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## SURFACE MOUNT TECHNOLOGY RJ45 STRETCHABLE PIN AGAINST PULL FORCE

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### ABSTRACT

Techniques are provided herein for a stretchable, spring-like structure that is added into the copper pin of Surface Mount Technology (SMT) RJ45. The structure can stretch when the RJ45 is pulled to mitigate the force on the RJ45 pin.

### DETAILED DESCRIPTION

The SMT RJ45 has a Printed Circuit Board (PCB) inner plane routing benefit and Design for Manufacture (DFM) benefit. Because the SMT pad area is small, it cannot tolerate strong pull forces. Therefore, as illustrated in Figure 1 below, the SMT pad area is prone to solder pad breakage when the pull force is too strong.

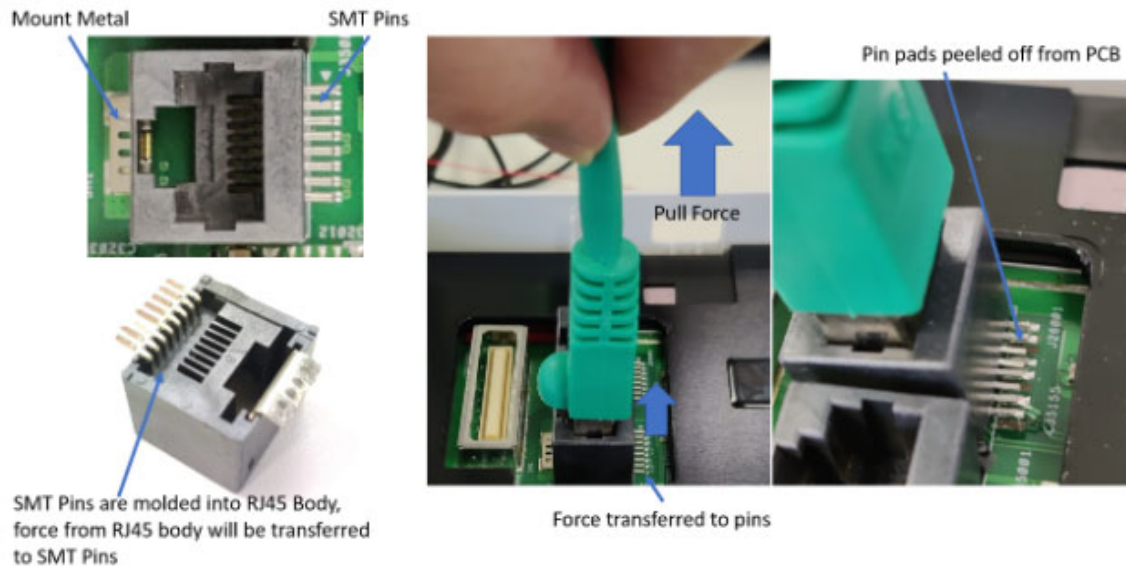


Figure 1

As described herein, a stretchable, spring-like structure is provided instead of a straight tight copper wire. The structure stretches when pulled, releasing the RJ45 pin via the pull force without breaking the PCB pad. As illustrated in Figure 2 below, an internal hollow space is included to maintain the spring structure. The RJ45 plastic body has eight

small holes that provide the pins with up/down mobility. The holes also help vertically match the RJ45 pins to the PCB pad.

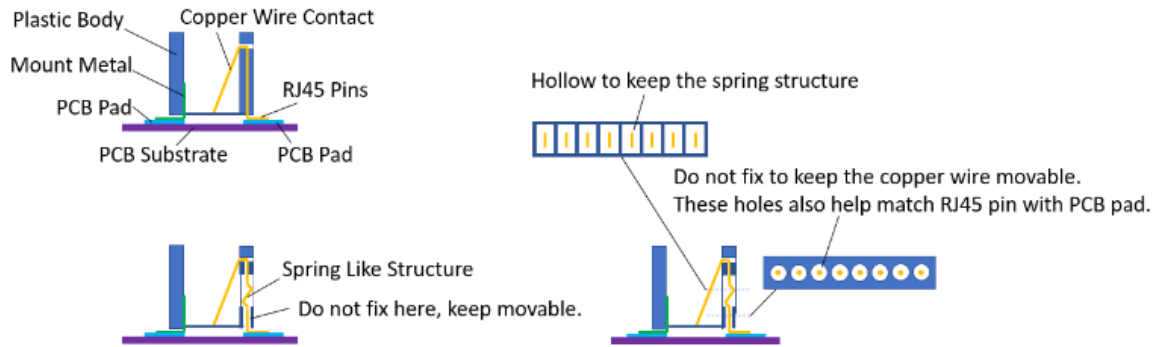


Figure 2

As illustrated in Figure 3 below, the RJ45 is pulled by an external force (e.g., a pulling force from the cable without RJ45 Plug Unlock), and the spring stretches, resulting in only a small increase in the force on the PCB pad. Thus, the PCB pad is protected from being peeled off.

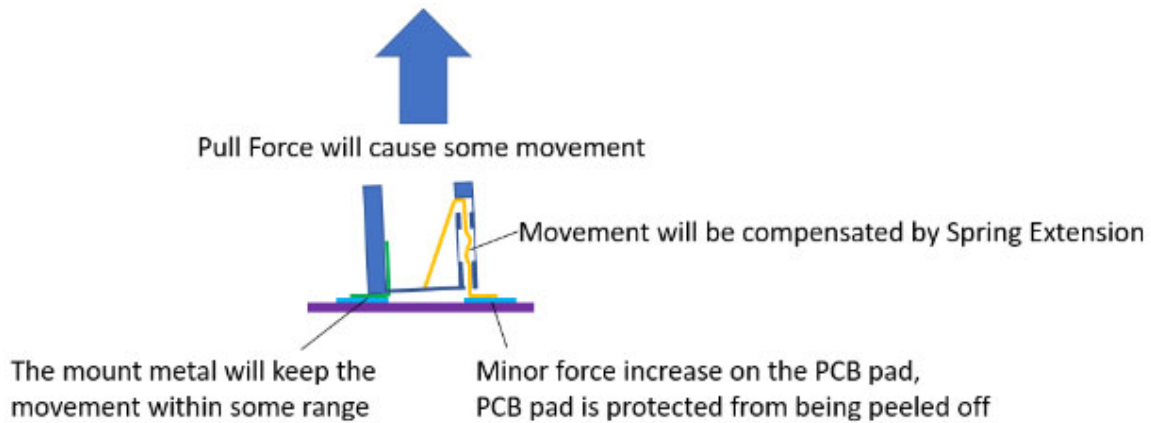


Figure 3

In summary, techniques are provided herein for a stretchable, spring-like structure that is added into the copper pin of SMT RJ45. The structure can stretch when the RJ45 is pulled to mitigate the force on the RJ45 pin.