[0005] Embodiments of the present invention seek to solve this problem by providing an electrical connector according to claim 1.

[0006] According to an aspect of the invention, an electrical connector comprises a housing having a mounting face and a mating face. A plurality of contact modules are held by the housing. Each of the contact modules includes a left signal wafer and a right signal wafer stacked next to each other along a stack axis. Each of the left and right signal wafers extends parallel to a contact module plane. Each of the left and right signal wafers includes electrical terminals held by a dielectric body. The electrical terminals have mounting contacts protruding from the dielectric body at the mounting face of the housing. The electrical terminals of at least one of the left and right signal wafers in each contact module are jogged toward the other of the left and right signal wafers in the same contact module such that the mounting contacts of each contact module are aligned in a column that extends parallel to the contact module plane. A plurality of ground plates are held by the housing. Each of the ground plates is disposed along an outer side of a respective contact module and extends parallel to the respective contact module plane. The electrical terminals further include mating contacts protruding from the dielectric body at the mating face. The mating contacts of the jogged electrical terminals extend in a first signal plane and the mounting contacts of the jogged electrical terminals extend in a second signal plane that is different from the first signal plane. The first and second signal planes are parallel to each other and spaced apart.

[0007] The invention will now be described by way of example with reference to the accompanying drawings wherein:

[0008] Figure 1 is a perspective view of an electrical system in accordance with an exemplary embodiment.

[0009] Figure 2 is a perspective view of a module stack of an electrical connector according to an exemplary embodiment.

[0010] Figure 3 is a front exploded view of a contact module of the electrical connector according to an embodiment.

[0011] Figure 4 is a front assembled view of the contact module of Figure 3.

[0012] Figure 5 is a bottom perspective view of a portion of the module stack of Figure 2 according to an exemplary embodiment.

[0013] Figure 6 illustrates a footprint of the electrical connector in accordance with an exemplary embodiment.

WHAT IS CLAIMED IS:

1. An electrical connector comprising a housing having a mounting face and a mating face, a plurality of contact modules held by the housing, each of the contact modules including a left signal wafer and a right signal wafer stacked next to each other along a stack axis, each of the left and right signal wafers extending parallel to a contact module plane, each of the left and right signal wafers including electrical terminals held by a dielectric body, the electrical terminals having mounting contacts protruding from the dielectric body at the mounting face of the housing, :

wherein the electrical terminals of at least one of the left and right signal wafers in each contact module are jogged toward the other of the left and right signal wafers in the same contact module such that the mounting contacts of each contact module are aligned in a column that extends parallel to the contact module plane, and a plurality of ground plates held by the housing, each of the ground plates being disposed along an outer side of a respective contact module and extending parallel to the respective contact module plane, wherein the electrical terminals further include mating contacts protruding from the dielectric body at the mating face, the mating contacts of the jogged electrical terminals extending in a first signal plane, the mounting contacts of the jogged electrical terminals extending in a second signal plane that is different from the first signal plane and wherein the first and second signal planes are parallel to each other and spaced apart.

2. The electrical connector of claim 1, wherein each of the left and right signal wafers has an inner side and an outer side, the inner sides of the left and right signal wafers facing each other to define an interface along the contact module plane, the column of mounting contacts being co-planar with the interface.

3. The electrical connector of claim 1, wherein the mounting contacts in adjacent columns are staggered such that the mounting contacts of the adjacent columns are offset at respective different distances from the mating face.

4. The electrical connector of claim 3, wherein the mounting contacts are arranged as differential pairs, the mounting contacts of each differential pair are disposed in a same column and separated from each other by a pitch, wherein the mounting contacts in adjacent columns are staggered such that the mounting contacts in one column are disposed at

a distance from the mating face that is a half-pitch further than the mounting contacts in the adjacent column.

5. The electrical connector of claim 1, further including ground cross-connects at the mounting face of the housing, each of the ground cross-connects extending across at least one contact module and electrically and mechanically engaging corresponding ground plates at opposite sides of the at least one contact module, each of the ground cross-connects having at least one ground contact that aligns with the mounting contacts in a corresponding column, the at least one ground contact being disposed between two mounting contacts in a same column to provide shielding therebetween.

6. The electrical connector of claim 5, wherein each of the ground cross-connects extends across at least two contact modules and includes at least two ground contacts aligned in respective different columns, wherein a first ground contact of the ground cross-connect is staggered from a second ground contact of the ground cross-connect such that the first and second ground contacts are offset at different distances from the mating face.

7. The electrical connector of claim 5, wherein the mounting contacts are arranged as differential pairs, each said column including plural differential pairs, the ground contacts in each said column being disposed between adjacent differential pairs within the column to provide shielding therebetween.

8. The electrical connector of claim 1, wherein the electrical terminals of both the left and right signal wafers in each contact module are jogged towards each other.

9. The electrical connector of claim 1, wherein the contact modules and the ground plates are arranged in an alternating sequence along the stack axis.