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Contact Resistance Characteristics of Elastmeric Complex Structure Contacts for Gold and Tin Printed Circuit Board.

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Conductive elastmeric contacts have both properties of conductive and elastic. Application of the contact is very useful for various types of low electrical energy contact materials. From these reason, the contacts have been widely applied to push button switches and connectors for high pitch electrode such as liquid crystal panels. In this paper, six different type structures composed by conductive elastomers were examined. These elastmeric contacts were composed by such structures as silicone rubber contained with carbon particles only, the elastomer with metal and carbon fiber, the surface of the elastomer covered with stainless steel meshes, the surface covered with printed carbon ink, and gold plated metal surface which used to compare these complex conductive elastomer. Contact resistance characteristics were measured both for changes of contact load and changes of current flow. Contact resistance characteristics for these specimens were clarified with its electrical conduction mechanisms.