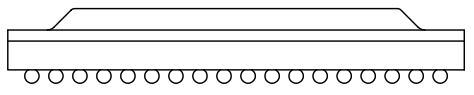
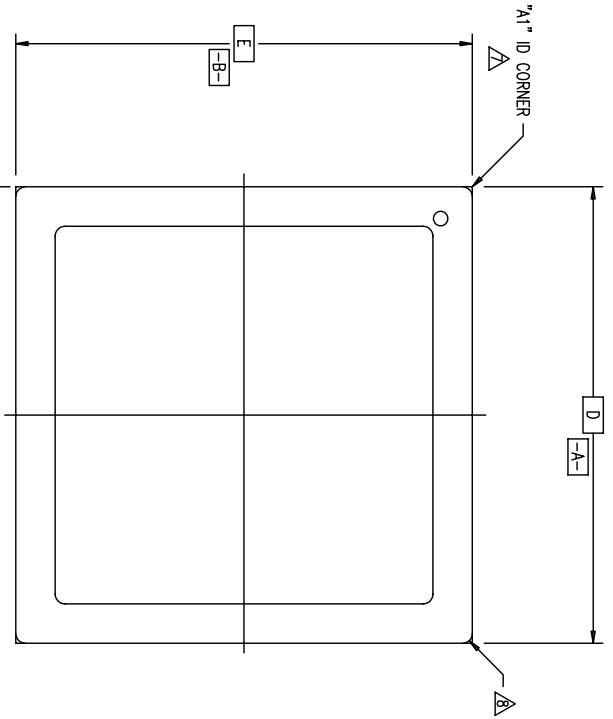
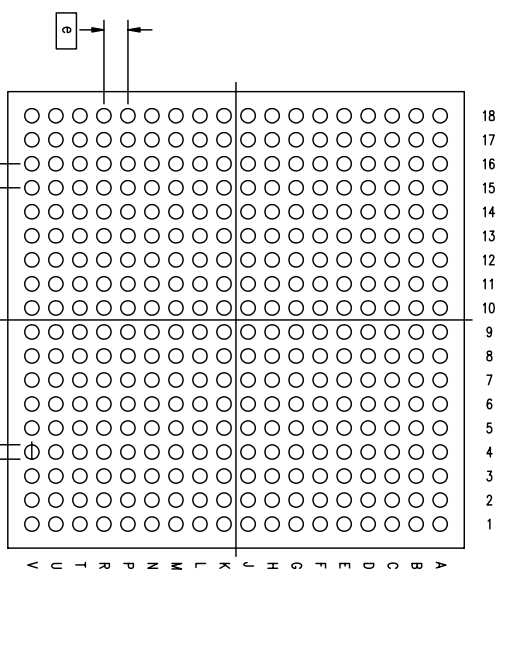


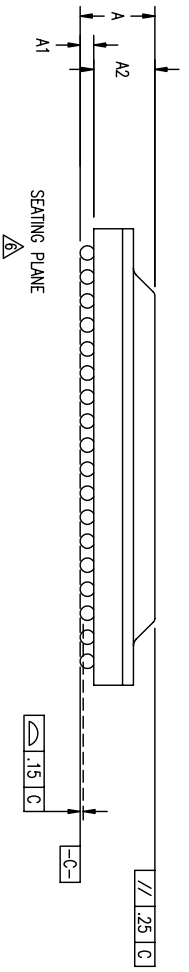
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	04/10/07	TV
01	ADD PKG HEIGHT "A" MIN & NOM	06/21/11	JG
02	COMBINE POD & LAND PATTERN	05/29/13	KS




TOP VIEW

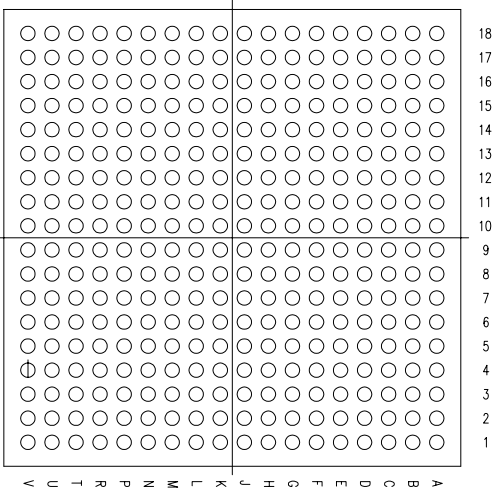


BOTTOM VIEW
(BALL SIDE VIEW)



TOLERANCES UNLESS SPECIFIED		 www.IDT.com
DECIMAL	ANGULAR	
± .004	± .004	
APPROVALS	DATE	TITLE
DRAWN 377	04/10/07	BL/BR/AL/AR 324 PACKAGE OUTLINE
CHECKED		19.0 X 19.0 mm BODY
		1.00 mm BALL PITCH
		FOBGA
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			NONE	NOM	MAX	N	P	E
	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:

