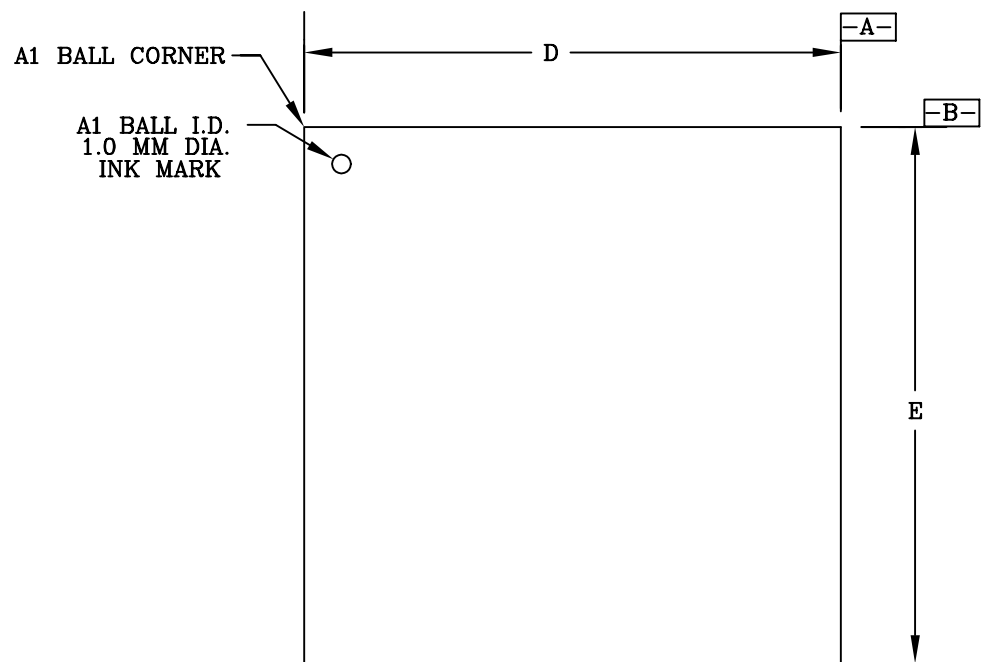
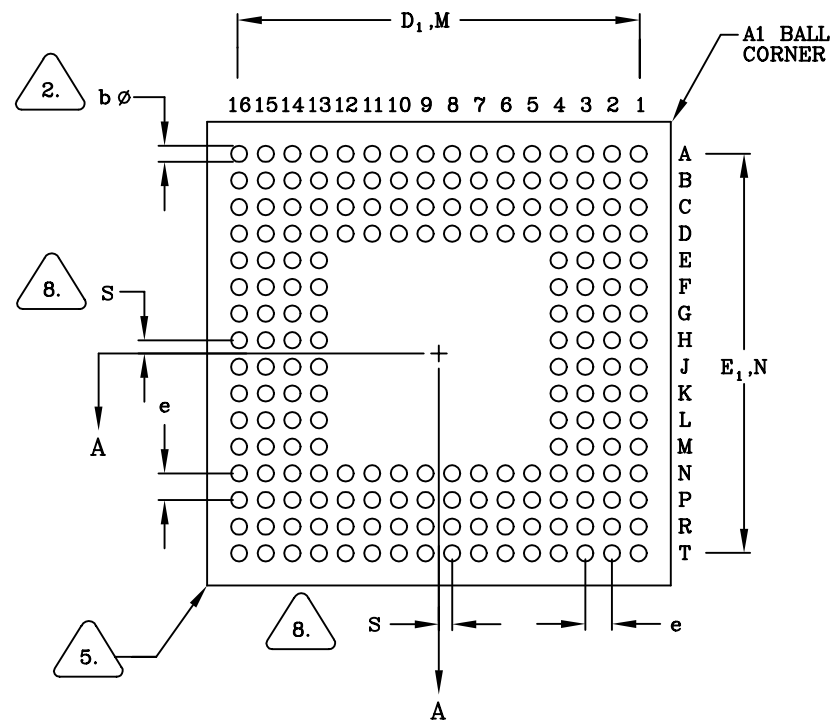


