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Descrizione fisica	1 online resource (xxvi, 235 pages) : illustrations (some color)
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Copper Wire Bonding -- Bonding Process -- Bonding Metallurgies -- Wire Bond Evaluation -- Thermal Reliability Tests -- Humidity and Electromigration Tests -- Wire Bond Pads -- Concerns and Solutions -- Recommendations -- Appendix A: Reliability Data -- Appendix B: Patents on Copper Wire Bonding.
Sommario/riassunto	This critical volume provides an in-depth presentation of copper wire bonding technologies, processes and equipment, along with the economic benefits and risks. Due to the increasing cost of materials used to make electronic components, the electronics industry has been rapidly moving from high cost gold to significantly lower cost copper as a wire bonding material. However, copper wire bonding has several process and reliability concerns due to its material properties. Copper Wire Bonding book lays out the challenges involved in replacing gold with copper as a wire bond material, and includes the bonding process changes—bond force, electric flame off, current and ultrasonic energy optimization, and bonding tools and equipment changes for first and second bond formation. In addition, the bond–pad metallurgies and the use of bare and palladium-coated copper wires on aluminum are presented, and gold, nickel and palladium surface finishes are discussed. The book also discusses best practices and recommendations on the bond process, bond–pad metallurgies, and appropriate reliability tests for copper wire-bonded electronic components. In summary, this book: Introduces copper wire bonding

technologies Presents copper wire bonding processes Discusses copper wire bonding metallurgies Covers recent advancements in copper wire bonding including the bonding process, equipment changes, bond–pad materials and surface finishes Covers the reliability tests and concerns Covers the current implementation of copper wire bonding in the electronics industry Features 120 figures and tables Copper Wire Bonding is an essential reference for industry professionals seeking detailed information on all facets of copper wire bonding technology.