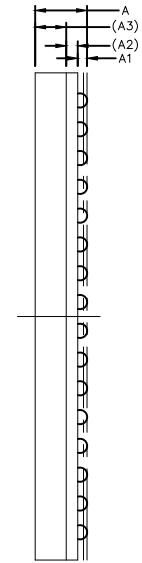
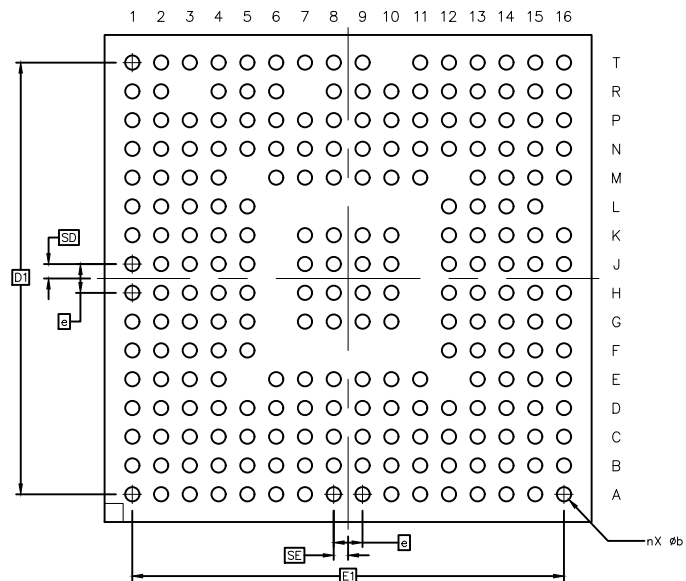


TOP VIEW



SIDE VIEW



BOTTOM VIEW



TITLE:
PACKAGE OUTLINE, 228 BALLS CSBGA
11x11x1.3 mm

APPROVAL

DOCUMENT CONTROL NO.
21-100233

REV. B 1/2


-DRAWING NOT TO SCALE-

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. 'e' REPRESENTS THE BASIC SOLDER BALL GRID PITCH.
3. 'n' IS THE NUMBER OF BALLS AFTER DEPOPULATING.
4. 'b' IS MEASURABLE AT THE MAXIMUM SOLDER BALL DIAMETER AFTER REFLOW PARALLEL TO PRIMARY DATUM -C- .
5. DIMENSION 'ddd' IS MEASURED PARALLEL TO PRIMARY DATUM -C- .
6. PRIMARY DATUM -C- AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.
7. PARALLELISM MEASUREMENT SHALL EXCLUDE ANY EFFECT OF MARK ON TOP SURFACE OF PACKAGE.
8. SUBSTRATE MATERIAL BASE IS BT RESIN.
9. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
10. MARKING IS FOR PACKAGE ORIENTATION REFERENCE ONLY.
11. MATERIAL MUST COMPLY WITH BANNED AND RESTRICTED SUBSTANCES SPEC#10-0131.
12. DRAWING CONFORMS TO JEDEC MO-216.
13. ALL DIMENSIONS APPLY TO BOTH LEADED (-) AND PbFree (+) PACKAGE CODES.

	SYMBOL	COMMON DIMENSIONS		
		MIN.	NOR.	MAX.
TOTAL THICKNESS	A	---	---	1.3
STAND OFF	A1	0.16	---	0.26
SUBSTRATE THICKNESS	A2	0.26		REF
MOLD THICKNESS	A3	0.7		REF
BODY SIZE	D	11		BSC
	E	11		BSC
BALL DIAMETER		0.3		
BALL OPENING		0.275		
BALL WIDTH	b	0.27	---	0.37
BALL PITCH	e	0.65		BSC
BALL COUNT	n	228		
EDGE BALL CENTER TO CENTER	D1	9.75		BSC
	E1	9.75		BSC
BODY CENTER TO CONTACT BALL	SD	0.325		BSC
	SE	0.325		BSC
PACKAGE EDGE TOLERANCE	aaa	0.1		
MOLD FLATNESS	bbb	0.2		
COPLANARITY	ddd	0.08		
BALL OFFSET (PACKAGE)	eee	0.15		
BALL OFFSET (BALL)	fff	0.08		
PKG CODES: X22811-1C X22811-2C				

-DRAWING NOT TO SCALE-

			
TITLE: PACKAGE OUTLINE, 228 BALLS CSBGA 11x11x1.3 mm			
APPROVAL	DOCUMENT CONTROL NO. 21-100233	REV. B	2/2