# **Altera Device Package Information**

04R-00402-1.0

### 144-Pin Plastic Enhanced Quad Flat Pack (EQFP) - Wire Bond - A:1.65 - D2:5.4

- All dimensions and tolerances conform to ASME Y14.5M 1994.
- Controlling dimension is in millimeters.
- Pin 1 may be indicated by an ID dot, or a special feature, in its proximity on package surface.

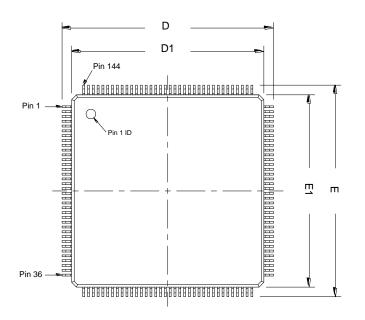
Package Information			
Description	Specification		
Ordering Code Reference	E		
Package Acronym	EQFP		
Leadframe Material	Copper		
Lead Finish (plating)	Regular: 85Sn:15Pb (Typ.) Pb-free: Matte Sn		
JEDEC Outline Reference	MS-026 Variation: BFB-HD		
Lead Coplanarity	0.003 inch (0.08mm)		
Weight	1.3 g (Typ.)		
Moisture Sensitivity Level	Printed on moisture barrier bag		

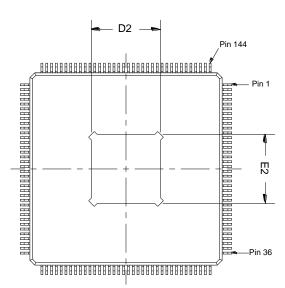
Symbol	Millimeters			
	Min.	Nom.	Max.	
Α	1.45	1.55	1.65	
A1	0.05	0.10	0.15	
A2	1.30	1.45	1.60	
D	22.00 BSC			
D1	20.00 BSC			
D2	5.25	5.40	5.55	
Е	22.00 BSC			
E1	20.00 BSC			
E2	5.25	5.40	5.55	
L	0.45	0.60	0.75	
L1	1.00 REF			
s	0.20	-	-	
b	0.17	0.22	0.27	
С	0.09	-	0.20	
е	0.50 BSC			
θ	0°	3.5°	7°	

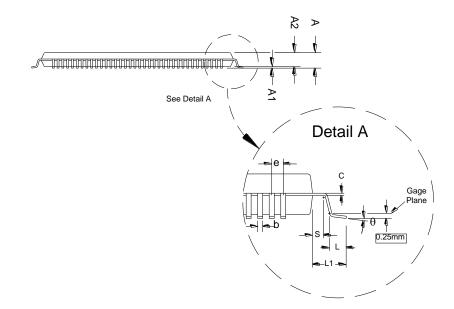
#### Package Outline

# **TOP VIEW**

## **BOTTOM VIEW**







#### **Document Revision History**

Table 1 shows the revision history for this document.

Table 1. Document Revision History

Date	Version	Changes
January 2011	1.0	Initial release

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