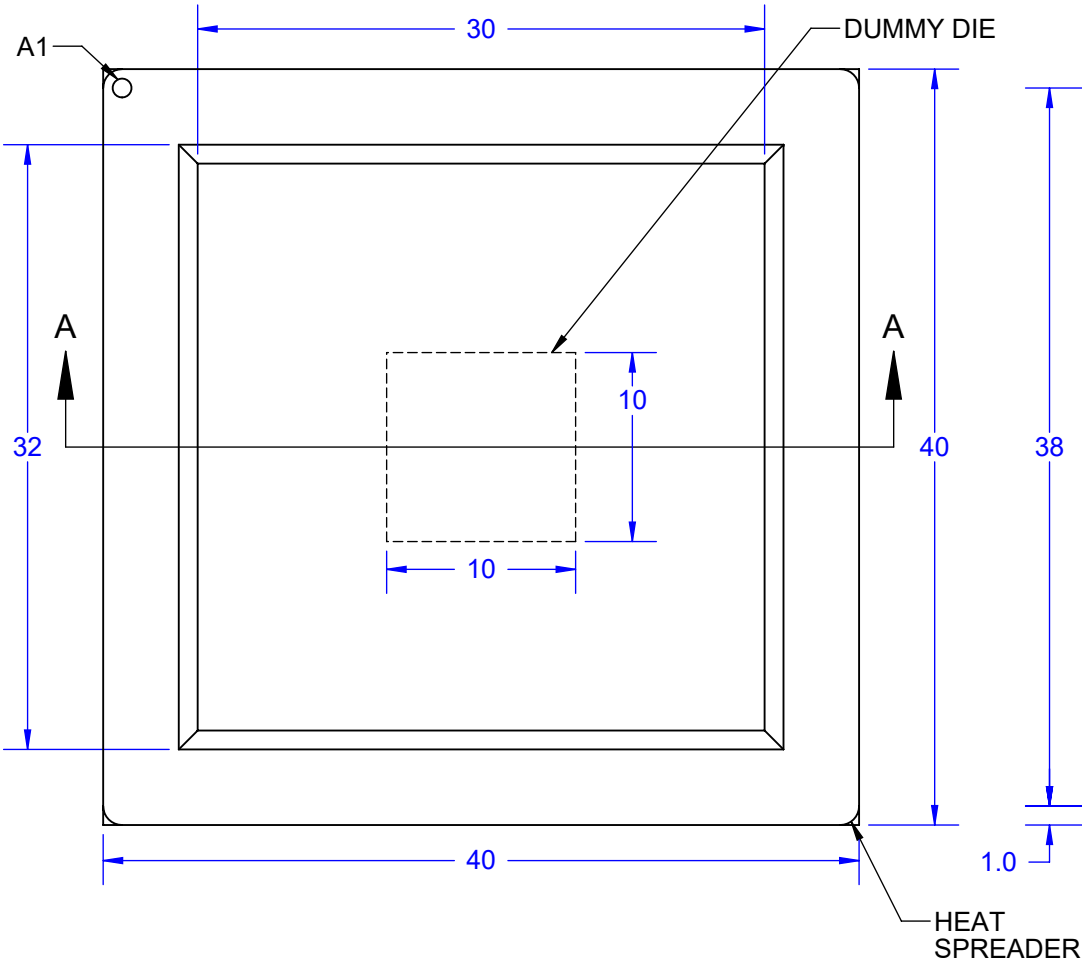
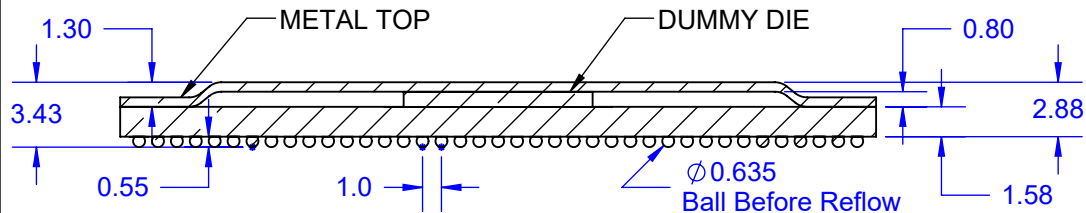
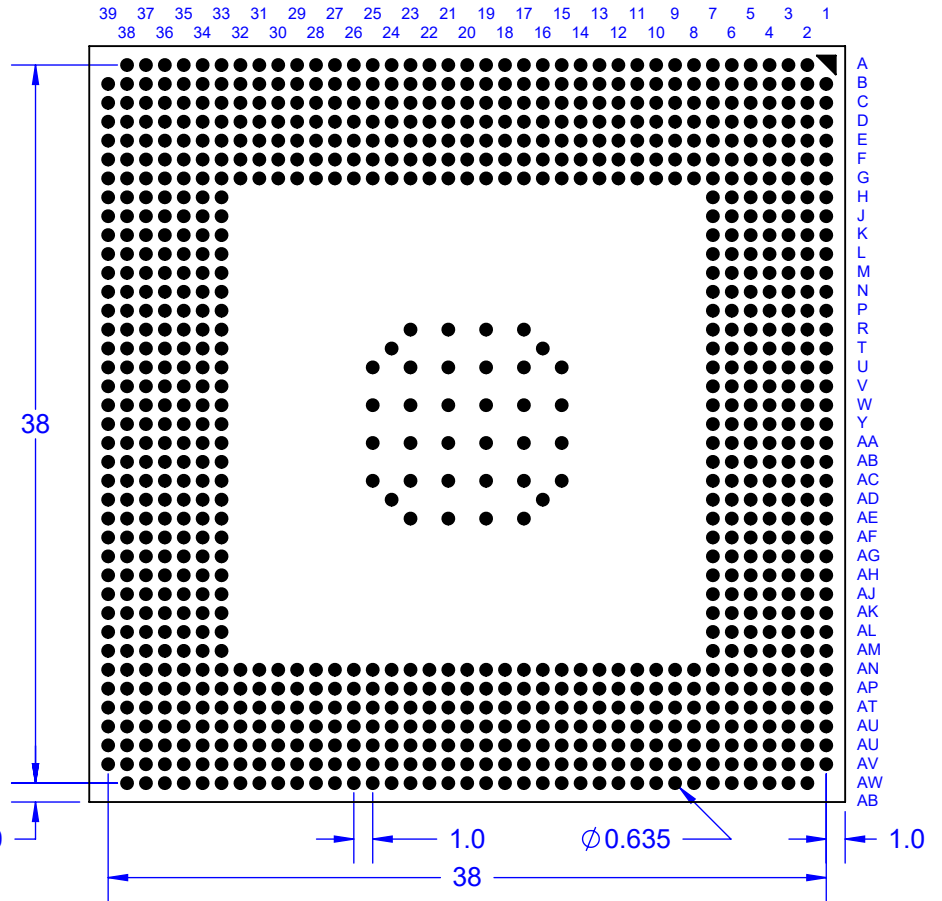


