

Press-Fit Connectors

The PRESS-FIT Concept

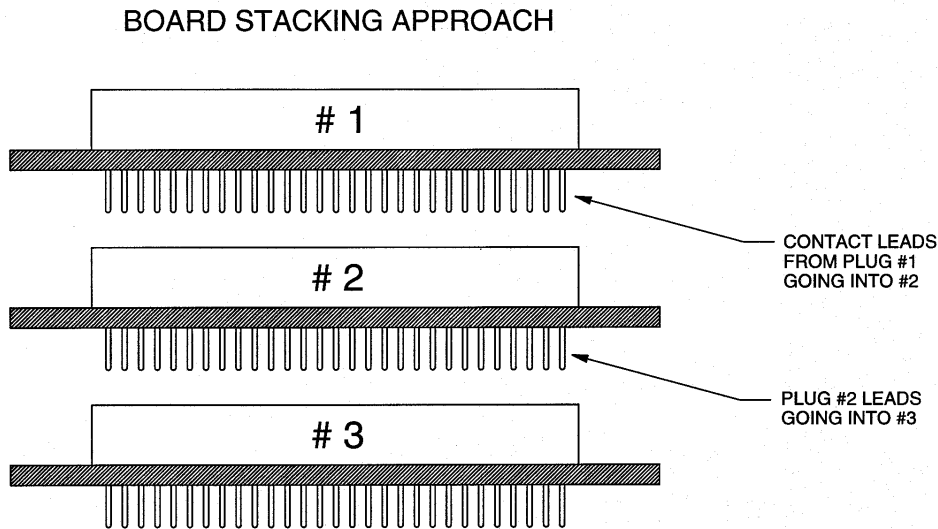
Press fit connectors have been in wide commercial use for nearly 3 decades. Press fit contacts are designed in such a way as to provide reliable electrical contact in the through hole of a printed circuit board without the use of solder. The problems encountered with soldering connectors are well known to anyone who has been involved in packaging but press fit connectors have presented their own challenge from time to time as well.



MIL-STD-2166 that generally governs the military versions of press fit connectors allows the insertion force per contact into the PCB to be as high as 45 pounds. In the ultra-density circuit card packaging environment of today, the accumulated stresses of such high forces are not feasible in a high reliability system. At the heart of Cristek's PRESS-FIT product are two specially designed press-fit contacts. The compliant section of the PRESS-FIT has been designed to be reliable with average insertion forces of up to 15 pounds, greatly reducing the overall force required to install a connector into a card as well as the inherent stresses after installation. Unlike the solid shank press fit contacts of many companies, the PRESS-FIT is a true compliant section with geometries that minimize damage to the plated through hole on the PCB during installation.

Stacking Applications

The PRESS-FIT product is especially effective for applications with boards stacked in line as opposed to being arranged in a more conventional mother/daughter card approach.



Stacking boards is often a useful and space saving packaging approach; however, when connectors have to be soldered into PCB's unique challenges are presented. When stacking boards, the soldered terminals of the connectors must have their tips solder free so they can mate into the connector mounted into the next card in the stack. In order to achieve this, users often have to apply solder preforms or mask the tips of the

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contacts in order to solder connectors to cards. Both approaches are highly labor and rework intensive. For machined contacts, this situation is further complicated by the need to hot solder dip the area of the contact that will eventually be soldered to the PCB.

By utilizing Cristek's PRESS-FIT approach, installation labor can be reduced by up to a factor of 10. The need for rework and repair is minimized; however, if needed, the combined design of Cristek's contact and insulator system facilitates easy rework processes.

Cristek's PRESS-FIT connectors, designed for board stacking, have a closed entry feature with a lead-in chamfer. Such a design facilitates the mating of high pin count circuit cards and further minimizes the need for rework and repair.

How to Order

Currently, the PRESS-FIT is available for use on .100" and .075" pitch connector systems. At the time of publication, all connectors tooled are proprietary for existing customers so a new insulator would have to be designed and tooled to satisfy your unique requirement. Plans are in process to tool a D-Subminiature connector and perhaps some standard board layouts for commercial sale. Consult the factory with your application.