HIGH SPEED SIGNAL-ISOLATING ELECTRICAL CONNECTOR ASSEMBLY

[0001] The invention relates to an electrical connector assembly.

[0002] Various communication or computing systems use electrical connectors to transmit data signals between different components of the systems. An electrical connector may mechanically and electrically connect to a printed circuit board, for example. Often, differential pair signaling is used with respect to electrical systems. Typically, a differential pair includes a positive signal component and a negative signal component. Known connector assemblies may locate differential pairs in close proximity to one another. In doing so, however, the high speed signals transmitted by one differential pair may cross-talk or otherwise interfere with signals received by an adjacent differential pair, thereby degrading the performance of the connector assemblies and/or the systems in which the connector assemblies are used.

[0003] Known connector assemblies may be susceptible to cross-talk and interference between differential pairs at or near contact interfaces on a printed circuit board. High speed signals passing between a printed circuit board and a connector assembly may cross-talk or otherwise interfere with one another, which may degrade performance.

[0004] In general, as data rates continue to increase, there is a need to control electrical noise through electrical connector assemblies in order to achieve desired performance.

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

[0006] According to an aspect of the invention, an electrical connector assembly comprises a plurality of high speed signal boards. Each of the plurality of high speed signal boards supports a plurality of board contacts. A plurality of signal isolating barriers are each positioned around a respective group of the plurality of board contacts. Each of the plurality of signal isolating barriers isolates the respective group of the plurality of board contacts from other groups of the plurality of board contacts. Each of the plurality of isolating barriers comprises parallel first portions of ground plates and second portions of ground isolator panels that connect to the parallel portions of ground plates. Each of the ground isolator

panels comprises a linear segment connected to an offset segment by an offsetting segment in order to maintain uniform spacing with respect to the plurality of board contacts.

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