### TOP VIEW




### BALL VIEW



- NOTES: (Unless Otherwise Specified).
- 1) ALL DIMENSIONS ARE IN MM.
  - 2) SOLDER BALL ALLOY: SEE PART NUMBER TABLE.
  - 3) BALL DIAMETER (BEFORE REFLOW) 0.635mm.
  - 4) SOLDER MASK DEFINED PAD OPENING: 0.508mm [20mil].
  - 5) PAD Cu DIAMETER: 0.635mm [25 MIL].
  - 6) SUBSTRATE MATERIAL: FR4 (Optional BT).
  - 7) DUMMY DIE. Si (SILICON).
  - 8) DAISY CHAIN PATTERN (SEE PAGE 2).
  - 9) MSL-3 RECOMMENDED BAKING 24 HOURS @ 125°C TO REMOVE MOISTURE PRIOR TO SOLDERING TO PC BOARD.

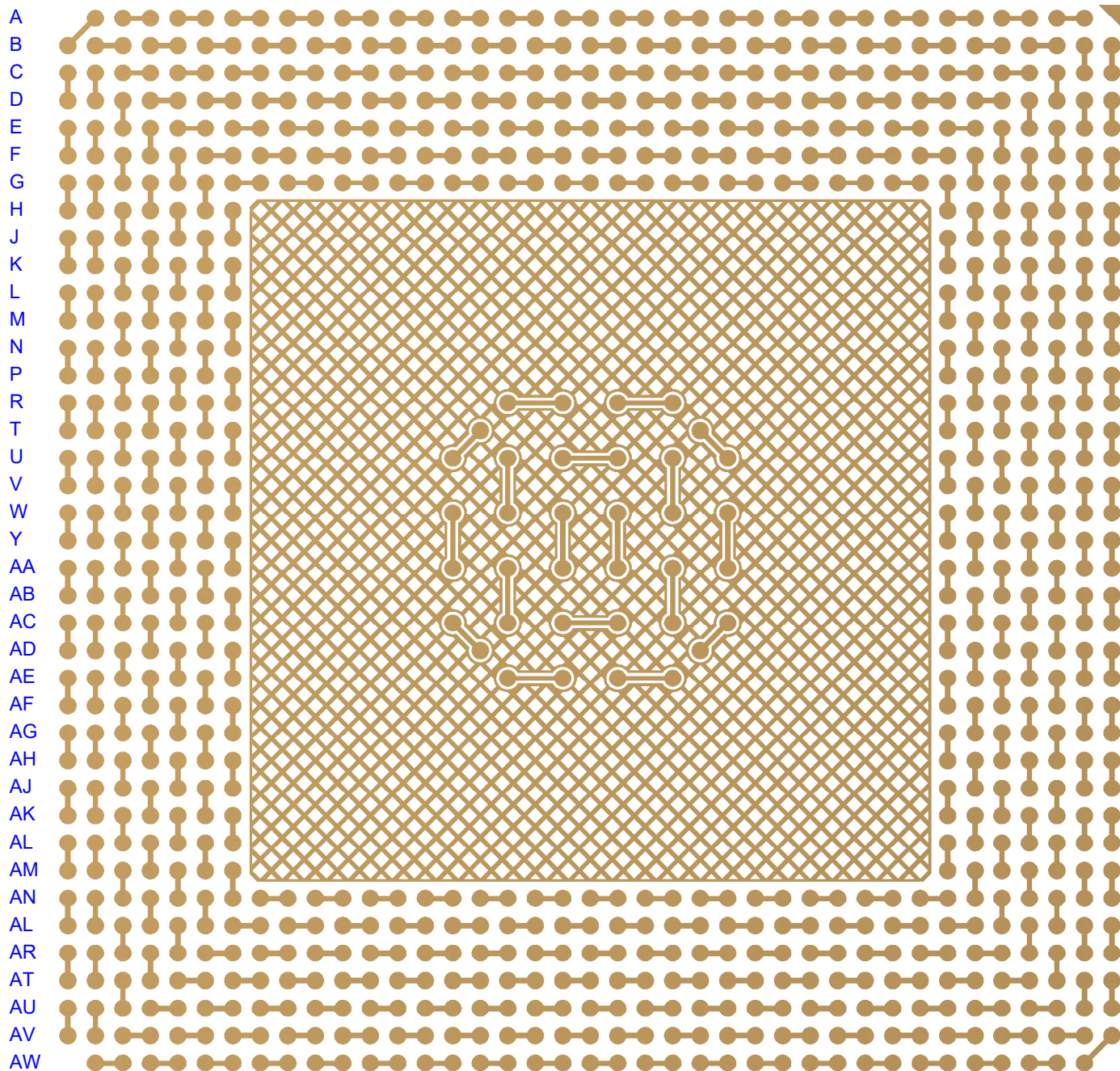
#### PART NUMBER TABLE

PART NUMBER	BALL METAL	BALL ALLOY	RoHS	Si DIE
SBGA928T1.0C-DC394D	Sn96.5/Ag3.0/Cu0.5	SAC305	YES	YES
SBGA928T1.0-DC394D	Sn63/Pb37	Sn63	NO	YES

APPROVALS	DATE				
DRAWN T.Au	11/16/16				
ENG M. Hart	11/16/16	TITLE		SBGA928T1.0C-DC394D DAISY CHAIN DUMMY	
MFG		SCALE	SIZE	DRAWING NO.	REV
QA		2.5:1	A	513945	A
CUST		DO NOT SCALE DRAWING			SHEET 1 OF 12
REVISED					

