Flash Memory Cards

Highlights
- Complete turnkey services (wafer to card test)
- Mixed IC technology & SMT components
- Standard and green materials sets
- Multi-die, side-by-side & stacked

Features
- Body sizes up to 20 x 30mm
- Traditional IC packaging process flows
- Wafer backgrinding & polishing
- Surface mount technology
- Die stacking
- Die level & pre-packed memory supported
- Die attach with epoxy & film
- Wire bonding (traditional, reverse, FFL, etc.)
- Vacuum molding
- Laser & ink marking
- Singulation using blade, waterjet, edge grinder or laser
- Chamfering
- Lid attach using B-stage epoxy or ultrasonic welder
- Mechanical card assembly
- Label attach
- High speed integrated curve-cutting
- Lead-free & green materials set
- Memory & Final Test capabilities

Description
We offer a variety of memory card formats in addition to value-added package assembly and test services. A majority of our card packaging processes are common with traditional packaging and leverage the most up-to-date technologies and processes unique to memory cards, including integrated curve-cutting, labelling, mechanical card assembly and card packaging.

We have solutions that utilize bare die level assembly, pre-packaged die assembly or a combination of both. The Micro-SD is an example of an integrated solutions using NAND and controller die. In addition to assembly, we offer memory and card test services, with dedicated test resources to support test development as required.

Memory Card Formats
We offer tooling for the following memory card formats:
- SD Card
- Mini SD
- Micro SD
- Memory Stick
- MS Pro Duo
- MS Micro

Applications
- Digital still & video cameras
- Mobile handsets
- GPS devices
- PDAs, MP3 players, etc.
### Specifications

- **Die Thickness**: 60 – 355µm (2.4 - 14mils)
- **Gold Wire**: 0.6 - 1.3µm diameter, 99.99% Au
- **SMT Components**: 0603, 0402, 0201, 01005, odd parts, x-tals, filters, LEDs, etc.
- **Bill of Materials**: Standard and lead-free
- **Packing Options**: JEDEC tray or tape & reel

### Reliability

- **Temperature Cycling**: -40°C ~ 125°C, 1000 cycles
- **Thermal Shock**: -40°C ~ 80°C, 100 cycles
- **Unbiased HAST**: 130°C/85% RH/33.3psia, 100 hrs
- **High Temperature Storage**: 150°C, 1000 hrs
- **Low Temperature Storage**: -40°C, 168 hrs
- **Blend Test**: 15N at center 5X
- **Drop Test**: 1.5m height, 6 surfaces
- **Twist Test**: .5Nm torque, 5X CW, 5X CCW
- **Salt Water Spray**: 3% NaCl @ 35°C, 24 hrs

### Cross Sections

- **Micro SD-SiP**
- **SD-SiP**

### Package Configurations

A variety of wirebond stacked die configurations are in production and under development. In addition, many standard package configurations can be integrated to address customer specific solutions.