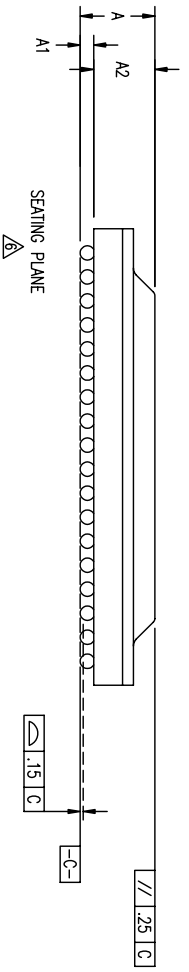
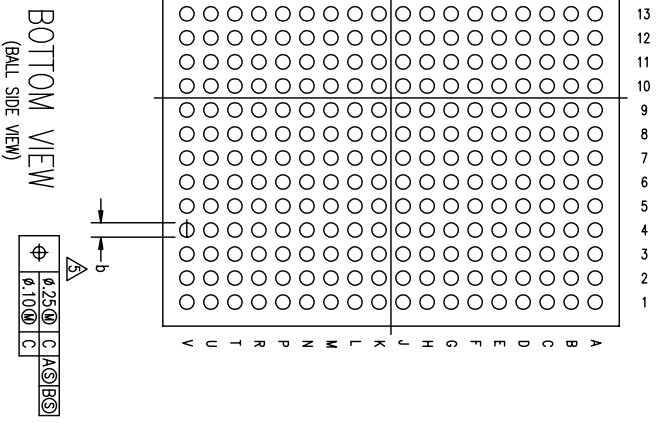
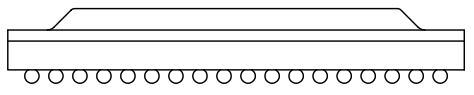
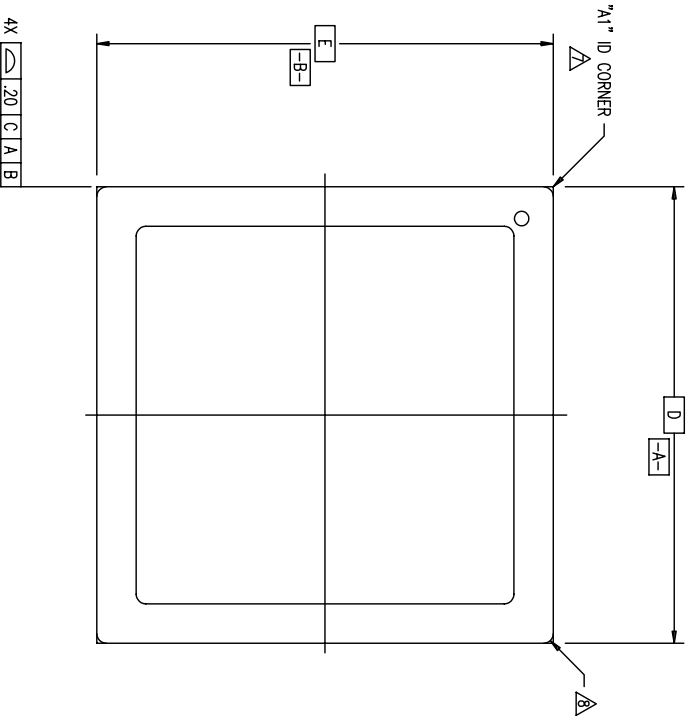

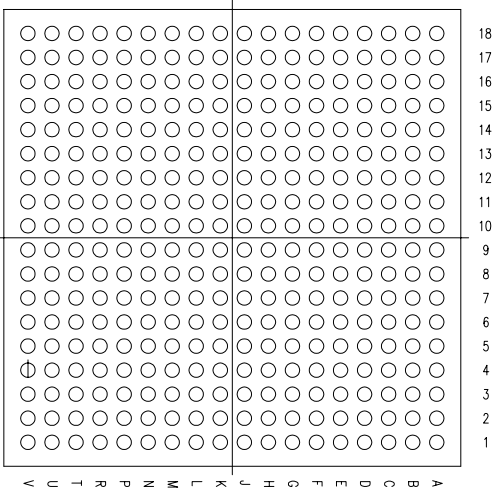


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	04/10/07	TV
01	ADD PKG HEIGHT "A" MIN & NOM	06/21/11	JG
02	COMBINE POD & LAND PATTERN	05/29/13	KS



