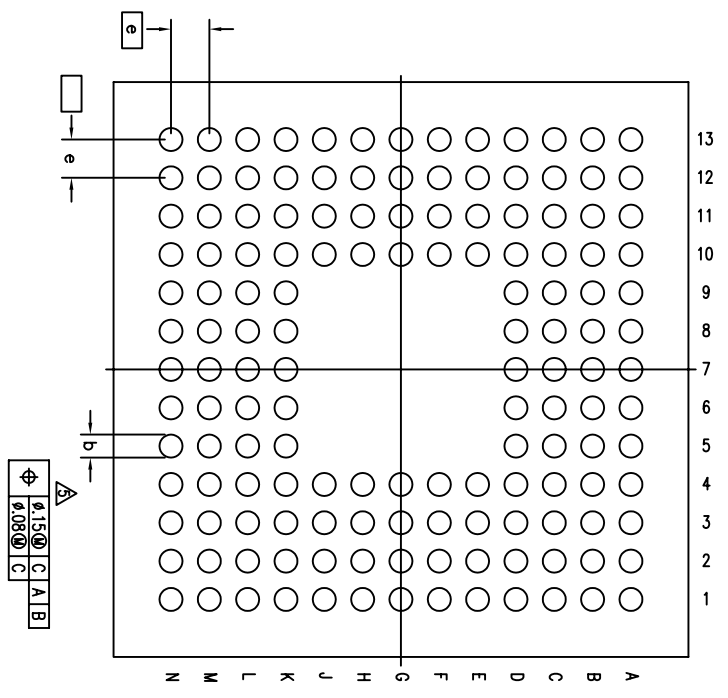
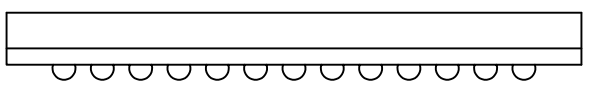
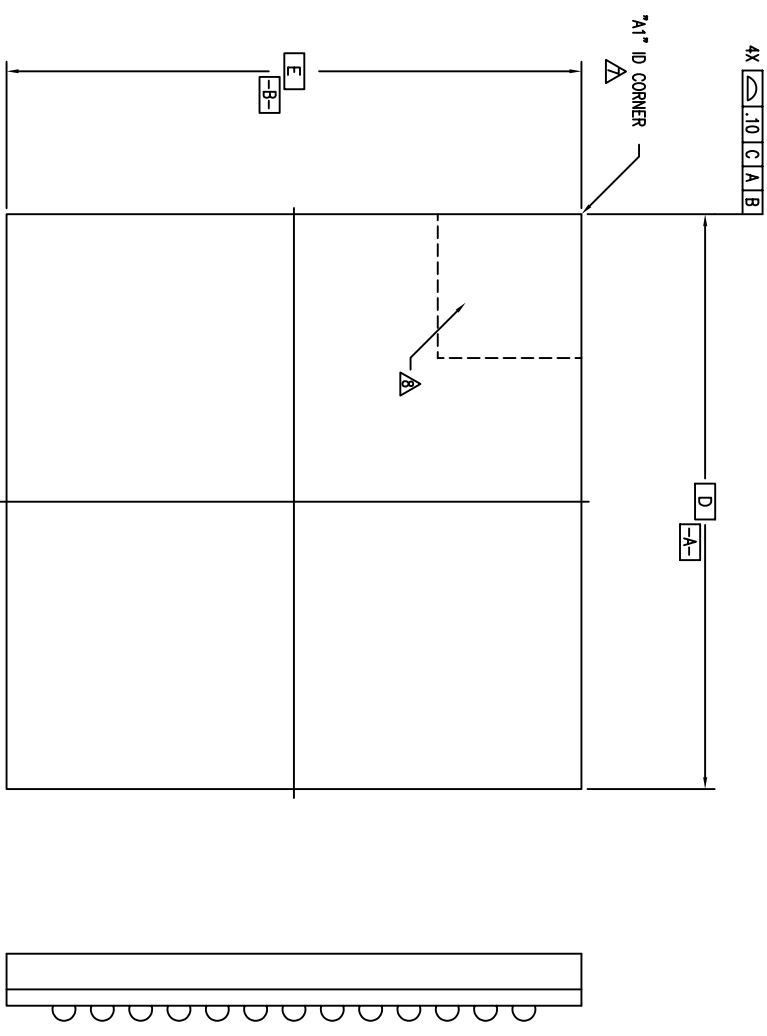
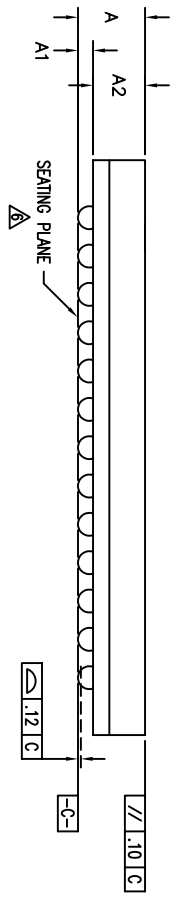


