Abstract

Process for electrically connecting the contact surfaces of electronic components by a bonding wire having an electrically insulating coating

A process for electrically connecting a contact surface of a first electronic component with a contact surface of a second electronic component comprising the subsequent steps:

(1) ball-bonding a bonding wire having a diameter in the range of from 12 to 80 µm to the contact surface of the first electronic component,

(2) raising the ball-bonded bonding wire to produce an elongated and narrowed wire region still connected to the bonded ball,

(3) disconnecting the ball and the bonding wire at the elongated and narrowed wire region by means of an EFO spark to produce and leave back a ball bump connected to the contact surface of the first electronic component,

(4) ball-bonding the bonding wire with its disconnected end formed in step (3) to the contact surface of the second electronic component,

(5) forming a wire loop between the ball bond formed in step (4) and the ball bump left back in step (3), and

(6) stitch-bonding the bonding wire to the ball bump left back in step (3),

wherein the bonding wire comprises a metal core with an outer electrically insulating coating, optionally with at least one thin layer of metal other than the core metal between the metal core surface and the outer electrically insulating coating, and wherein the core metal is selected from the group consisting of copper, silver, gold, a copper-based alloy, a silver-based alloy and a gold-based alloy.

No Figure