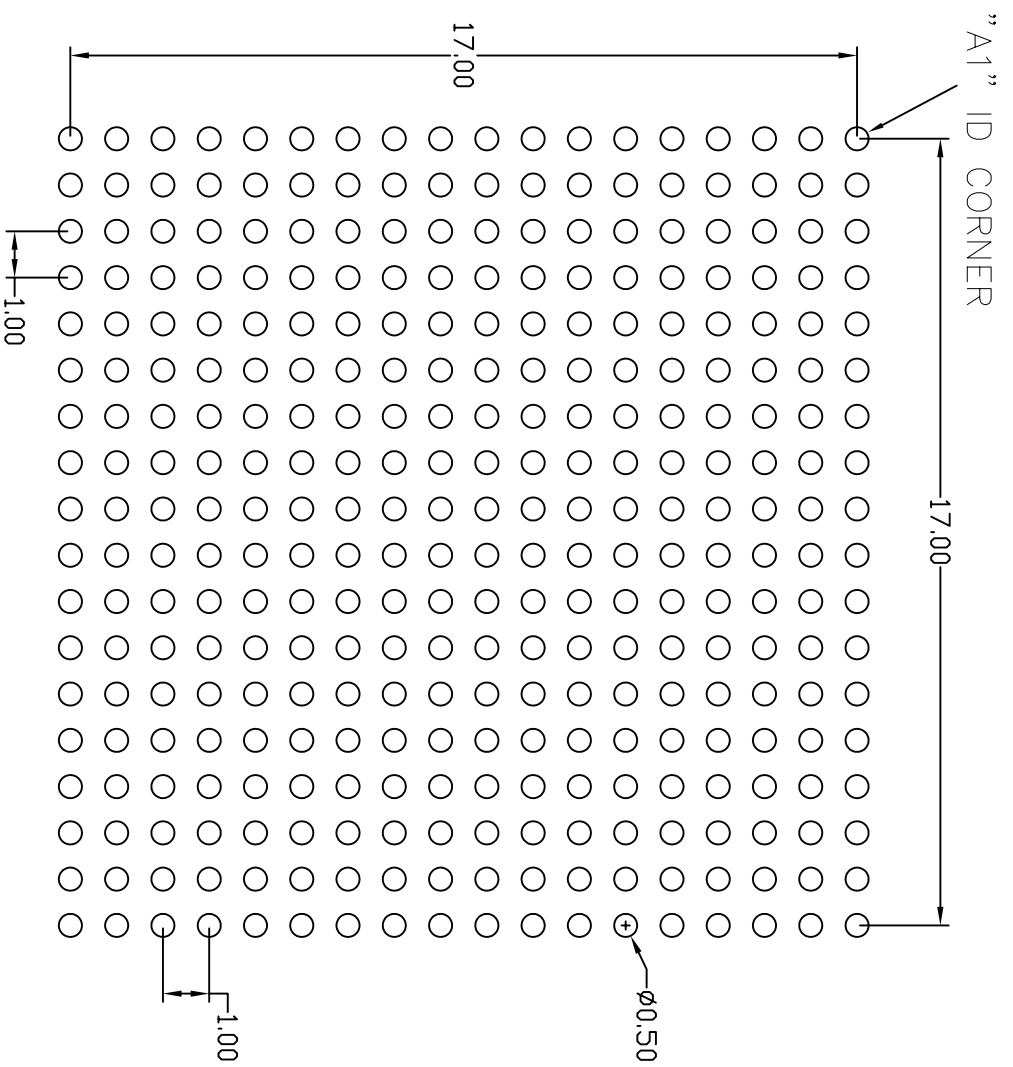
- 1 ALL DIMENSIONING AND TOLERANCING CONFORM TO ANSI Y14.5M-1982
- 2 "e" REPRESENTS THE BASIC SOLDER BALL GRID PITCH
- 3 "M" REPRESENTS THE MAXIMUM SOLDER BALL MATRIX SIZE
- 4 "N" REPRESENTS THE BALLOUNT NUMBER
- 5 DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM \square -C-
- 6 SEATING PLANE AND PRIMARY DATUM \square -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		DATE	
DECIMAL	ANGULAR	04/10/07	
±			
DRAWN BY		DATE	
CHECKED			
TITLE		DRAWING No.	
BL/BR/AL/AR 324 PACKAGE OUTLINE		PSC-4211	
19.0 X 19.0 mm BODY		REV	
1.00 mm BALLPITCH FC8GA		02	
DO NOT SCALE DRAWING		SHEET 2 OF 3	



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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		DATE		TITLE	
DECIMAL	±			BL/BR/AL/AR 324 PACKAGE OUTLINE	
ANGULAR	±			19.0 x 19.0 mm BODY	
XXX±				1.0 mm BALLPITCH FCBGA	
XXXX±					
XXXX±					
APPROVALS	DATE	DRAWING No. PSC-4211			
DRAWN	08/10/12	SIZE C			
CHECKED		DO NOT SCALE DRAWING			
		SHEET 3 OF 3			



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