What is claimed is,

1. A heat sink unit that dissipates heat of an IC (integrated circuit) package accommodated in an IC (integrated circuit) socket, comprising:

a heat sink having a base and a plurality of radiating fins erected from the base;

a unit base mounted on a substrate so as to surround the IC socket;

a frame member that has a first opening and supports the heat sink so that a base of the heat sink passes through the first opening, wherein the frame member is supported by the unit base so as to be rockable between a confronting position and an open position tilting with respect to the confronting position, and the confronting position is where an end surface of the base on a side opposite to the radiating fins side and the IC package confront each other at an interval; and

a first lever in which an intermediate portion between one end and the other end of the first lever is pivotally supported at a first pivoting point of the frame member,

when the frame member reaches the confronting position, further rocking is restricted, the heat sink supported by the frame member moves downward, and the end surface of the heat sink comes into contact with the IC package.

2. The heat sink unit according to claim 1, comprising a heat sink mount that has a second opening and supports the heat sink so that the base of the heat sink passes through the second opening, wherein

the frame member supports the heat sink and the heat sink mount.

3. The heat sink unit according to claim 2, wherein

when the frame member reaches the confronting position, further rocking is restricted, and the heat sink mount and the heat sink supported thereon move downward.

4. The heat sink unit according to claim 3, wherein

one end side portion of the first lever is in contact with and separated from the heat sink mount.

5. The heat sink unit according to claim 4, comprising a second lever in which an intermediate portion between one end and the other end of the second lever is pivotally supported at the first pivoting point on the frame member, and one end side portion of the second lever is pivotally supported at a second pivoting point on the frame member that is separated from the first pivoting point.

6. The heat sink unit according to claim 5, comprising a driving mechanism in which a force is generated to lift upward the other end side portion of the second lever and the other end side portion of the first lever when the frame member is rocked from the

open position toward the confronting position.

7. The heat sink unit according to claim 6, comprising:

a cover combined with the unit base; and

a first coil spring that is sandwiched between the unit base and the cover to form the driving mechanism,

wherein

a proximal end side portion of the second lever and a proximal end side portion of the first lever are pivotally supported at a third pivoting point on the side plate of the cover.

8. The heat sink unit according to claim 7, wherein

when the frame member is at the open position, the proximal end side portion of the first lever pushes down the cover, and an elastic restoring force of the first coil spring is released when the first pivoting point passes a position directly above the third pivoting point by rotational movement of the first lever with the first pivoting point as a fulcrum.

9. The heat sink unit according to claim 8, wherein

the unit base has a third opening in which the IC socket is accommodated; and a plurality of side wall portions surrounding the third opening,

a bearing base portion is provided on a first side wall portion which is one of the plurality of side wall portions, and

a proximal end side portion of the frame member is pivotally supported at a fourth pivoting point on the bearing base portion.

10. The heat sink unit according to claim 9, wherein

a second side wall portion facing the first side wall portion across the third opening therebetween , the second side wall portion provided with a receiving base portion, and at the confronting position, the tip end side portion of the frame member touches against the receiving base portion, and further rocking is restricted.

11. The heat sink unit according to claim 10, wherein

the base of the heat sink is provided with a first through hole,

the heat sink mount is provided with a second through hole,

the frame member is provided with a fixing hole,

the heat sink, the heat sink mount, and the frame member are stacked, and a screw is screwed into the fixing hole through the first through hole and the second through hole.

12. The heat sink unit according to claim 11, wherein

a second coil spring is provided inside the heat sink.

13. The heat sink unit according to claim 12, comprising a shaft that holds the second coil spring, wherein

a fixing hole for passing the shaft is provided in the frame member or the heat sink mount.

14. The heat sink unit according to claim 13, wherein

a third coil spring is provided between the heat sink mount and the frame member.

15. The heat sink unit according to claim 14, wherein

a coil spring or a torsional coil spring is provided between the unit base and the frame member to reduce impact when the frame member is closed.

16. The heat sink unit according to any one of claims 6 to 9, wherein

the heat sink mount is supported by a support portion of the second lever.

17. An IC (integrated circuit) socket, wherein a heat sink unit according to any one of claims 1 to 15 is incorporated in a socket main body of the IC socket.

18. A manufacturing method of semiconductor package, comprising:

a semiconductor assembling process of assembling a semiconductor package by applying an external connection terminal, a protective covering, etc., to a semiconductor element;

a first sorting process of sorting out the semiconductor package in which defects are generated by the semiconductor assembling process;

a screening process of discriminating a good/defective product by applying thermal load or electrical load to the semiconductor package judged to be good through the first sorting process;

a second sorting process of sorting the semiconductor package which is judged to be defective by the screening process; and

a shipping process of shipping the semiconductor package which is judged to be good by the screening process,

wherein

in the screening process, an IC socket to which the semiconductor package is detachably attached is mounted on a predetermined circuit board, and the heat sink socket according to claim 1 is detachably attached to the IC socket.