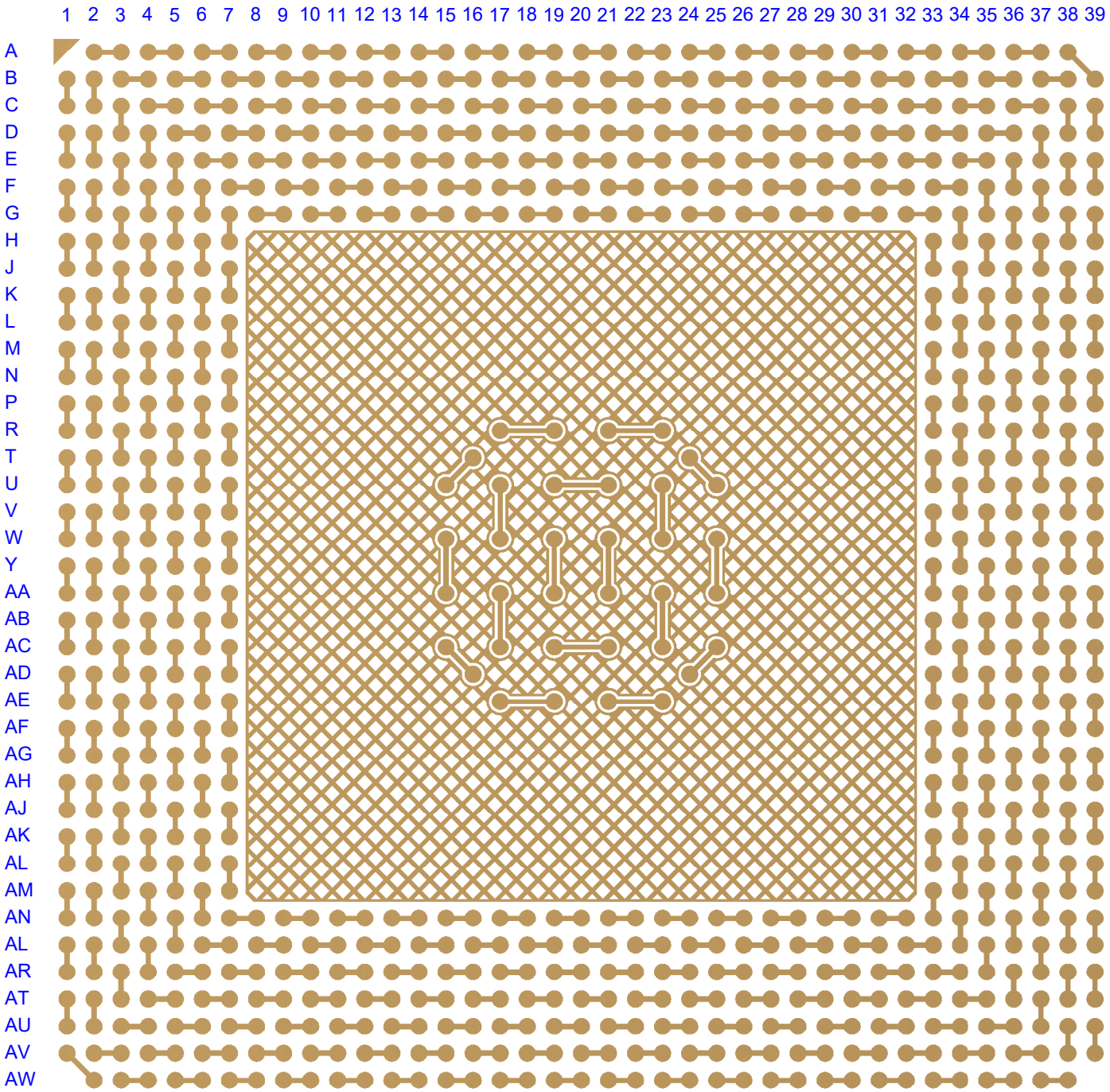
# BALL VIEW

39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1



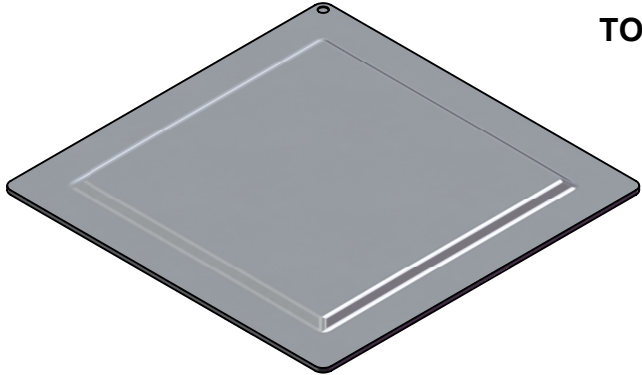
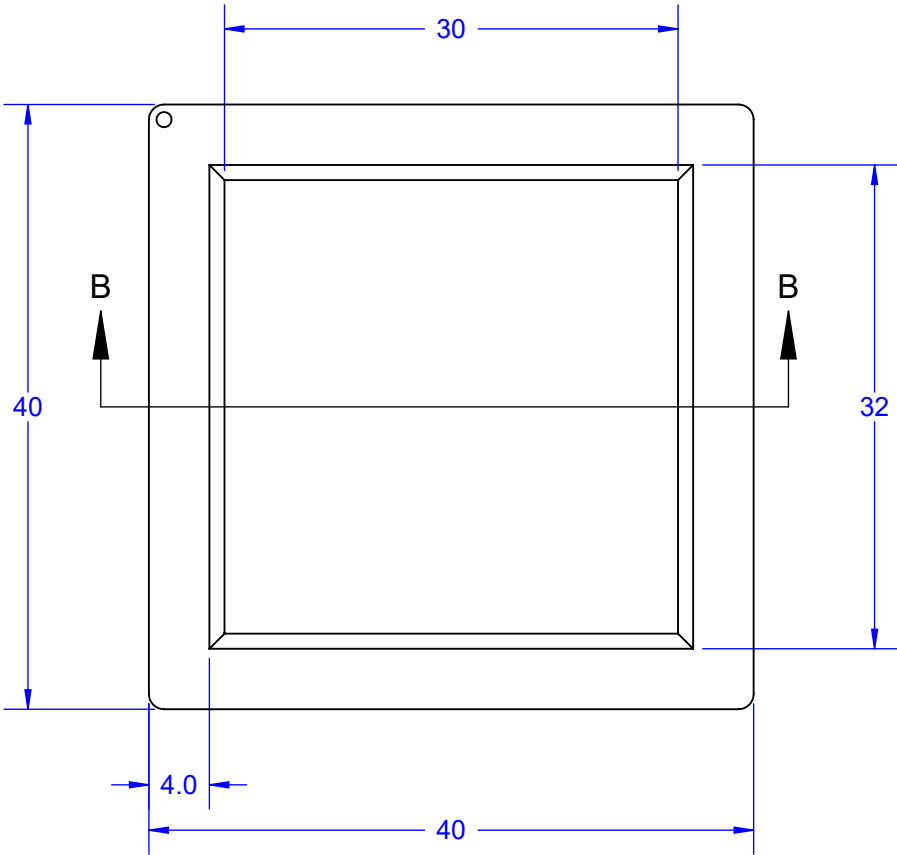
<b>TopLine®</b>			
TITLE		SBGA928T1.0C-DC394D DAISY CHAIN DUMMY	
SCALE	SIZE	DRAWING NO.	REV
4.5:1	A	513945	A
DO NOT SCALE DRAWING			SHEET 2 OF 12

# BOTTOM SIDE (TOP X-RAY VIEW)



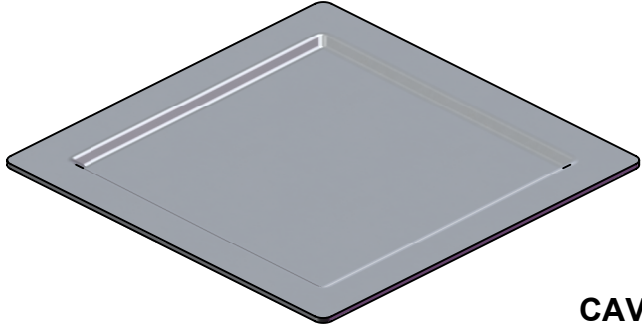
<b>TopLine<sup>®</sup></b>			
TITLE		SBGA928T1.0C-DC394D DAISY CHAIN DUMMY	
SCALE	SIZE	DRAWING NO.	REV
4.5:1	A	513945	A
DO NOT SCALE DRAWING			SHEET 3 OF 12

