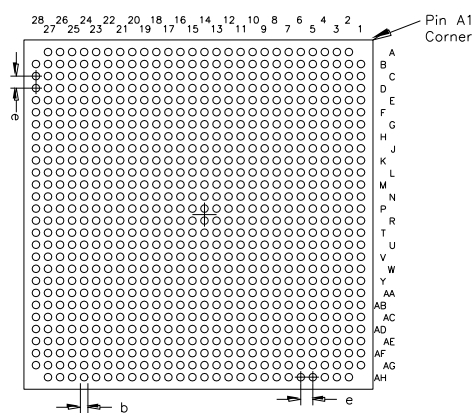
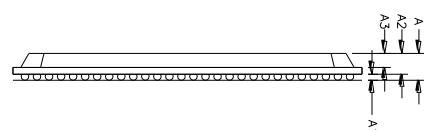
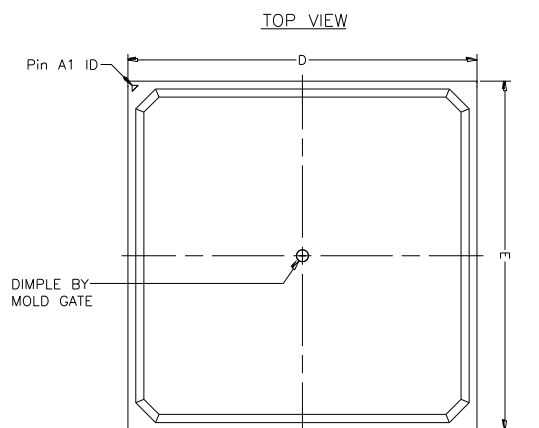
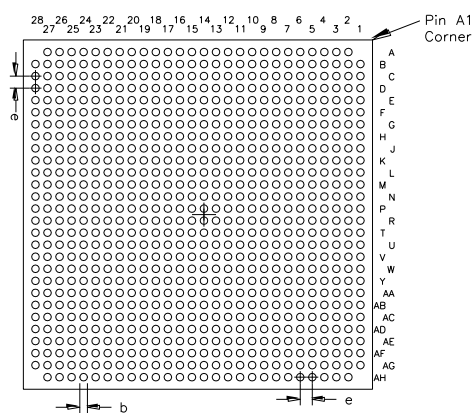
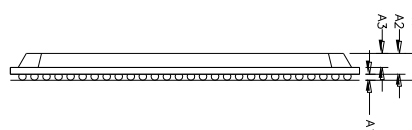
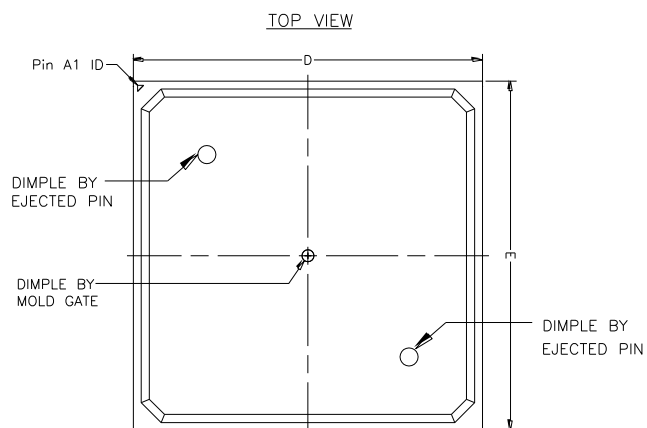


## 780-Pin FineLine Ball-Grid Array (FBGA) - Wire Bond - A:2.40

- All dimensions and tolerances conform to ASME Y14.5M – 1994.
- Controlling dimension is in millimeters.
- Pin A1 may be indicated by an ID dot, or a special feature, in its proximity on package surface.

| Package Information        |   |
|----------------------------|---|
| Description                | Specification   |
| Ordering Code Reference    | F   |
| Package Acronym            | FBGA  |
| Substrate Material         | BT  |
| Solder ball composition    | Regular: 63Sn:37Pb (Typ.)<br>Pb-free: Sn:3Ag:0.5Cu (Typ.) |
| JEDEC Outline Reference    | MS-034 Variation: AAM-1                                   |
| Lead Coplanarity           | 0.008 inch (0.20 mm)                                      |
| Weight                     | 3.0 g (Typ.)  |
| Moisture Sensitivity Level | Printed on moisture barrier bag                           |

| Package Outline Dimension Table |             |      |      |
|---------------------------------|-------------|------|------|
| Symbol                          | Millimeters |      |      |
|                                 | Min.        | Nom. | Max. |
| A                               | 2.10        | 2.25 | 2.40 |
| A1                              | 0.40        | 0.50 | 0.60 |
| A2                              | 1.50        | 1.75 | 2.00 |
| A3                              | 1.12        | 1.17 | 1.22 |
| D                               | 29.00 BSC   |      |      |
| E                               | 29.00 BSC   |      |      |
| b                               | 0.50        | 0.60 | 0.70 |
| e                               | 1.00 BSC    |      |      |

**Package Outline****OPTION 1****OPTION 2**

## Document Revision History

Table 1 shows the revision history for this document.

Table 1. Document Revision History

| Date          | Version | Changes                                 |
|---------------|---------|---|
| January 2012  | 1.0     | Initial release                         |
| December 2012 | 2.0     | Add option 2 package outline in page.2. |



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