Chapter 3

Flip-Chip bonding process
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Schematic of ACA flip-chip joining
Film attach of ACF
Stencil printing of ACA paste
Placement and removal of carrier film on ACF or stencil printing of ACA paste

Placement of flip-chip components

Curing and bonding using thermode bonder
Automatic process flow for flip-chip bonding using ACF film on FR-4 substrate.
Carrier film removal mechanism in an automatic bonding line.
Stencil printing of ACA paste

Placement and removal of carrier film on ACF

Placement of fine pitch or flip-chip components

Curing and bonding using thermode bonder

Dispensing of ICA or solder pastes

Placement of normal surface mount components

Curing or reflow in a reflow furnace
Temperature profile of the thermodes during bonding
Flip-Chip bonding equipment
Bump

Pad

Bump height increase

Low pressure

High pressure

Uniform touch of bump and pad
Assembly accuracy
Assembly accuracy