

WHAT IS CLAIMED IS:

1. A process of generating a polyimide based dielectric film on a substrate with conducting metal pattern, comprising:
5 providing a dielectric film forming composition comprising at least one fully imidized polyimide polymer and at least one solvent; and
depositing the dielectric film forming composition onto a substrate with conducting metal pattern to form a dielectric film, wherein the difference in the highest and lowest points on a top surface of the dielectric film is less than about 2 microns.
10
2. The process of claim 1 wherein the conducting metal is copper.
3. The process of claim 1, wherein the at least one solvent comprises ethylene carbonate, propylene carbonate, butylene carbonate or glycerine carbonate.
15
4. The process of claim 1, wherein the dielectric film forming composition is photosensitive.
5. The process of claim 1, wherein the dielectric film forming composition
20 further comprises at least one cross-linker.
6. The process of claim 5, wherein the at least one cross-linker contains two or more alkenyl or alkynyl groups.
- 25 7. The process of claim 5, wherein the at least one cross-linker contains at least two (meth)acrylate groups
8. The process of claim 5, wherein the at least one cross-linker contains a metal-containing (meth)acrylate.
30

9. The process of claim 1, wherein the dielectric film forming composition further comprises at least one reactive diluent containing one (meth)acrylate group.

10. The process of claim 1, wherein the dielectric film forming composition
5 further comprises at least one catalyst.

11. The process of claim 1, wherein the dielectric film forming composition further comprises at least one surfactant.

10 12. The process of claim 1, wherein the dielectric film forming composition further comprises at least one plasticizer.

13. The process of claim 1, wherein the dielectric film forming composition further comprises at least one corrosion inhibitor.

15

14. A three dimensional object prepared by the process of claim 1.

15. A semiconductor device, comprising the three dimensional object of claim
14.

20

16. The semiconductor device of claim 15, wherein the semiconductor device is an integrated circuit, a light emitting diode, a solar cell, or a transistor.