TOLERANCES UNLESS SPECIFIED		 www.IDT.com
DECIMAL	ANGULAR	
±	±	
APPROVALS	DATE	TITLE
XXXX±	04/10/07	BL/BR/AL/AR 324 PACKAGE OUTLINE
DRAWN 377		19.0 X 19.0 mm BODY
CHECKED		1.00 mm BALLPITCH FBGA
SIZE	DRAWING No.	REV
C	PSC-4211	02
DO NOT SCALE DRAWING		SHEET 1 OF 3

REVISIONS				
REV	DESCRIPTION	DATE	APPROVE	
00	INITIAL RELEASE	04/10/07	TV	
01	ADD PKG HEIGHT "A" MIN & NOM	06/21/11	JG	
02	COMBINE POD & LAND PATTERN	05/29/13	KS	



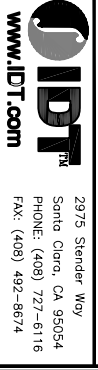
BOTTOM VIEW
(BALL SIDE VIEW)

SYMBOL	JEDEC VARIATION			NOMINAL
	MIN	NOM	MAX	
A	2.77	3.02	3.27	
A1	.30	-	-	
A2	2.16	-	2.82	
D	19.00 BSC			
E	19.00 BSC			
M	18			3
N	324			4
e	1.00 BSC			
b	.50	.60	.70	5
CENTER BALL MATRIX	N/A			

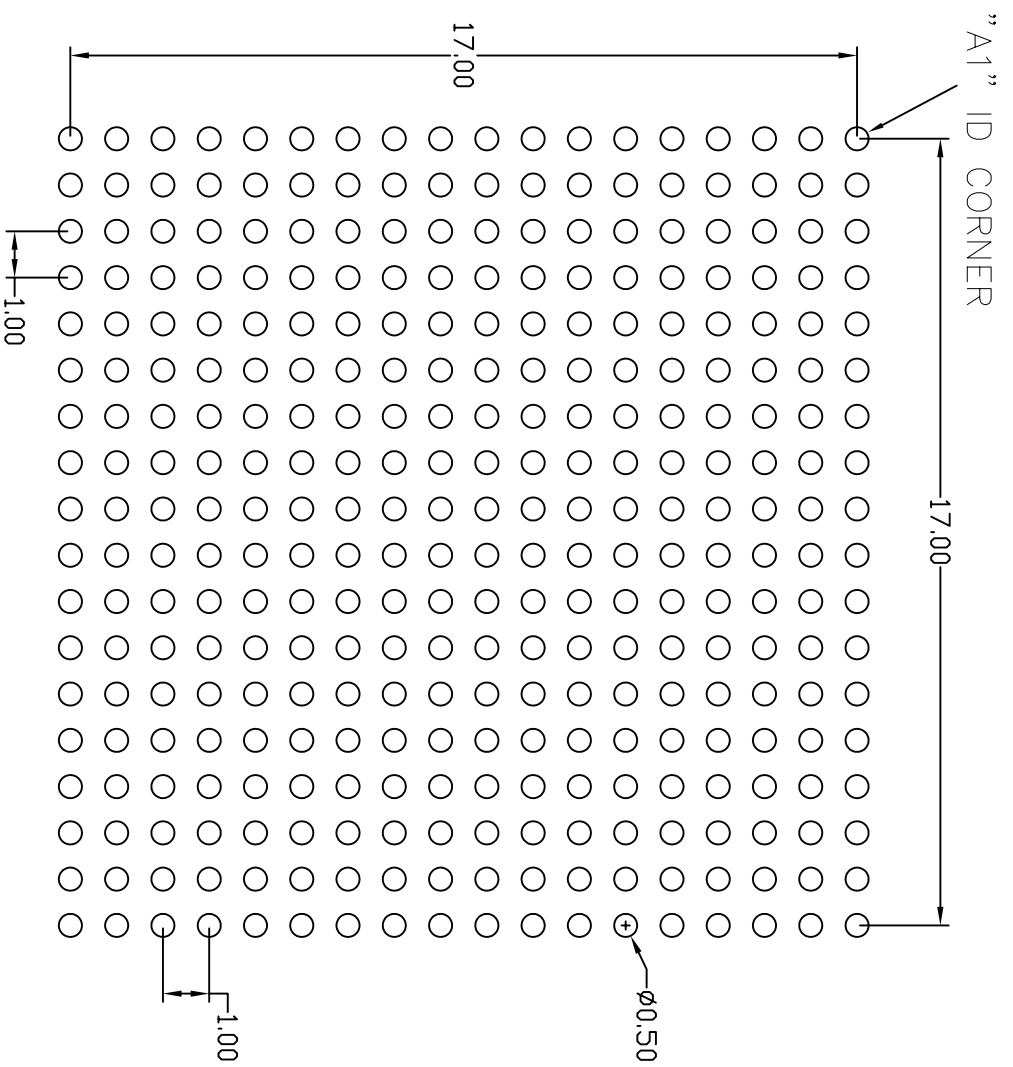
NOTES:

