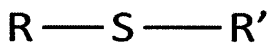
Claims

1. An electrically conductive composition, which comprises a sulfide compound expressed by the following general formula (1)

General Formula (1)

[Chemical Formula 1]



(wherein R is an organic group that contains at least carbon; R' is an organic group that is the same as or different from R; R and R' may be bonded)
and metal particles that contain at least one of Cu, Sn or Ni as essential components, wherein the number average molecular weight of the sulfide compound is 200 or more.

2. The electrically conductive composition of Claim 1, wherein the sulfide compound is a compound that contains two or more sulfur atoms in one molecule.

3. The electrically conductive composition according to any one of Claims 1 or 2, wherein the sulfide compound is a compound that contains at least one of the following: vinyl group, acryloyl group, primary amino group, secondary amino group, phenolic hydroxyl group, thiol group, hydrosilyl group, hydroboron group, maleate group, maleic amide group, maleic imide group.

4. The electrically conductive composition according to Claims 1 or 2, which comprises at least the sulfide compound of general formula (1), metal particles, and a thermosetting resin.

5. The electrically conductive composition according to Claim 4, wherein the

thermosetting resin comprises a maleic imide compound that contains two or more units of imide groups in one molecule.

6. The electrically conductive composition according to Claim 5, wherein the maleic imide compound contains a structure derived from an aliphatic amine of C10 or more.

7. The electrically conductive composition according to Claims 5, wherein the number average molecular weight of the maleic imide compound is 3000 or more.

8. The electrically conductive composition according to Claim 4, wherein the thermosetting resin is an epoxy resin.

9. The electrically conductive composition according to Claims 1 or 2, wherein at least part of the metal particles contains one of Cu, Ag, Au, Ni, or Sn.

10. The electrically conductive composition according to Claims 1 or 2, wherein the metal particles are a mixture of two or more metals, which includes a combination that is capable of mutually forming intermetallic compounds.

11. The electrically conductive composition according to Claim 10, wherein at least two of the two or more metal particles are selected from Cu, Ag, Ni, Ti, Al, Sn, Zn, Au, and In.

12. The electrically conductive composition according to Claims 1 or 2, which comprises at least one endothermic peak observed by DSC (Differential Scanning Calorimetry) at 100 oC to 250 oC prior to sintering, which becomes unobservable after sintering.

13. An electrically conductive adhesive composition, which utilizes the electrically conductive composition of Claims 1 or 2.

14. An electrically conductive adhesive film, which is obtained by forming the electrically conductive adhesive composition of Claim 13 on a substrate in film form.

15. A dicing die bonding film, which is obtained by bonding the electrically conductive adhesive film of Claim 14 with a pressure-sensitive adhesive tape.