

## 672-Pin Non-Thermally Enhanced FineLine Ball-Grid Array (FBGA)

- All dimensions and tolerances conform to ANSI Y14.5M – 1994.
- Controlling dimension is in millimeters.
- Some devices have a chamfered corner at the A-1 ball location.
- M is the maximum solder ball matrix size.

<i>Package Information</i>	
Description	Specification
Ordering Code Reference	F
Package Acronym	FBGA
Lead Material	Tin-lead alloy (63/37)
Lead Finish	N/A
JEDEC Outline	MS-034
JEDEC Option	AAL-1
Maximum Lead Coplanarity	0.008 inches (0.20 mm)
Weight	3.0 g
Moisture Sensitivity Level	Printed on moisture barrier bag

<i>Package Outline Figure Reference</i>			
Symbol	Millimeters		
	Min.	Nom.	Max.
A <sup>†</sup>	–	–	3.50
A1	0.30	–	–
A2	0.25	–	3.00
D/E	27.00 BSC		
b	0.50	0.60	0.70
e	1.00 BSC		
M	26		

<sup>†</sup> Altera's thickness specification for A is 2.6 mm maximum. The Max item for A in the table reflects the JEDEC specification.

**Package Outline**