# HEAT SPREADER

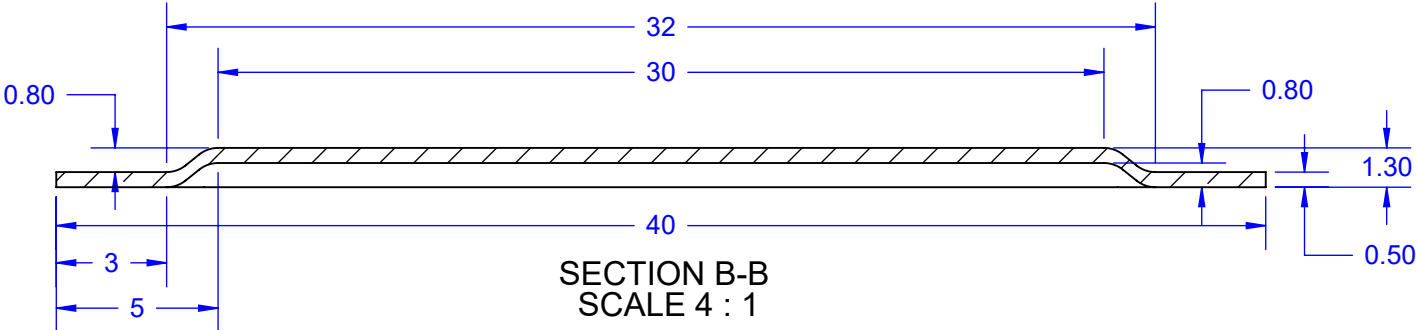


TOP

MODEL



CAVITY

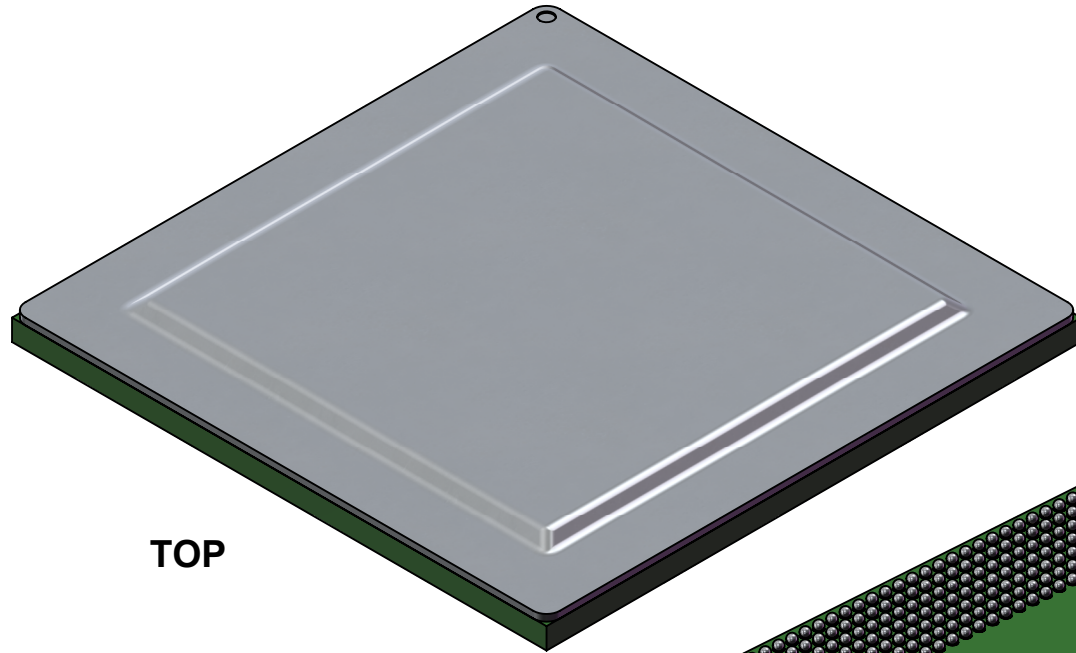


SECTION B-B  
SCALE 4 : 1

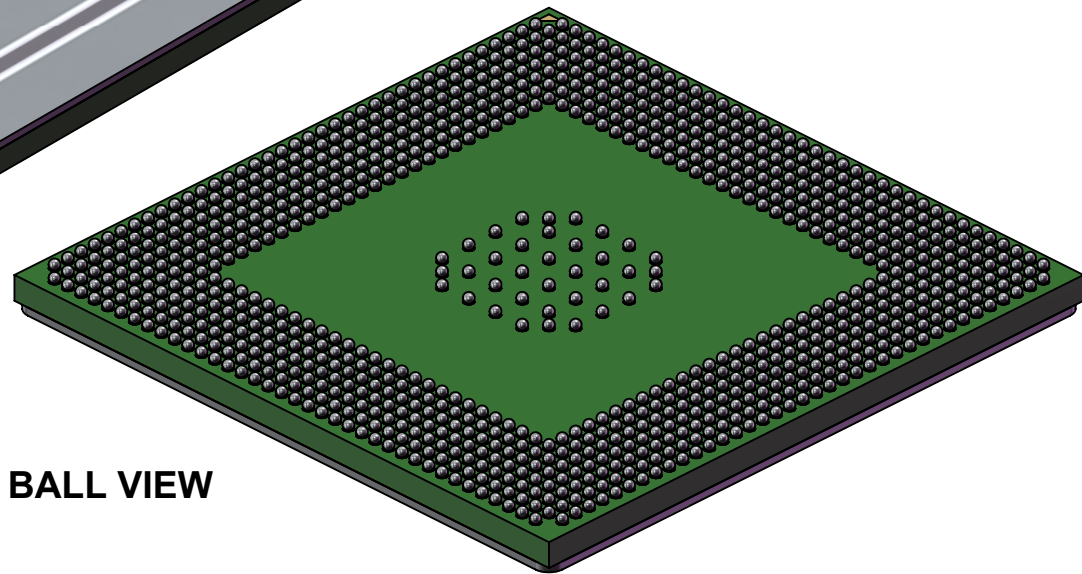
<b>TopLine<sup>®</sup></b>			
TITLE SBGA928T1.0C-DC394D DAISY CHAIN DUMMY			
SCALE 2:1	SIZE A	DRAWING NO. 513945	REV A
DO NOT SCALE DRAWING			SHEET 4 OF 12



