

**88-Pin Ultra FineLine Ball-Grid Array (UBGA)**

- Controlling dimension is in millimeters.
- N is the number of leads.

| <b>Package Information</b> |                                                                                                        |
|----------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | <b>Specification</b>                                                                                   |
| Ordering Code Reference    | U                                                                                                      |
| Package Acronym            | UBGA                                                                                                   |
| Lead Material              | Tin-lead alloy (63/37)                                                                                 |
| Lead Finish                | Contact Altera Application at <a href="http://www.altera.com/mysupport">www.altera.com/mysupport</a> . |
| JEDEC Outline              | N/A                                                                                                    |
| JEDEC Option               | N/A                                                                                                    |
| Maximum Lead Coplanarity   | 0.005 inches (0.12 mm)                                                                                 |
| Weight                     | Contact Altera Application at <a href="http://www.altera.com/mysupport">www.altera.com/mysupport</a> . |
| Moisture Sensitivity Level | Printed on moisture barrier bag                                                                        |

| <b>Package Outline Figure Reference</b> |                    |             |             |
|-----------------------------------------|--------------------|-------------|-------------|
| <b>Symbol</b>                           | <b>Millimeters</b> |             |             |
|                                         | <b>Min.</b>        | <b>Nom.</b> | <b>Max.</b> |
| A                                       | –                  | –           | 1.4         |
| A1                                      | 0.30               | –           | 0.40        |
| A2                                      | 0.65               | –           | –           |
| b                                       | 0.40               | 0.45        | 0.50        |
| D                                       | 11.00              | –           | 11.20       |
| E                                       | 8.00               | –           | 8.20        |
| e                                       | 0.8 BSC            |             |             |
| N                                       | 88                 |             |             |

