

Au, January 10th 2008

High Temperature Resistant Gold for Switching Signal Relay Contacts

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Most Telecom/Signal relays are of surface mount type nowadays. Since the introduction of lead free soldering processes, the temperature exceeds 260°C during the soldering process. In a growing share of applications, these relays are additionally used in high temperature environment such as motor compartments.

Regardless the high ambient temperature of 125°C the relays are operated, there are unchanged requirements to the stability of the contact resistance.

In order to achieve low and stable contact resistance, the type of gold alloy and the way the gold layers are processed is of major importance.

Several gold alloys processed in different ways were tested in high temperature environment.

Depending on the alloy elements and concentration major differences were found. Some of the materials are capable to withstand high temperature exposure with no or very low increase of contact resistance.

When these contact materials are used in telecom/signal relays even at a high ambient temperature extremely low and stable contact resistance values can be achieved.

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