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	11/05/98	T. VU
01	CHANGE FROM FLEX TO CHIP ARRAY PACKAGE	09/25/99	T. VU
02	CHANGE P3 ROW TO P4 ROW IN BALL MATRIX	10/20/00	T. VU
03	POD & LAND PATTERN COMBINE	05/23/13	KS

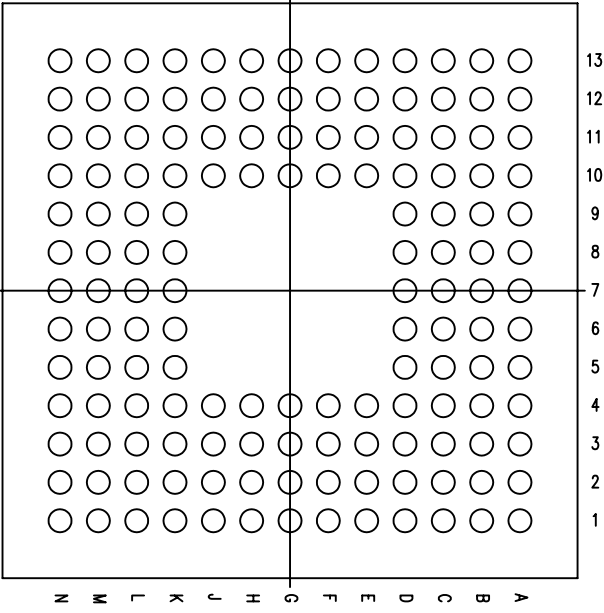


(144 BALL SHOWN)



TOLERANCES UNLESS SPECIFIED		6024 Silver Creek Valley Road	
DECIMAL	ANGULAR	San Jose CA 95138	
XXX±	±	PHONE: (408) 284-8200	
XXXX±		FAX: (408) 284-3572	
APPROVALS	DATE	TITLE	SIZE
DRAWN 373	11/05/98	BF PACKAGE OUTLINE	C
CHECKED		12.0 X 12.0 mm BODY	
		FPBGA	
		DRAWING No.	
		PSC-4075	
		REV	
		03	
DO NOT SCALE DRAWING			SHEET 1 OF 3

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	11/05/98	T. VU
01	CHANGE FROM FLEX TO CHIP ARRAY PACKAGE	09/25/99	T. VU
02	CHANGE P3 ROW TO P4 ROW IN BALL MATRIX	10/20/00	T. VU
03	POD & LAND PATTERN CHANGE	05/23/13	KS



(144 BALL)

SYMBOL	JEDEC VARIATION			NOTE
	NOT YET REGISTERED	MIN	MAX	
A	1.30	1.40	1.50	
A1	.35	.40	.45	
A2	.85	1.00	1.15	
D	12.00 BSC			
E	12.00 BSC			
M	13 X 13			3
N	144			4
e	.80 BSC			
b	.40	.50	.55	5
CENTER BALL MATRIX	N/A			