# MODEL



TOP



BALL VIEW

**TopLine**<sup>®</sup>

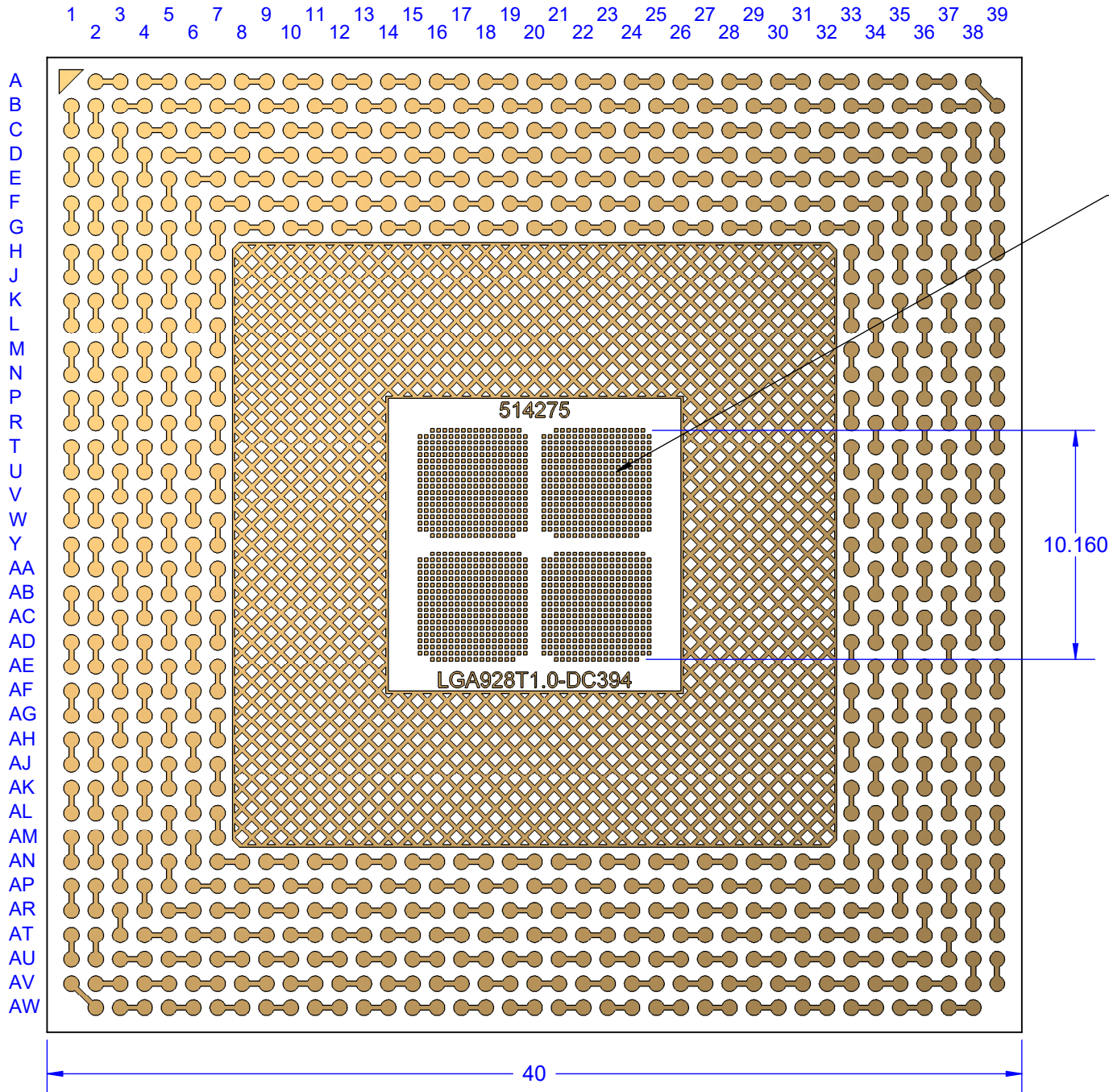
TITLE SBGA928T1.0C-DC394D  
DAISY CHAIN DUMMY

