

Altera Device Package Information

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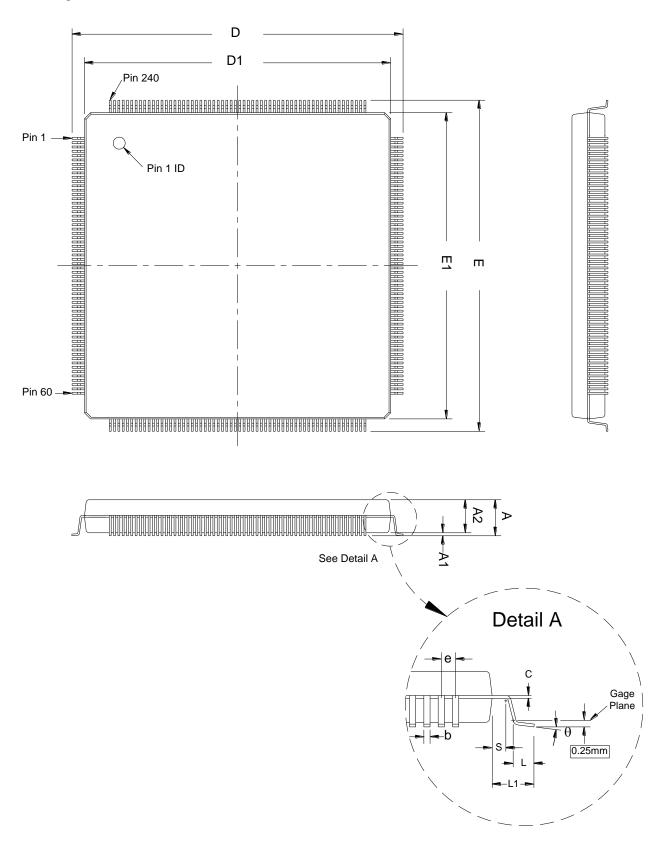
240-Pin Plastic Quad Flat Pack (PQFP) - Wire Bond - A:4.10

- 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	Q	
Package Acronym	PQFP	
Leadframe Material	Copper	
Lead Finish (plating)	Regular: 85Sn:15Pb (Typ.) Pb-free: Matte Sn	
JEDEC Outline Reference	MS-029 Variation: GA	
Lead Coplanarity	0.003 inch (0.08 mm)	
Weight	5.0 g (Typ.)	
Moisture Sensitivity Level	Printed on moisture barrier bag	

Symbol	Millimeters			
	Min.	Nom.	Max.	
Α	3.50	3.80	4.10	
A1	0.25	0.40	0.55	
A2	3.25	3.40	3.55	
D		34.60 BSC		
D1	32.00 BSC			
E	34.60 BSC			
E1	32.00 BSC			
L	0.45	0.60	0.75	
L1		1.30 REF		
S	0.20	-	-	
b	0.17	-	0.27	
С	0.09	-	0.20	
е	0.50 BSC			
θ	0°	3.5°	7°	

Package Outline



Document Revision History

Table 1 shows the revision history for this document.

Table 1. Document Revision History

Date	Version	Changes
July 2011	1.0	Initial release



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