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## 1986

### Establishing a method for mounting TAB packages in LCD TVs

#### ~ Packaging ~

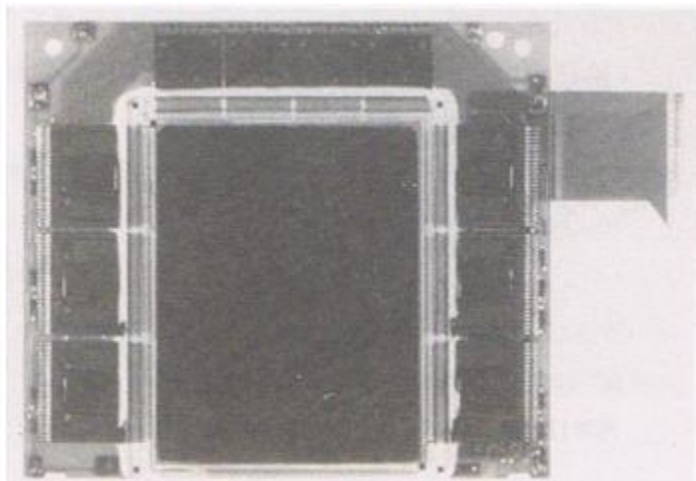
In 1986, Matsushita Electric Industrial released 3-inch color liquid crystal TV. An LCD panel was used for this TV, and the following method was used to mount LSI components to drive amorphous Si TFT of the LCD panel.

A film carrier of transfer bump TAB method was used, in which outer and inner leads were applied with 0.5 $\mu$ m thick Au plating, Au bumps formed on a different substrate were transcribed to the inner leads, and the transcribed bumps were then joined to Al electrodes of LSI by thermocompression. For the panel side connection, an insulating resin connection method (using insulating resin with shrinkage force) was used.

The bumps on the LSI side had diameter of 75 $\mu$ m and a height of 30 $\mu$ m, and the bump pitch was about 50 $\mu$ m. The electrode pitch on the LCD panel side was about 100 $\mu$ m, and a light-curable insulating resin with shrinking force was applied between the ITO electrode and the film leads, and the resin was UV-cured under pressure and the connection was done.



LCD TV



LCD module using TAB package

