CLAIMS:

1. A metallization layer of a semiconductor device, comprising:
an opening defined in a dielectric layer; and
an interconnect wire within said opening; wherein:
said interconnect wire includes a core material including a first metal and a jacket material including a second metal;
said jacket material exhibits a first resistivity $\rho 1$ and said core material exhibits a second resistivity $\rho 2$ and $\rho 2$ is less than $\rho 1$; and
in a cross section of at least a portion of said interconnect wire, an entire periphery of said core material is surrounded by said jacket material.

2. The metallization layer of claim 1, wherein said jacket material is present in the range of 25% to 75% of the volume of said opening.

3. The metallization layer of claim 2, wherein said dielectric layer exhibits a dielectric constant in the range of 1.5 to 3.8.

4. The metallization layer of claim 1, wherein said dielectric layer exhibits a dielectric constant of lower than 3.9.

5. The metallization layer of claim 1, wherein said dielectric layer includes one or more materials selected from the group consisting of fluorine-doped silicon dioxide, carbon-doped silicon dioxide, organo silicate glass, silicon oxycarbide, hydrogenated silicon oxycarbide, porous silicon dioxide, and organic polymer dielectrics such as polyimide, polytetrafluoroethylene, polynorbornenes, benzocyclobutene, hydrogen silsequioxane and methylsilsesquioxane.

6. The metallization layer of claim 1, wherein said jacket material exhibits a resistivity of 5.0 $\mu\Omega \cdot cm$ or greater.

7. The metallization layer of claim 1, wherein said core material exhibits a resistivity of 4.0 $\mu\Omega \cdot cm$ or less.

8. The metallization layer of claim 1, wherein said core material includes copper and said jacket material excludes copper.

9. The metallization layer of claim 1, wherein said core material exhibits a first melting temperature and said jacket material exhibits a second melting temperature, wherein said first melting temperature is less than said second melting temperature.

10. The metallization layer of claim 1, wherein the core material includes one or more metals selected from the group consisting of copper, aluminum, gold and silver.

11. The metallization layer of claim 1, wherein said jacket material includes one or more metals selected from the group consisting of tungsten, cobalt, ruthenium and molybdenum.

12. The metallization layer of claim 1, wherein said core material is a reflowed core material.