Claims

1. An electrically conductive adhesive film comprising:

a metal particle (P); and

a resin (M),

wherein the resin (M) comprises a thermosetting resin (M1),

the metal particle (P) has an average particle size (d50) of 20 μm or less, and

the metal particle (P) comprises 10 % by mass or more of a first metal particle (P1) having a fractal dimension of 1.1 or more when viewed in a projection drawing in a primary particle state,

wherein a loss tangent (tan δ) of the electrically conductive adhesive film defined by a ratio of a loss elastic modulus to a storage elastic modulus at 60°C and 1 Hz in a B-stage state is 1.4 or higher.

2. The electrically conductive adhesive film according to claim 1, wherein the first metal particle (P1) is a dendritic metal powder.

3. The electrically conductive adhesive film according to claim 2, wherein the first metal particle (P1) has a surface coated with a noble metal.

4. The electrically conductive adhesive film according to any one of claims 1 to 3, wherein the metal particle (P) further comprises a second metal particle (P2) made of a spherical metal powder.

5. The electrically conductive adhesive film according to claim 4, wherein the second metal particle (P2) has an average particle size (d50) of less than 7 μm.

6. The electrically conductive adhesive film according to claim 4 or 5, wherein the second metal particle (P2) comprises a metal particle made of tin or a tin-containing alloy.

7. The electrically conductive adhesive film according to any one of claims 1 to 6, wherein the thermosetting resin (M1) comprises a maleic acid imide compound including two or more units of an imide group in a single molecule.

8. The electrically conductive adhesive film according to claim 7, wherein the maleic acid imide compound comprises a backbone derived from an aliphatic amine having a carbon atom number of 10 or more.

9. The electrically conductive adhesive film according to any one of claims 1 to 6, wherein the thermosetting resin (M1) comprises an epoxy resin.

10. The electrically conductive adhesive film according to claim 9, wherein the epoxy resin comprises a molecular backbone derived from a glycidyl ether of an aliphatic diol.

11. The electrically conductive adhesive film according to any one of claims 7 to 10, wherein the thermosetting resin (M1) further comprises a phenol novolac resin.

12. The electrically conductive adhesive film according to claim 9 or 10, wherein the thermosetting resin (M1) further comprises an imidazole-based compound.

13. A dicing-die bonding film, comprising the electrically conductive adhesive film according to any one of claims 1 to 12 adhered to a dicing tape.