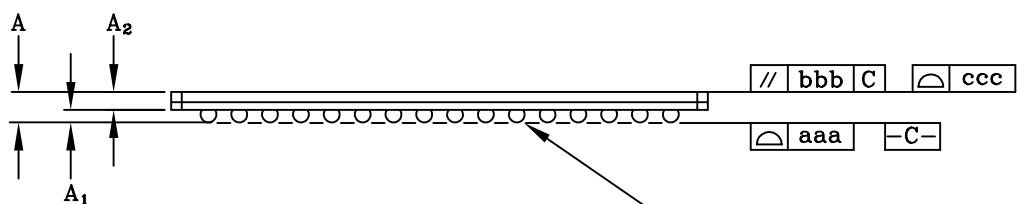


TOP VIEW

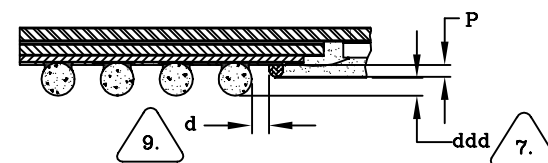


BOTTOM VIEW

DIE SIDE



SIDE VIEW



A-A SECTION VIEW

MAXIM			
PROPRIETARY INFORMATION			
TITLE: PACKAGE OUTLINE, SUPER-BGA			
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NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS AND TOLERANCES CONFORM TO ANSI Y14.5M-1982.



2. DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM $\boxed{-C-}$.

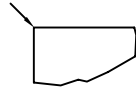


3. PRIMARY DATUM $\boxed{-C-}$ AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

4. THE 192 BALL 25 X 25 MM SBGA HAS 3 ROWS OF BALLS. THE 256 BALL 27 X 27 MM SBGA HAS 4 ROWS OF BALLS.



5. SHAPE AT CORNER.



SINGLE FORM

6. ALL DIMENSIONS ARE IN MILLIMETERS.



7. HEIGHT FROM BALL SEATING PLANE TO PLANE OF ENCAPSULANT.



8. "S" IS MEASURED WITH RESPECT TO $\boxed{-A-}$ AND $\boxed{-B-}$ AND DEFINES THE POSITION OF THE CENTER SOLDER BALL IN THE OUTER ROW. WHEN THERE IS AN ODD NUMBER OF SOLDER BALLS IN THE OUTER ROW "S"=.000; WHEN THERE IS AN EVEN NUMBER OF SOLDER BALLS IN THE OUTER ROW THE VALUE "S"=e/2. "S" MAY BE EITHER .000 OR e/2 FOR EACH VARIATION.



9. THE DIMENSION FROM THE OUTER EDGE OF THE RESIN DAM TO THE EDGE OF THE INNERMOST ROW OF SOLDER BALL PADS IS TO BE A MINIMUM OF 0.50mm.

10. "SUPER BGA" IS A REGISTERED TRADEMARK OF AMKOR TECHNOLOGIES.

11. MEETS JEDEC MS034.

STANDARD BODY SIZE DIMENSION TABLE

BODY SIZE	25.0 X 25.0MM PACKAGE			27.0 X 27.0MM PACKAGE			BODY SIZE
SYMBOL	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	NOTE
A	1.41	1.54	1.67	1.41	1.54	1.67	OVERALL THICKNESS
A1	0.56	0.63	0.70	0.56	0.63	0.70	BALL HEIGHT
A2	0.85	0.91	0.97	0.85	0.91	0.97	BODY THICKNESS
D	24.90	25.00	25.10	26.90	27.00	27.10	BODY SIZE
D1	22.76	22.86	22.96	24.03	24.13	24.23	BALL FOOTPRINT
E	24.90	25.00	25.10	26.90	27.00	27.10	BODY SIZE
E1	22.76	22.86	22.96	24.03	24.13	24.23	BALL FOOTPRINT
M,N	19 x 19			20 x 20			BALL MATRIX
b	0.60	0.75	0.90	0.60	0.75	0.90	BALL DIAMETER
d	0.6			0.6			MIN DISTANCE ENCAP TO BALLS
e	1.27			1.27			BALL PITCH
aaa			0.15			0.15	COPLANARITY
bbb			0.15			0.15	PARALLEL
ccc			0.20			0.20	TOP FLATNESS
ddd 	0.15	0.33	0.50	0.15	0.33	0.50	SEATING PLANE CLEARANCE
P	0.20	0.30	0.35	0.20	0.30	0.35	ENCAPSULATION HEIGHT
S	—	—	0.00	—	—	0.635	SOLDER BALL PLACEMENT

			
PROPRIETARY INFORMATION			
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