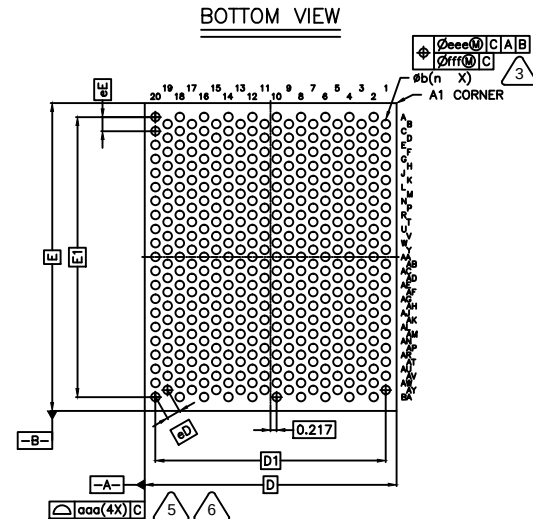
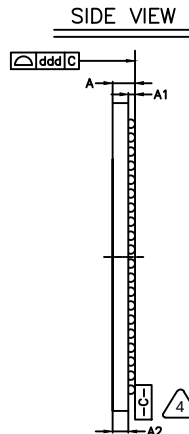
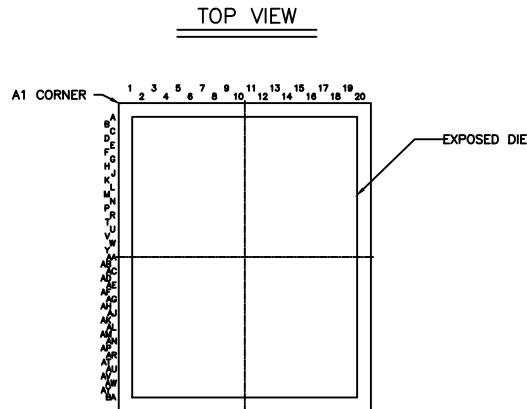




NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3. DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C.

4. PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

5. BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

6. EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

7. JEDEC REFERENCE: JEP95 DG4.18

* VALUES ARE BASED ON SUBCON CAPABILITY

	SYMBOL	COMMON DIMENSIONS		
		MIN.	NOM.	MAX.
Total Thickness	A	0.760	0.800	0.840
Stand Off	A1	0.206	0.236	0.266
Wafer Thickness	A2	0.564	±0.025	
Backside Coating Thickness	A3	-		
Si Die Thickness		0.531 REF		
Body Size	D	9.000 BSC		
	E	11.000 BSC		
Ball Diameter (Size)		0.300		
Ball/Bump Width	b	0.289	0.319	0.349
Ball/Bump Pitch	eD	0.500		
	eE	0.500		
Ball/Bump Count	n	410		
Edge Ball Center to Center	D1	8.227 BSC		
	E1	10.000 BSC		
Package Edge Tolerance	aaa	0.030		
Coplanarity (whole wafer)	ddd	0.050		
Ball/Bump Offset (Package)	*eee	0.060		
Ball/Bump Offset (Ball)	*fff	0.030		

Title: Package Outline Drawing	
Product Family: LN2-CT-20	Pkg Type: FOWLP
Pin Count: 410	Pkg Size: 9x11 mm
Product Name/s: LN2-CT-16-ASGA410 LN2-CT-16E-ASGA410 LN2-CT-20-ASGA410 LN2-CT-20E-ASGA410	
Document No: POD-240066	
Rev: C	

Disclaimers

Lattice makes no warranty, representation, or guarantee regarding the accuracy of information contained in this document or the suitability of its products for any particular purpose. All information herein is provided AS IS, with all faults, and all associated risk is the responsibility entirely of the Buyer. The information provided herein is for informational purposes only and may contain technical inaccuracies or omissions, and may be otherwise rendered inaccurate for many reasons, and Lattice assumes no obligation to update or otherwise correct or revise this information. Products sold by Lattice have been subject to limited testing and it is the Buyer's responsibility to independently determine the suitability of any products and to test and verify the same. LATTICE PRODUCTS AND SERVICES ARE NOT DESIGNED, MANUFACTURED, OR TESTED FOR USE IN LIFE OR SAFETY CRITICAL SYSTEMS, HAZARDOUS ENVIRONMENTS, OR ANY OTHER ENVIRONMENT REQUIRING FAIL-SAFE PERFORMANCE, INCLUDING ANY APPLICATION IN WHICH THE FAILURE OF THE PRODUCT OR SERVICE COULD LEAD TO DEATH, PERSONAL INJURY, SEVERE PROPERTY DAMAGE OR ENVIRONMENTAL HARM (COLLECTIVELY, "HIGH-RISK USES"). FURTHER, BUYER MUST TAKE PRUDENT STEPS TO PROTECT AGAINST PRODUCT AND SERVICE FAILURES, INCLUDING PROVIDING APPROPRIATE REDUNDANCIES, FAIL-SAFE FEATURES, AND/OR SHUT-DOWN MECHANISMS. LATTICE EXPRESSLY DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY OF FITNESS OF THE PRODUCTS OR SERVICES FOR HIGH-RISK USES.

The information provided in this document is proprietary to Lattice Semiconductor, and Lattice reserves the right to make any changes to the information in this document or to any products at any time without notice.