SCALE 2.5:1	SIZE A	DRAWING NO. 513945	REV A
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DO NOT SCALE DRAWING

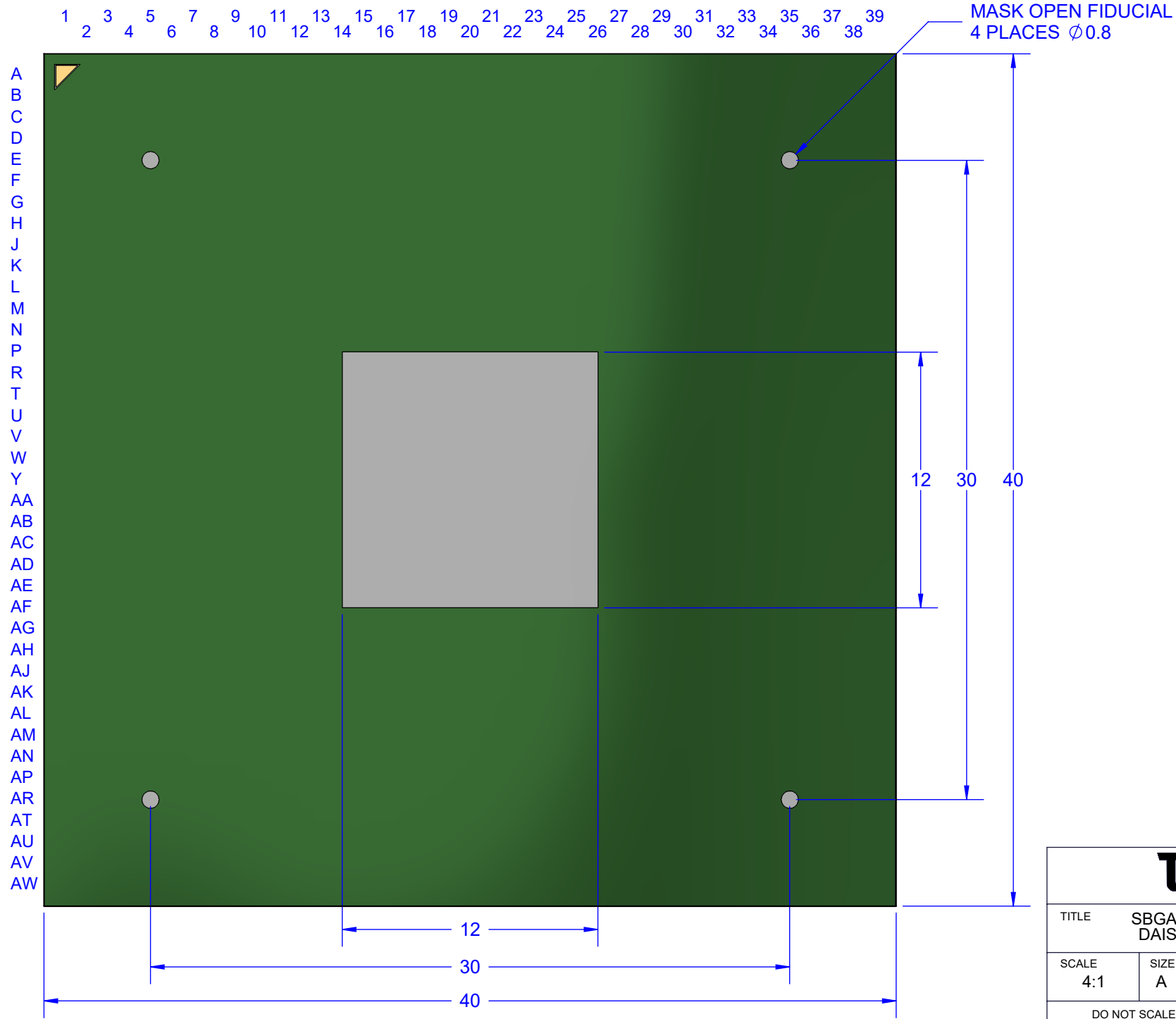
SHEET 5 OF 12

# TOP LAYER - LAYER 1



<b>TopLine®</b>			
TITLE SBGA928T1.0C-DC394D DAISY CHAIN DUMMY			
SCALE 4:1	SIZE A	DRAWING NO. 513945	REV A
DO NOT SCALE DRAWING		SHEET 6 OF 12	

