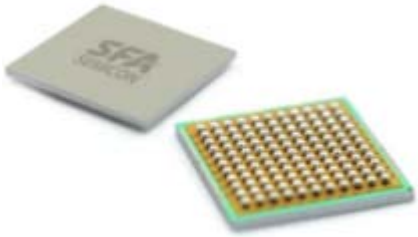
FBGA : Fine-pitch Ball Grid Array

Image



Reference Image



Description

FBGA packages have been assembled for years in **SFA SEMICON**. **SFA SEMICON's** experienced design group provides the best package structure design and cost-effective material choices to achieve low profile, small form factor, high reliability and high-quality electrical/ thermal performance for FBGA.
BGA technology was first introduced as a solution to problems associated with the increasingly high lead counts required for advanced semiconductors used in applications such as portable computers and wireless telecommunications. As the number of leads surrounding the integrated circuits increased, high lead count packages experienced significant electrical shorting problems. BGA technology solved this problem by effectively creating leads on the bottom surface of the package in the form of small bumps or solder balls.

Application

- Hand-held consumer products
- Computing platforms, Networking
- Wireless Communications devices
- Personal Digital Asistants

Feature

- Face-up/Face-down
- JEDEC Standard compliance
- Green materials (Pb-free / RoHS compliance)
- Ball pitch ≥ 0.40mm

Reliability

- Moisture Sensitivity : JEDEC Level 3
- Unbias HAST : 130˚C, 85% RH, 96 hrs
- Temp. Cycling : -55℃/+125℃, 1000 cycles
- High Temp. Storage : 150℃, 1000Hrs

Bill of Materials and Process Specification

- PCB : BT or Equivalent (2~6 Layer)
- Adhesive : Paste or film
- Wire : Au (0.6~1.0 mil), Cu(0.7)
- EMC : Green
- Solder ball : Sn3.0Ag0.5Cu (Standard)
- Marking : Laser
- Packing : JEDEC Tray

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Electrical Characteristics

Pin	Body Size (mm)	LF	R [mΩ]	C [pF]	[nH]
100	6.0 x 6.0	2L	9.48~135.8	0.107~3.623	0.193~2.293
226	8.0 x 9.0	4L	55.5~376.7	0.108~0.848	1.066~7.850

Thermal Characteristics

Pin	Body Size (mm)	LF	Pad Size (mm)	Die Size (mm)	Θja [℃/W]
196	12.0 x 12.0	2L	0.3	3.115 x 4.082 x 0.2	23.28

Package Line-up

- Body size [mm] : 6.0x6.0 to 15.0x15.0
  Common body sizes : 6.0X8.0, 7.0X9.0, 8.0X9.0, 8.0X10.0, 8.0X11.0, 8.0X12.0, 8.0X13.0, 10.0X13.0, 10.0X14.0, 10.5X13.0, 11.5X13.0, 12.0X15.0
- Ball Count : 48 to 560
- Ball Pitch [mm] : ≥ 0.40mm