- 1 ALL DIMENSIONING AND TOLERANCING CONFORM TO ANSI Y14.5M-1982
- 2 "e" REPRESENTS THE BASIC SOLDER BALL GRID PITCH
- 3 "M" REPRESENTS THE MAXIMUM SOLDER BALL MATRIX SIZE
- 4 "N" REPRESENTS THE BALLOUNT NUMBER
- 5 DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C-C
- 6 SEATING PLANE AND PRIMARY DATUM C-C ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS
- 7 "A1" ID CORNER MUST BE IDENTIFIED BY CHAMFER, INK MARK, METALLIZED MARKING, INDENTATION OR OTHER FEATURE ON PACKAGE BODY
- 8 EXACT SHAPE OF EACH CORNER IS OPTIONAL
- 9 ALL DIMENSIONS ARE IN MILLIMETERS


TOLERANCES UNLESS SPECIFIED	
DECIMAL	ANGULAR
XXX±	±
XXXX±	
XXXX±	
APPROVALS	DATE
DRAWN 379	04/10/07
CHECKED	
TITLE BL/BR/AL/AR 324 PACKAGE OUTLINE	
19.0 X 19.0 mm BODY	
1.00 mm BALLPITCH FCBGA	
SIZE DRAWING No. PSC-4211	
DO NOT SCALE DRAWING	
REV	02
SHEET 2 OF 3	



REVISIONS				
REV	DESCRIPTION	DATE	APPROVE	
00	INITIAL RELEASE	04/10/07	TV	
01	ADD PKG HEIGHT "A" MIN & NOM	06/21/11	JG	
02	COMBINE POD & LAND PATTERN	05/29/13	KS	



RECOMMENDED LAND PATTERN DIMENSION

TOLERANCES UNLESS SPECIFIED		 6024 Silver Creek Valley Rd San Jose, CA 95138 PHONE: (408) 294-8200 FAX: (408) 294-3572 www.idt.com	
DECIMAL	±	DATE	TITLE
XX.X	0.05	08/10/12	BL/BR/AL/AR 324 PACKAGE OUTLINE
ANGULAR	±		19.0 x 19.0 mm BODY
XXXX			1.0 mm BALLPITCH FCBGA
XXXXX			
APPROVALS			
DRAWN	284C		
CHECKED			
		SIZE	REV
		C	02
		DRAWING NO.	
		PSC-4211	
		DO NOT SCALE DRAWING	SHEET 3 OF 3