

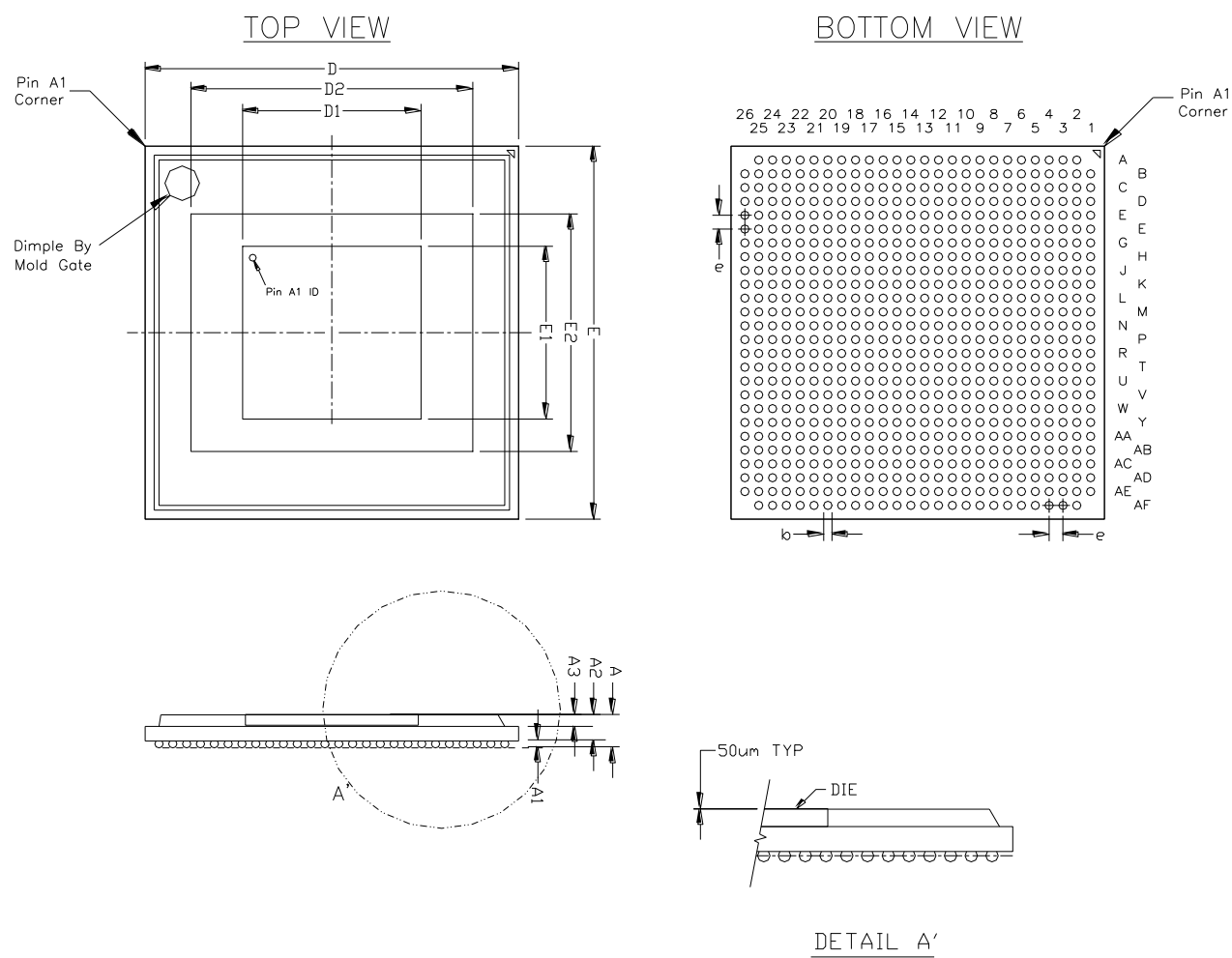
672-Pin FineLine Ball-Grid Array (FBGA) - Flip Chip – Thermal Composite - A:2.70 - D2: 20.38

- 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	MS-034 Variation: AAL-1
Lead Coplanarity	0.008 inch (0.20 mm)
Weight	3.7 g (Typ.)
Moisture Sensitivity Level	Printed on moisture barrier bag

Package Outline Dimension Table			
Symbol	Millimeters		
	Min.	Nom.	Max.
A	2.30	2.50	2.70
A1	0.40	0.50	0.60
A2	1.90	2.00	2.10
A3	0.75	0.85	0.95
D	27.00 BSC		
D1	Device Specific Dimension (see table below)		
D2	20.38		
E	27.00 BSC		
E1	Device Specific Dimension (see table below)		
E2	17.19		
E	31.00 BSC		
b	0.50	0.60	0.70
e	1.00 BSC		

Device Specific Dimension Table					
Device	Millimeters		Device	Millimeters	
	D1	E1		D1	E1
5AGXA1	12.65	12.34	5AGXA3	12.65	12.34
5AGTC3	12.65	12.34	5AGXA7	16.49	13.29
5AGXA5	16.49	13.29	-	-	-

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 2012	2.0	1. Revised Heading and Package Outline Dimension Table in page 1 2. Revised package Outline Diagram in page 2
February 2013	3.0	Add die size info for device 5AGXA5 and 5AGXA7 in Device Specific Dimension Table.



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