

1997

Mass production of QFNs starts

~ Packaging ~

QFN (Quad Flat Non-Leaded Package) is a CSP (Chip Scale Package) type package developed by Matsushita Electronics Industria, and mass production was started from around the summer of 1997. The company named it S²MPAC (Single Side Molded Package). Only the chip side is transfer molded, and the solder connection surfaces of the connection terminals to the printed circuit board are located under the bottom surface of the package.

A mold release sheet is placed in a mold in the molding process, and the wire-bonded lead frame is placed on the mold release sheet, and epoxy resin is then transfer molded and hardened. The press-fitting of the lead frame onto the release sheet ensures the standoff during the soldering process and prevents contamination of the lead frame terminal connection surface. Height, mounting area, and unit weight are reduced by 40%, 65%, and 74% respectively, compared to SSOP.

In the early stage of mass production, it started with small pin packages of 16-pin in 3 mm × 4 mm and 24-pin in 4 mm × 5 mm, and it expanded to large pin count packages sequentially.

Schematic drawing of S²MPAC (QFN)