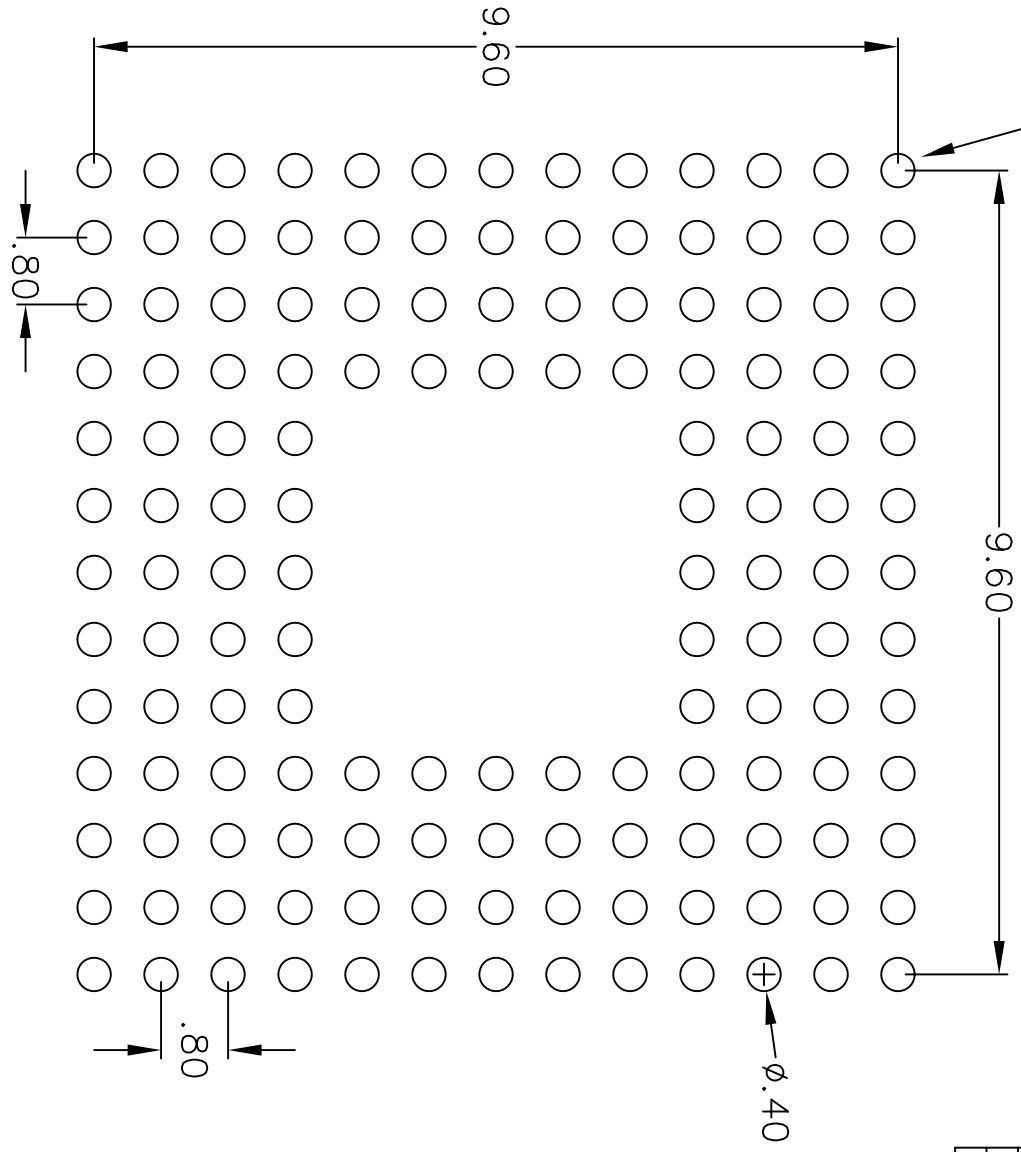
NOTES:

- 1 ALL DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5M-1994
- 2 "e" REPRESENTS THE BASIC SOLDER BALL GRID PITCH
- 3 "M" REPRESENTS THE MAXIMUM SOLDER BALL MATRIX SIZE
- 4 "N" REPRESENTS THE BALLCOUNT NUMBER
- 5 DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM  $\text{[C]}$
- 6 SEATING PLANE AND PRIMARY DATUM  $\text{[C]}$  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 IF "A1" ID CORNER IS ON PACKAGE BODY, IT MUST BE LOCATED WITHIN THE ZONE INDICATED
- 9 ALL DIMENSIONS ARE IN MILLIMETERS

TOLERANCES UNLESS SPECIFIED		DATE	
DECIMAL	ANGULAR	DATE	
XXX±	±	11/05/98	
XXXX±			
APPROVALS	TITLE	DATE	
DRAWN 979	BF PACKAGE OUTLINE		
CHECKED	12.0 X 12.0 mm BODY		
	FPBGA		
	SIZE DRAWING NO.		
	C PSC-4075		
	DO NOT SCALE DRAWING		
		REV	
		03	

6024 Silver Creek Valley Road  
San Jose CA 95138  
PHONE: (408) 284-8200  
FAX: (408) 284-3572  
www.IDT.com

"A1" ID CORNER



RECOMMENDED LAND PATTERN DIMENSION (mm)

REVISIONS

REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	11/05/98	T. VU
01	CHANGE FROM FLEX TO CHIP ARRAY PACKAGE	09/25/99	T. VU
02	CHANGE P3 ROW TO P4 ROW IN BALL MATRIX	10/20/00	T. VU
03	POD & LAND PATTERN COMBINE	05/23/13	KS

**TOLERANCES**  
 UNLESS SPECIFIED  
 DECIMAL .1  
 ANGULAR ±1°  
 XXX± .030

**APPROVALS**  
 DRAWN **SP** DATE 11/05/98  
 CHECKED

**IDT**  
 www.IDT.com  
 6024 Silver Creek Valley Road  
 San Jose CA 95136  
 PHONE: (408) 284-8200  
 FAX: (408) 284-3572

**TITLE** BF PACKAGE OUTLINE  
 12.0 X 12.0 mm BODY  
 FPRGA

**SIZE** C **DRAWING NO.** PSC-4075 **REV** 03

DO NOT SCALE DRAWING SHEET 3 OF 3