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(54) **ELECTRICAL INTERPOSER HAVING
SHIELDED CONTACTS AND TRACES**

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(57) **ABSTRACT**

A separable and reconnectable connector for semiconductor devices is provided that is scalable for devices having very small contact pitch. Connectors of the present disclosure include signal pins shielded by pins electrically-coupled to ground. One or more signal pins in a contact array are electrically-shielded by at least one ground pin coupled to a ground plane. Embodiments thereby provide signal pins, either single-ended or a differential pair, usable to transmit signals with reduced noise or cross-talk and thus improved signal integrity. Embodiments further provide inner ground planes coupled to connector ground pins to shield pairs of differential signal pins without increasing the size of the connector. Inner grounding layers can be formed within isolation substrates incorporated into connector embodiments between adjacent pairs of signal pins. These buried ground layers provide additional crosstalk isolation in close proximity to signal pins, resulting in improved signal integrity in a significantly reduced space

