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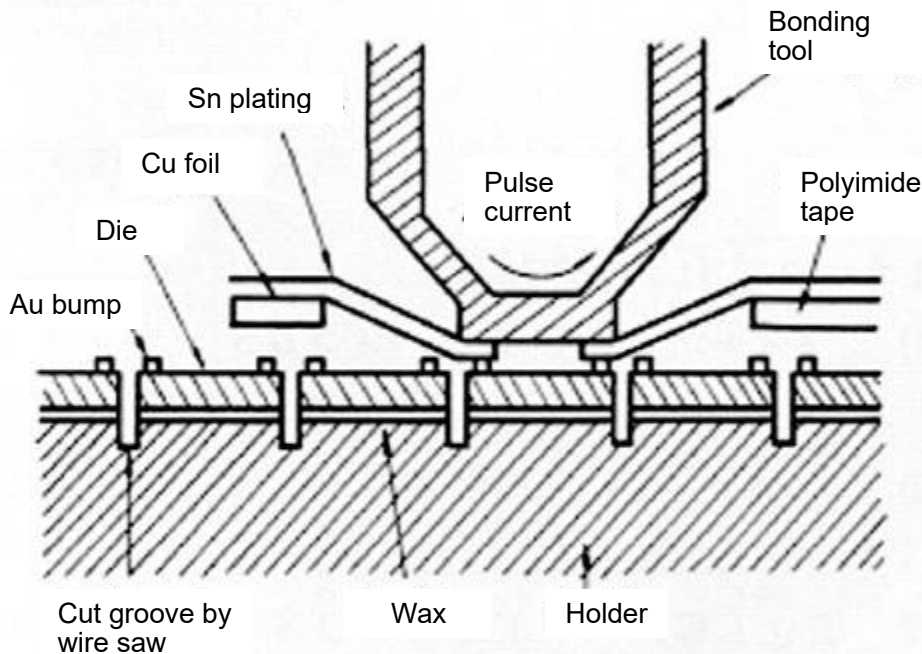
1976

TAB technology applied to LSI circuits for calculators

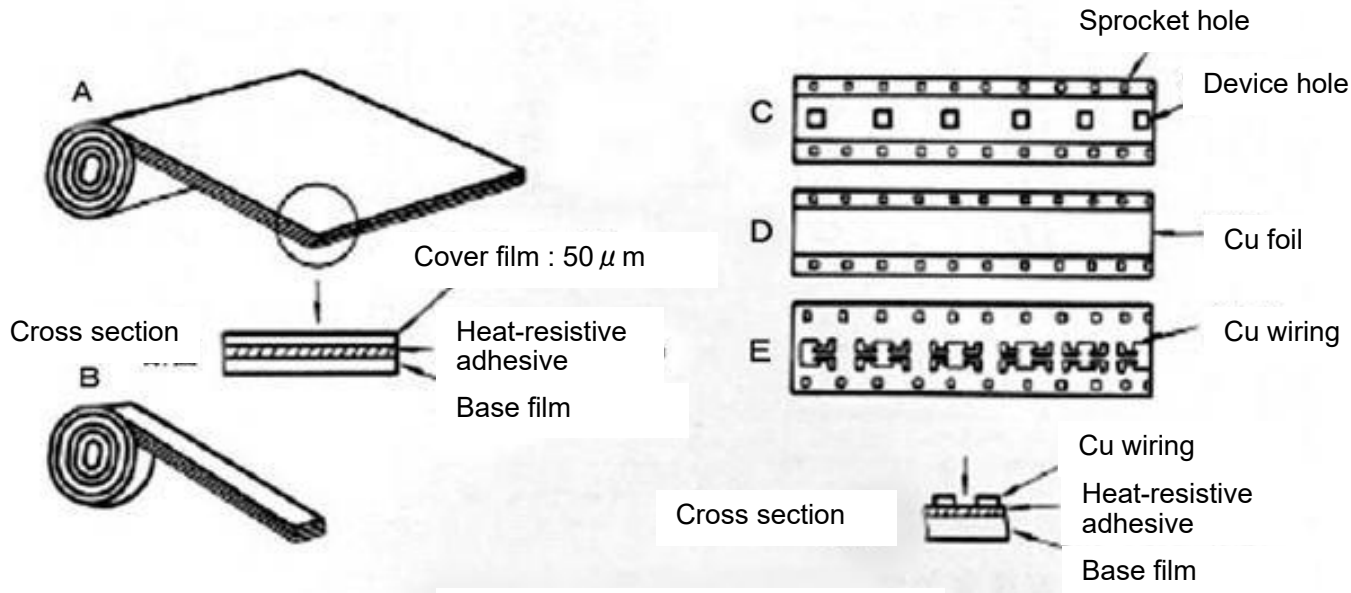
~ Packaging ~

TAB (Tape Automated Bonding) was developed by GE (General Electric) in 1968, and Mitsubishi and Sharp used it first in Japan for analog clocks in 1974, and for calculator LSIs in 1976 respectively, and NEC and Toshiba followed. Matsushita Electric Industrial developed a transfer bump method in 1983, and it was expected to be the main stream of multi-pin ASIC devices from the 1980s to the beginning of the 1990s. Because of the weak strength of outer leads, however, it did not expand as the surface mount LSI package and were replaced by QFP and BGA which were developed later.

TAB tape in Japan was developed by Shindo Electronic Industries, and each of the semiconductor manufacturers requested it to manufacture the tape. Thereafter, Mitsui Metal Industry, Shinko Denki, Toppan Printing and others started commercializing the tape.



Principle of TAB



Schematic drawing of a tape