【CLAIMS】

~~【Claim 1】~~

~~A signal transmission connector connected to an electronic device, for transmitting an electrical signal, the signal transmission connector comprising:~~

~~a signal shielding unit in which multiple conductive particles are dispersed within an elastic insulating material in order to shield an external noise signal;~~

~~a plurality of signal transmission units spaced apart from each other within the signal shielding unit in a form in which the multiple conductive particles are arranged in a thickness direction within the elastic insulating materials so that the signal transmission units are connected to terminals of the electronic device; and~~

~~a plurality of insulation units each disposed to surround the signal transmission unit between the signal transmission unit and the signal shielding unit in order to insulate the plurality of signal transmission units and the signal shielding unit,~~

~~wherein the signal shielding unit surrounds the signal transmission unit by a triple shielding structure, comprising:~~

~~a block shielding unit in which the plurality of signal transmission units and the plurality of insulation units are~~

~~disposed and the multiple conductive particles are dispersed within the elastic insulating material, the block shielding unit having lower density of the conductive particles than the signal transmission unit,~~

~~a plurality of internal high-density shielding units each disposed to surround the insulation unit between the block shielding unit and the insulation unit, the internal high-density shielding unit having higher density of the conductive particles than the block shielding unit, and~~

~~an external high-density shielding unit positioned to surround edges of the block shielding unit and having higher density of the conductive particles than the block shielding unit.~~

~~【Claim 2】~~

~~The signal transmission connector of claim 1, wherein:~~

~~the insulation unit is made of an elastic insulating material, and~~

~~the elastic insulating material of the insulation unit is solidified in an integrated form along with an elastic insulating material of the signal shielding unit and an elastic insulating material of the signal transmission unit.~~

~~【Claim 3】~~

~~The signal transmission connector of claim 1, wherein ends on both sides of the signal transmission unit are protruded from~~

~~surfaces on both sides of the signal shielding unit.~~

【Claim ~~4~~1】

A signal transmission connector connected to an electronic device, for transmitting an electrical signal, the signal transmission connector comprising:

a plurality of signal transmission units in which multiple conductive particles are arranged in a thickness direction within an elastic insulating material so that the signal transmission units are connected to terminals of the electronic device;

an insulation unit supporting to insulate the plurality of signal transmission units by surrounding surroundings of the plurality of signal transmission units; and

a signal shielding unit configured in a form in which multiple conductive particles are dispersed within the elastic insulating material in order to shield an external noise signal, positioned adjacent to the plurality of signal transmission units~~ between the plurality of signal transmission units~~, and positioned in a middle of the insulation unit so that the signal shielding unit is spaced apart from the plurality of signal transmission units with a gap between the signal shielding unit and each of the plurality of signal transmission units,

wherein the signal shielding unit has a triple shielding structure, comprising:

a block shielding unit in which the multiple conductive particles are dispersed within the elastic insulating material, the block shielding unit having lower density of the conductive particles than the signal transmission unit,

a plurality of internal high-density shielding units each positioned within the block shielding unit, the internal high-density shielding unit having higher density of the conductive particles than the block shielding unit, and

an external high-density shielding unit positioned to surround edges of the block shielding unit, the external high-density shielding unit having higher density of the conductive particles than the block shielding unit.

【Claim ~~5~~2】

The signal transmission connector of claim ~~4~~1, wherein:

the insulation unit is made of an elastic insulating material, and

the elastic insulating material of the insulation unit is solidified in an integrated form along with an elastic insulating material of the signal shielding unit and an elastic insulating material of the signal transmission unit.

【Claim ~~6~~3】

The signal transmission connector of claim ~~4~~1, wherein an end of the internal high-density shielding unit is protruded from a surface of the block shielding unit.

~~【Claim 7】~~

~~A method of fabricating a signal transmission connector, comprising steps of:~~

~~(a) preparing an upper die, comprising an upper die plate, a first upper magnetic body positioned on an inside of the upper die plate and provided with a plurality of upper magnetic body holes, a plurality of second upper magnetic bodies disposed on the inside of the upper die plate in such a way as to be disposed within the plurality of upper magnetic body holes, respectively, and a plurality of upper non-magnetic bodies disposed on the inside of the upper die plate in such a way as to surround a circumference of the second upper magnetic body between the plurality of first upper magnetic bodies and the second upper magnetic body; and a lower die, comprising a lower die plate, a first lower magnetic body positioned on an inside of the lower die plate and provided with a plurality of lower magnetic body holes in a middle of the first lower magnetic body, a plurality of second lower magnetic bodies disposed on the inside of the lower die plate in such a way as to be disposed within the plurality of lower magnetic body holes, respectively, and a plurality of lower non-magnetic bodies disposed on the inside of the upper die plate in such a way as to surround a circumference of the second lower magnetic body between the first lower magnetic body and the second lower magnetic body;~~

~~(b) injecting a molding material, containing conductive particles within a liquefied elastic insulating material, into a cavity provided between the upper die and the lower die;~~

~~(c) forming a plurality of signal transmission units by vertically applying a magnetic field to the molding material injected into the cavity through the plurality of second upper magnetic bodies and the plurality of second lower magnetic bodies so that some of the conductive particles of the molding material are concentrated between the second upper magnetic body and the second lower magnetic body, forming a signal shielding unit to surround surroundings of the plurality of signal transmission units by vertically applying a magnetic field to the molding material injected into the cavity through the plurality of first upper magnetic bodies and the first lower magnetic body so that some of the conductive particles of the molding material are dispersed into the surroundings of the plurality of signal transmission units, and concentrating the conductive particles of the molding material on the signal transmission unit and the signal shielding unit so that an electrical connection by the conductive particles of the molding material is not performed between the signal transmission unit and the signal shielding unit;~~

~~(d) forming a signal transmission connector by solidifying the molding material; and~~

~~(c) separating the signal transmission connector from the upper die and the lower die,~~

~~wherein in the step (c),~~

~~the signal shielding unit is configured in a form to surround the signal transmission unit by a triple shielding structure, comprising:~~

~~a block shielding unit in which the plurality of signal transmission units and the plurality of insulation units are disposed and the multiple conductive particles are dispersed within the elastic insulating material, the block shielding unit having lower density of the conductive particles than the signal transmission unit,~~

~~a plurality of internal high-density shielding units each disposed to surround the insulation unit between the block shielding unit and the insulation unit, the internal high-density shielding unit having higher density of the conductive particles than the block shielding unit, and~~

~~an external high-density shielding unit positioned to surround edges of the block shielding unit and having higher density of the conductive particles than the block shielding unit,~~

~~by inducting a strong magnetic field compared to other portions of the plurality of first upper magnetic bodies into a circumference and external edge portion of the upper magnetic~~

~~body hole among the plurality of first upper magnetic bodies, and inducing a strong magnetic field compared to other portions of the first lower magnetic body into a circumference and external edge portion of the lower magnetic body hole among the first lower magnetic body.~~