.

14. A device comprising the optical module according to claim 1, further comprising a printed circuit board on which the optical module is mounted.

15. A device comprising the optical module according to claim 1, wherein the device is at least one of

— a portable or mobile computing device;

— a smart phone;

— a tablet computer;

— a digital reader;

— a photographic device;

— a digital camera;

— a game controller;

— a sensing device;

— a sensor.

16. The optical module according to claim 5, wherein the first spacer is present between the second substrate and the third substrate.

17. The optical module according to claim 1, wherein the first active optical component is projecting into or through the at least one open region.

18. The optical module according to claim 1, wherein the first active optical component protrudes into the at least one open region of the second substrate and extends beyond a top side of the second substrate.

19. The optical module according to claim 5, wherein the first spacer is continuous with the third substrate.

20. The optical module according to claim 6, wherein the second spacer is continuous with the second substrate.

21. The optical module according to claim 8, wherein the at least one conductor path is present in a laterally defined region occupied by the second passive optical component.

22. The wafer stack according to claim 13, wherein each first active optical component of the plurality of first active optical components protrudes from the top side of the first substrate wafer beyond a top side of the second substrate wafer.

23. The wafer stack according to claim 13, wherein the second substrate wafer has a multitude of openings, and each first active optical component of the plurality of first active optical components projects into or through a respective one of the one or more openings.

24. The wafer stack according to claim 13, wherein each first active optical component of the plurality of first active optical components protudes into a respective one of the one or more openings of the second substrate and extends beyond a top side of the second substrate.

25. The optical module according to claim 1, wherein no part or component of the optical module is present between the first active optical component and the second passive optical component other than one or more of the following:

a portion of the second substrate;

a bonding agent on the top side of the first substrate.

26. The optical module according to claim 1 wherein the first and second substrates are bonded directly to one another.

27. The optical module according to claim 1 wherein the first and second substrates are bonded directly to one another only by adhesive.

28. The optical module of claim 1 wherein the second passive optical component is a reflective optical component.

29. The optical module of claim 1 wherein the second passive optical component is a curved mirror.

30. The wafer stack of claim 13 wherein each of the second passive optical components is a reflective optical component.

31. The wafer stack of claim 13 wherein each of the second passive optical components is a curved mirror.