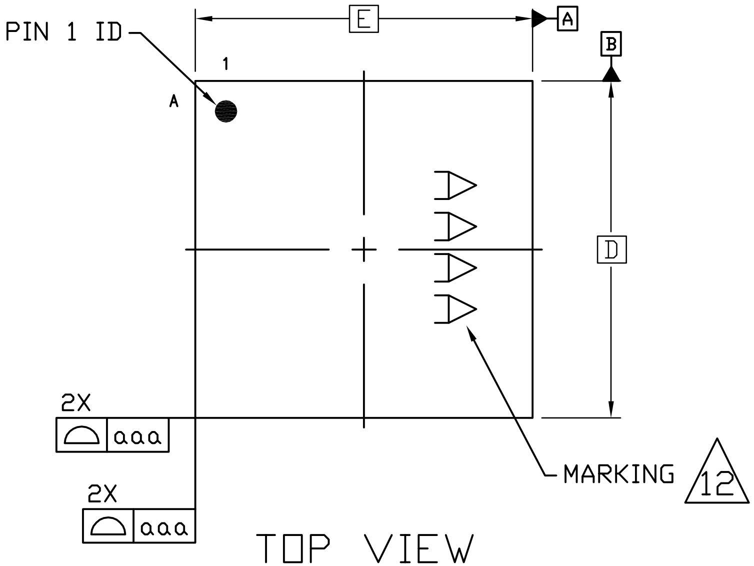
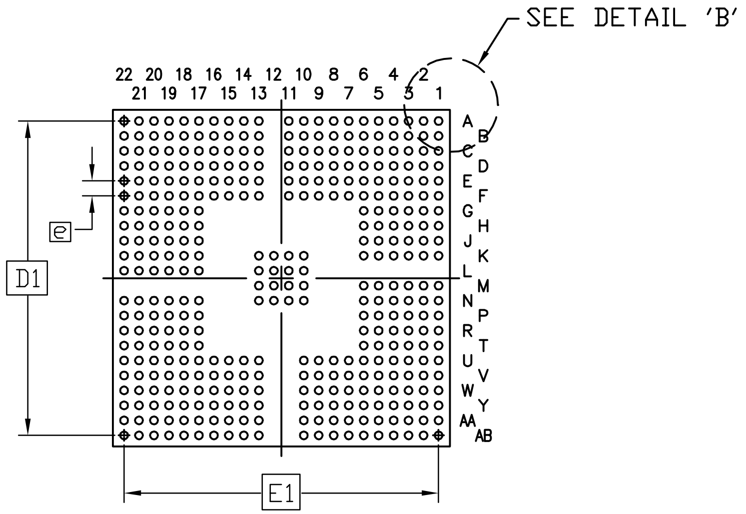
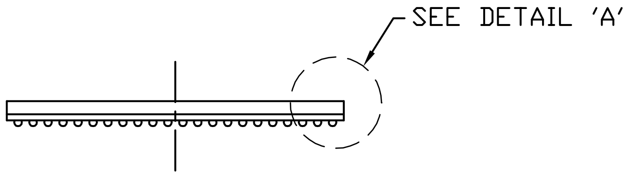


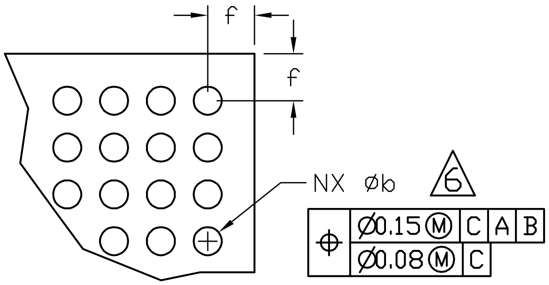
TOP VIEW



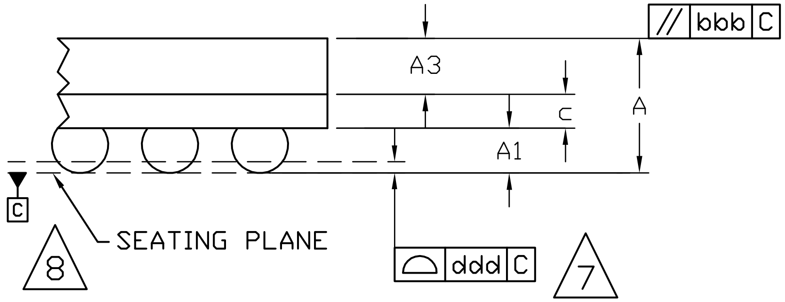
BOTTOM VIEW



SIDE VIEW



DETAIL B



DETAIL A

-DRAWING NOT TO SCALE-

TITLE:
PACKAGE OUTLINE,
376 BALLS, CSBGA, 18x18x1.4mm

APPROVAL

DOCUMENT CONTROL NO.
21-0448

REV.
C

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M 1994.
3. MATERIAL MUST COMPLY WITH BANNED AND RESTRICTED SUBSTANCES SPEC# 10-0131
4. 'e' REPRESENTS THE BASIC SOLDER BALL PITCH.
5. 'M' REPRESENTS THE BASIC SOLDER BALL MATRIX SIZE. 'N' IS THE NUMBER OF ATTACHED SOLDER BALLS.
6. 'b' IS MEASURABLE AT THE MAXIMUM SOLDER BALL DIAMETER PARALLEL TO THE PRIMARY DATUM -C- .
7. DIMENSION 'ddd' IS MEASURED PARALLEL TO PRIMARY DATUM -C- .
8. PRIMARY DATUM -C- (SEATING PLANE) IS DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.
9. SUBSTRATE MATERIAL BASE IS BT RESIN.
10. THE OVERALL PACKAGE THICKNESS "A" ALREADY CONSIDERS COLLAPSE BALLS.
11. THE OUTLINE DRAWING IS REFFERED TO JEDEC MO-219G, EXCEPT DIMENSION 'b'.
12. MARKING SHOWN IS FOR PKG. ORIENTATION ONLY.
13. ALL DIMENSIONS APPLY TO BOTH LEADED (-) AND PbFREE (+) PKG. CODES.
14. PKG CODES: X37688-1, X37688-2

DIMENSIONAL REFERENCES

REF.	MIN.	NOM.	MAX.
A	1.20	1.40	1.53
A1	0.28	0.33	0.38
A3		0.70 REF	
c		0.36 REF	
D		18.00 BSC	
D1		16.80 BSC	
E		18.00 BSC	
E1		16.80 BSC	
b	0.37	0.42	0.47
aaa		0.15	
bbb		0.20	
ddd		0.12	
e		0.80 BSC	
f	--	0.60	--
M		22	
N		376	

-DRAWING NOT TO SCALE-

TITLE:
PACKAGE OUTLINE,
376 BALLS, CSBGA, 18x18x1.4mm

APPROVAL

DOCUMENT CONTROL NO.
21-0448

REV.
C