ductive layer separated by a gap from the first transparent conductive layer. Randomly arranged voids may be formed in the second transparent conductive layer.

[0043] The foregoing description of the various embodiments of the invention has been presented for the purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed. Many modifications and variations are possible in light of the above teaching. It is intended that the scope of the invention be limited not by this detailed description, but rather by the claims appended hereto.

What is claimed is:

1. A touch sensor, comprising:

a transparent conductive layer coupled to a transparent insulating layer, the transparent conductive layer incorporating an intended plurality of voids arranged according to a random pattern and maintaining electrical continuity of the transparent conductive layer.

2. The touch sensor of claim 1, wherein at least some of the voids define apertures through the transparent conductive layer.

3. The touch sensor of claim 1, wherein at least some of the voids do not define apertures through the transparent conductive layer.

4. The touch sensor of claim 1, wherein each void has an area less than about 10,000 μm^2.

5. The touch sensor of claim 1, wherein the voids are substantially circular.

6. The touch sensor of claim 1, wherein the transparent conductive layer incorporating the voids has a sheet resistance in a range of about 100 to 10,000 ohms per square.

7. The touch sensor of claim 1, wherein the touch sensor comprises a capacitive touch sensor.

8. The touch sensor of claim 1, wherein the touch sensor comprises a resistive touch sensor.

9. The touch sensor of claim 1, wherein the transparent conductive layer comprises ITO.

10. The touch sensor of claim 1, wherein the transparent conductive layer comprises ATO.

11. The touch sensor of claim 1, wherein the transparent conductive layer comprises TO.

12. The touch sensor of claim 1, wherein the transparent conductive layer comprises a conductive polymer.

13. The touch sensor of claim 1, wherein the transparent insulating layer comprises glass.

14. The touch sensor of claim 1, wherein the transparent insulating layer comprises PET.

15. The touch sensor of claim 1, further comprising a controller coupled to the transparent conductive layer and configured to determine a touch input location based on signals associated with the touch input.

16. The touch sensor of claim 15, further comprising a display disposed for viewing through the transparent conductive layer.

17. The touch sensor of claim 16, where the display comprises a liquid crystal display.

18. The touch sensor of claim 17, further comprising a processor coupled to the controller and the display, the processor configured to receive touch location information from the controller and display information on the display.

19. A method of manufacturing a touch sensor, comprising:

disposing a transparent conductive layer on a substrate; and

forming voids in the transparent conductive layer, wherein the voids are arranged according to a random pattern.

20. The method of claim 19, wherein the voids are formed by etching.

21. The method of claim 19, wherein the voids are formed by ablation.

22. The method of claim 19, wherein the voids are arranged to maintain electrical continuity of the transparent conductive layer.

23. The method of claim 19, wherein forming the voids comprises forming substantially circular voids.

24. The method of claim 19, wherein the voids have an area in a range of about 10,000 μm^2.

22. The method of claim 19, wherein the voids define apertures through the conductive layer.

22. The method of claim 19, wherein the voids do not penetrate the conductive layer.

23. The method of claim 19, wherein forming the voids comprises forming the voids to achieve a selected sheet resistance of the transparent conductive layer.

24. The method of claim 19, wherein the selected sheet resistance is in a range of about 100 to 10,000 ohms/square.

25. The method of claim 19, further comprising disposing a radiation absorbing layer between the transparent conductive layer and the substrate, and ablating the transparent conductive layer to form the voids using radiation absorbed by the radiation absorbing layer.

26. The method of claim 19, wherein disposing the transparent conductive layer on the substrate comprises depositing particles on the substrate and forming the transparent conductive layer surrounding the particles and forming the voids comprises removing the particles.

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