CLAIMS

1. A probe unit comprising:

a first contact probe configured to come in contact with a signal electrode provided on a contact target on one end side in a longitudinal direction;

a second contact probe configured to come in contact with a ground electrode provided on the contact target on one end side in a longitudinal direction;

a probe holder including

a first holder hole through which the first contact probe passes, and

a second holder hole through which the second contact probe passes; and

a conductive floating member including

a first through hole to which the one end of the first contact probe is inserted from one end side and the signal electrode is inserted from another end side, and

a second through hole to which the one end of the second contact probe is inserted from one end side and the ground electrode is inserted from another end side, a size of an opening of the second through hole being different from a size of an opening of the first through hole,

wherein the probe holder is configured such that at least an inner circumferential surface of the first holder hole has an insulating property, and

the probe unit has a coaxial structure in which a central axis of the first contact probe and a central axis of the first through hole of the floating member are aligned with each other.

2. The probe unit according to claim 1, wherein the floating member is electrically connected to the second contact probe directly or indirectly.

3. The probe unit according to claim 1 or 2, wherein a maximum diameter of the first through hole is larger than a maximum diameter of the second through hole.

4. The probe unit according to any one of claims 1 to 3, wherein

a tubular insulating member is provided on an inner circumferential surface of the first through hole, and

a diameter of an inner circumferential surface of the insulating member is equal to or less than a diameter of the second through hole.

5. The probe unit according to any one of claims 1 to 4, wherein the first through hole has a stepped shape having a diameter corresponding to the one end of the first contact probe and the signal electrode.

6. The probe unit according to any one of claims 1 to 5, wherein

the floating member includes a connection pin configured to position the floating member with respect to the probe holder, and

the probe holder includes:

an insulating main body including

the first holder hole, and

a partial holder hole forming a part of the second holder hole; and

a conductive member having conductivity, the conductive member including

a first hole that constitutes a part of the second holder hole, the second contact probe passing through the first hole, and

a second hole configured to house a part of the connection pin.