CLAIMS

1. A thermally conductive paste comprising:

a thermosetting resin; and

a thermally conductive filler,

wherein a ratio of a wet spreading area calculated by the following measurement method is 90% or more, and

when an average particle size $D_{50}$ of the thermally conductive filler is referred to as D, a viscosity of the thermally conductive paste excluding the thermally conductive filler at room temperature 25°C is referred to as η, and a degree of sedimentation of the thermally conductive filler in the thermally conductive paste is referred to as $S = D^2/\eta$, S is 8.0 [$10^{-12}\cdot m^3\cdot s/kg$] or more and 802.8 [$10^{-12}\cdot m^3\cdot s/kg$] or less.

(Measurement Method of Wet Spreading Area)

The thermally conductive paste is applied to a surface of a lead frame using a 5-cc syringe from one end to the other along two diagonal lines connecting diagonal 2 mm x 2 mm square so that the two application lines intersect. Next, the resultant is statically left at room temperature 25°C for 8 hours. Next, a 2 mm × 2 mm silicon bare chip having a thickness 0.525 mm is mounted on the lead frame through the thermally conductive paste under a load of 50 g and 50 ms, and thereafter the ratio of the wet spreading area of the thermally conductive paste to the surface of the silicon bare chip is calculated.

2. The thermally conductive paste according to claim 1,

wherein a thermal conductivity of a cured product of the thermally conductive paste is 5 W/mK or more.

3. The thermally conductive paste according to claim 1 or 2,

wherein an average particle size $D_{50}$ of the thermally conductive filler is 0.1 μm or more and 10 μm or less.

4. The thermally conductive paste according to any one of claims 1 to 3,

wherein $D_{95}$ of the thermally conductive filler is 15 μm or less.

5. The thermally conductive paste according to any one of claims 1 to 4,

wherein the thermally conductive filler contains a metal, an oxide, or a nitride.

6. The thermally conductive paste according to any one of claims 1 to 5,

wherein an amount of the thermally conductive filler is 50 mass% or more and 88 mass% or less with respect to the entire thermally conductive paste.

7. The thermally conductive paste according to any one of claims 1 to 6,

wherein a weight-average molecular weight of the thermosetting resin is 100 or more and 500 or less.

8. The thermally conductive paste according to any one of claims 1 to 7,

wherein the thermosetting resin contains a resin having a biphenyl skeleton.

9. The thermally conductive paste according to any one of claims 1 to 8,

wherein the thermosetting resin contains an epoxy resin.

10. The thermally conductive paste according to any one of claims 1 to 9, further comprising:

a curing agent.

11. The thermally conductive paste according to any one of claims 1 to 10, further comprising:

an acrylic compound.

12. The thermally conductive paste according to any one of claims 1 to 11, further comprising:

a reactive diluent.

13. The thermally conductive paste according to any one of claims 1 to 12, further comprising:

a curing accelerator.

14. The thermally conductive paste according to any one of claims 1 to 13,

wherein a solvent is not contained.

15. An electronic device comprising:

a cured product of the thermally conductive paste according to any one of claims 1 to 14.