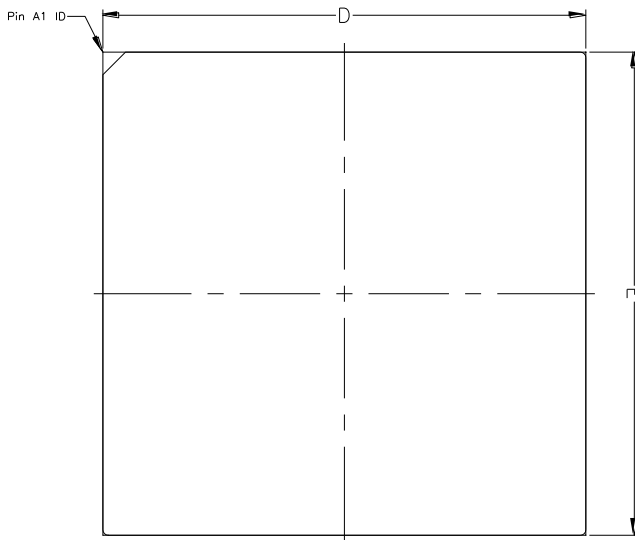
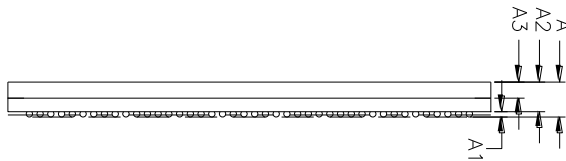
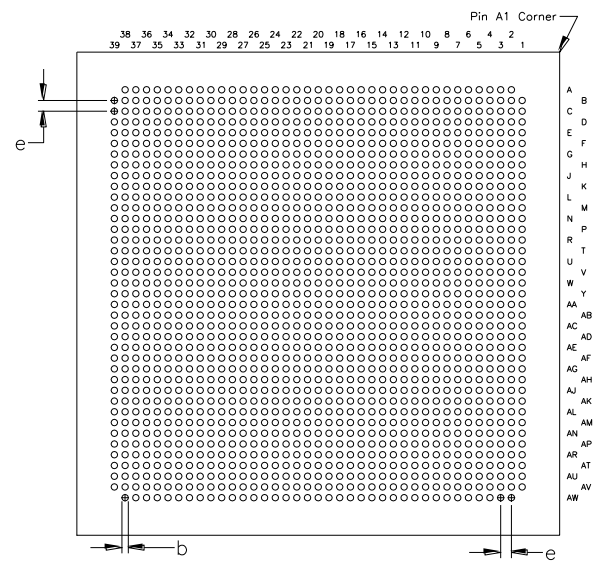


1517-Pin Hybrid FineLine Ball-Grid Array (HBGA) - Flip Chip - Flat Top Single-Piece Lid - A:3.90

- 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	H
Package Acronym	HBGA
Substrate Material	BT
Solder ball composition	Regular: 63Sn:37Pb (Typ.) Pb-free: Sn:3Ag:0.5Cu (Typ.)
JEDEC Outline Reference	MS-034 Variation: AAW-2
Lead Coplanarity	0.010 inch (0.25 mm)
Weight	35.1 g (Typ.)
Moisture Sensitivity Level	Printed on moisture barrier bag

Package Outline Dimension Table			
Symbol	Millimeters		
	Min.	Nom.	Max.
A	3.50	3.70	3.90
A1	0.40	0.50	0.60
A2	2.90	3.20	3.50
A3	1.85	1.90	1.95
D	45.00 BSC		
E	45.00 BSC		
b	0.50	0.60	0.70
e	1.00 BSC		

Package OutlineTOP VIEWBOTTOM VIEW

Document Revision History

Table 1 shows the revision history for this document.

Table 1. Document Revision History

Date	Version	Changes
June 2012	1.0	Initial release
July 2012	2.0	Heading has been change from Top Flat Single-Piece Lid to Flat Top Single-Piece Lid



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