CLAIMS

1. A thermally and electrically conductive adhesive composition, comprising:

(A) an electrically conductive filler,

(B) an epoxy resin,

(C) a curing agent,

(D) an organic solvent, wherein

the electrically conductive filler (A) is a submicron fine silver powder, and the content of the electrically conductive filler (A) is such that (A) / (B) is 96.0 / 4.0 to 99.5 / 0.5 in the mass ratio to the content of the epoxy resin (B), and

the epoxy resin (B) comprises at least a bisphenol-type epoxy resin and a novolac-type epoxy resin, and

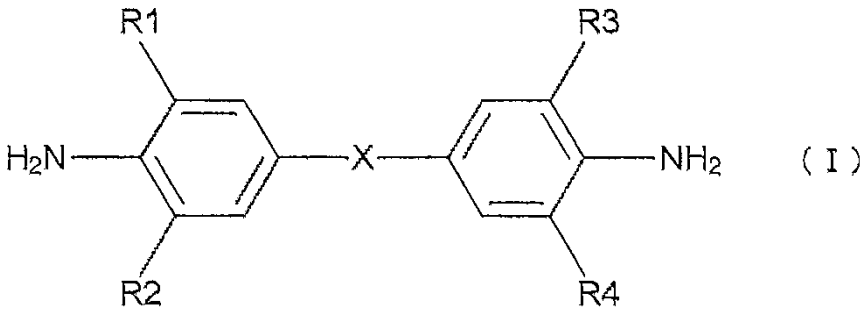
the curing agent (C) is diaminodiphenyl sulfone and/or a derivative thereof, and the content of the curing agent (C) is 0.4 to 2.4 molar equivalents in terms of equivalent of active hydrogen relative to 1 molar equivalent of epoxy groups in the epoxy resin (B), and the bisphenol-type epoxy resin is bisphenol F-type epoxy resin, bisphenol S-type epoxy resin, bisphenol AF-type epoxy resin, or bisphenol AD-type epoxy resin, and the novolac-type epoxy resin is bisphenol A novolac-type epoxy resin, or phenol novolac-type epoxy resin.

2. The thermally and electrically conductive adhesive composition according to claim 1, wherein the mass ratio of the bisphenol-type epoxy resin and the novolac-type

epoxy resin contained in the epoxy resin (B) is such that bisphenol-type epoxy resin / novolac-type epoxy resin is 40 / 60 to 80 / 20.

3. The thermally and electrically conductive adhesive composition according to claim 1 or 2, wherein the curing agent (C) is a compound represented by the following general formula (I), (II), or (III):

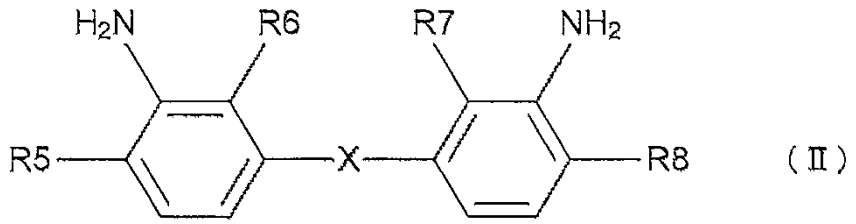
[Chem. 1]



(I)

wherein X represents -SO_2-, and R1 to R4 each independently represent a hydrogen atom or a lower alkyl group,

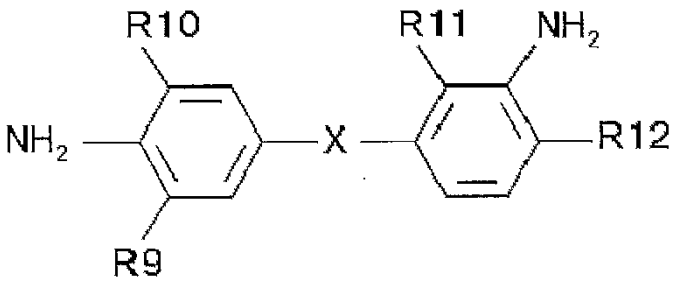
[Chem. 2]



(Ⅱ)

wherein X represents -SO_2-, and R5 to R8 each independently represent a hydrogen atom or a lower alkyl group,

[Chem. 3]



(Ⅲ)

wherein X represents -SO_2-, and R9 to R12 each independently represent a hydrogen atom or a lower alkyl group.

4. The thermally and electrically conductive adhesive composition according to any one of claims 1 to 3, wherein the submicron fine silver powder used in the electrically conductive filler (A) is coated with a coating agent, a surface of the coating agent comprising carboxylic acid.

5. The thermally and electrically conductive adhesive composition according to any one of claims 1 to 4, wherein the content of the epoxy resin (B) is 0.3 to 4.0% by mass relative to the total amount of the thermally and electrically conductive adhesive composition.