

## **Altera Device Package Information**

04R-00452-1.0

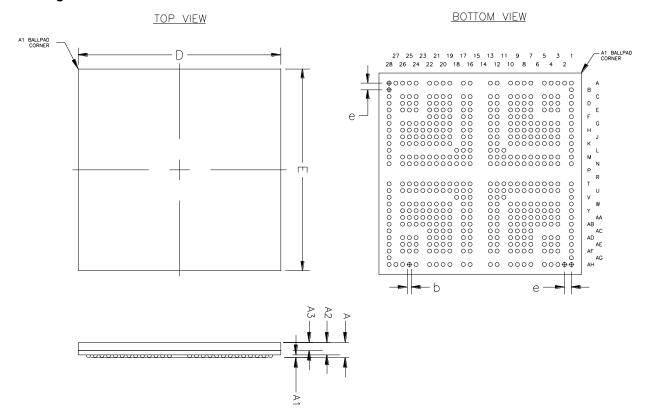
## 484-Pin Micro FineLine Ball-Grid Array (MBGA) - Wire Bond - A:1.25

- 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	М	
Package Acronym	MBGA	
Substrate Material	ВТ	
Solder ball composition	Pb-free: Sn:3Ag:0.5Cu (Typ.)	
JEDEC Outline Reference	MO-195 Variation: BF	
Lead Coplanarity	0.003 inch (0.08 mm)	
Weight	0.55 g (Typ.)	
Moisture Sensitivity Level	Printed on moisture barrier bag	

Package Outline Dimension Table				
0	Millimeters			
Symbol	Min.	Nom.	Max.	
Α	0.95	1.10	1.25	
A1	0.17	0.22	0.27	
A2	0.68	0.88	1.08	
А3	0.55	0.60	0.65	
D	15.00 BSC			
E	15.00 BSC			
b	0.25	0.30	0.35	
е	0.50 BSC			

## Package Outline



## **Document Revision History**

Table 1 shows the revision history for this document.

Table 1. Document Revision History

Date	Version	Changes
February 2013	1.0	Initial Release



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