

## **Altera Device Package Information**

04R-00230-2.0

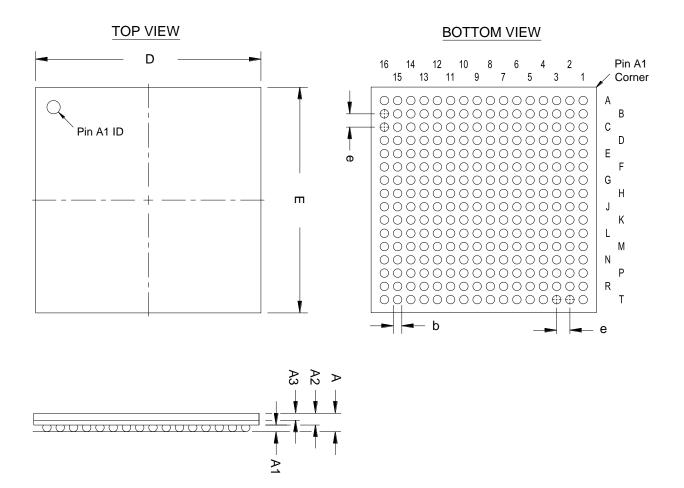
## 256-Pin FineLine Ball-Grid Array (FBGA) - THIN - Wire Bond - A:1.55

- 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.) Pb-free: Sn:3Ag:0.5Cu (Typ.)	
JEDEC Outline Reference	MO-192 Variation: DAF-1	
Lead Coplanarity	0.008 inch (0.20 mm)	
Weight	0.93 g (Typ.)	
Moisture Sensitivity Level	Printed on moisture barrier bag	

Symbol	Millimeters			
	Min.	Nom.	Max.	
Α	1.35	1.45	1.55	
A1	0.30	0.40	0.50	
A2	0.85	1.05	1.25	
А3	0.65	0.70	0.75	
D	17.00 BSC			
E	17.00 BSC			
b	0.40	0.50	0.60	
е		1.00 BSC		

## Package Outline



## **Document Revision History**

Table 1 shows the revision history for this document.

Table 1. Document Revision History

Date	Version	Changes
June 2011	1.0	Initial release
November 2011	2.0	Remove Note in Page 1



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