



FIG. 7.19 Wire-bond procedure: (1) the wire or ribbon is positioned between the chip contact pad and an ultrasonically powered wedge tool; (2) pressure and ultrasonic energy are applied to make the on-chip bond; (3) the tool is raised and the wire paid out from a spool of wire (not shown); (4) the tool is moved to the contact pad on the package; (5) a second wire bond is made between the wire and the package pad; and (6) a wire clamp (part of the bonding tool) pulls back on the wire to break it at the heel of the bond. (From Harmon 1997.)