# SOLDER MASK TOP

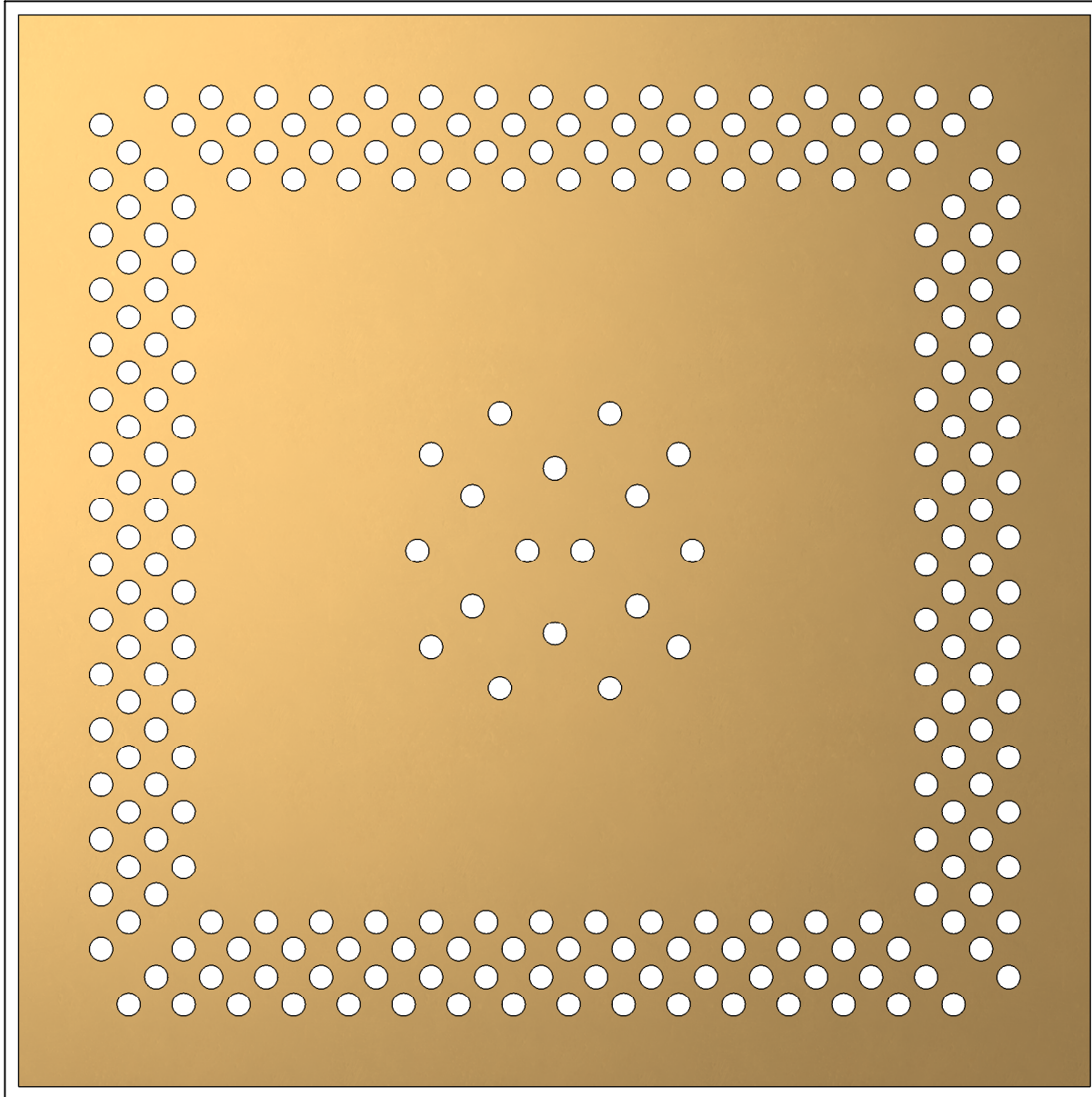


<b>TopLine®</b>			
TITLE SBGA928T1.0C-DC394D DAISY CHAIN DUMMY			
SCALE 4:1	SIZE A	DRAWING NO. 513945	REV A
DO NOT SCALE DRAWING			SHEET 7 OF 12

# GROUND PLANE - LAYER 2

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39  
 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38

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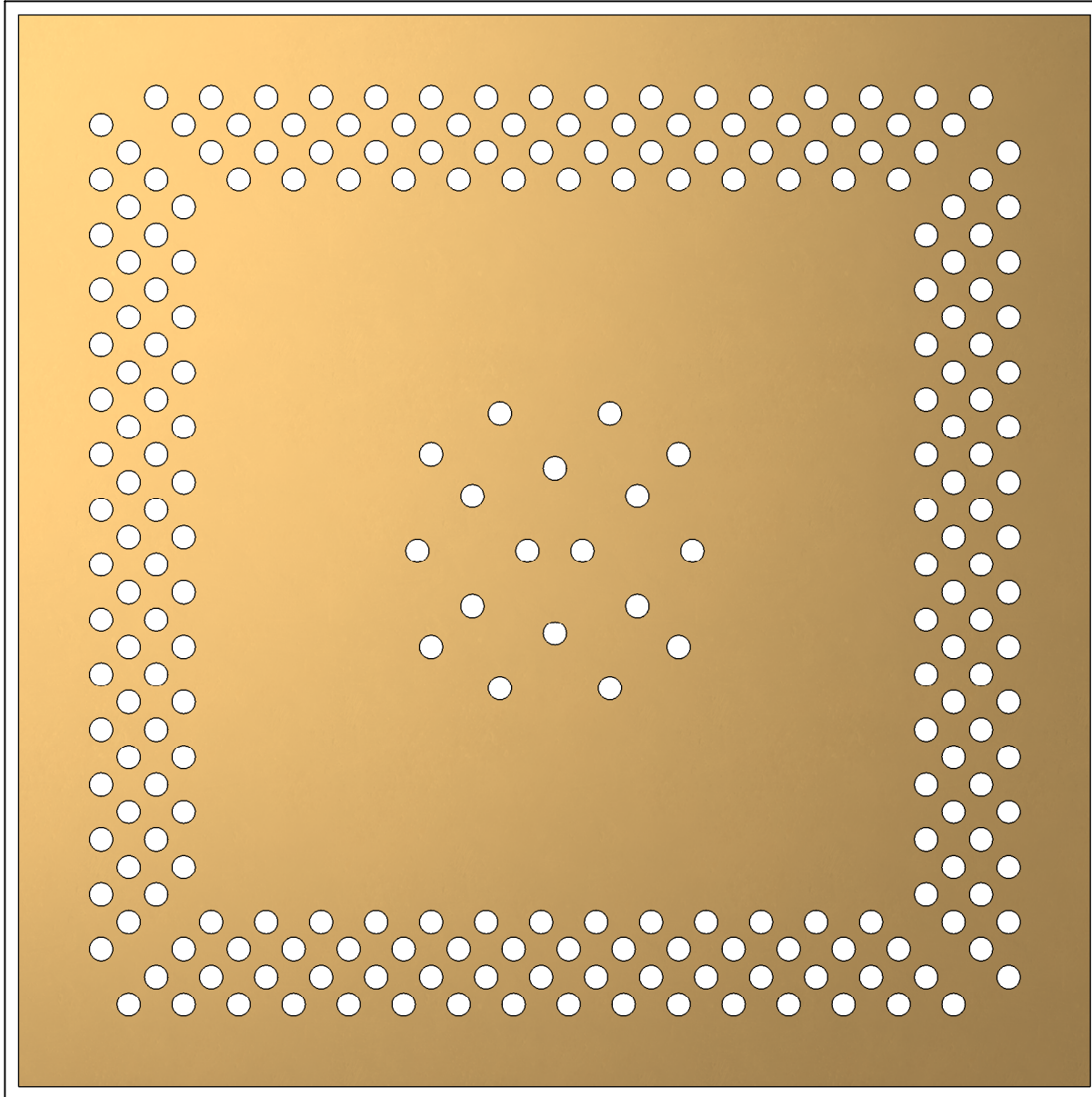
<b>TopLine®</b>			
TITLE SBGA928T1.0C-DC394D DAISY CHAIN DUMMY			
SCALE 4:1	SIZE A	DRAWING NO. 513945	REV A
DO NOT SCALE DRAWING		SHEET 8 OF 12	



# GROUND PLANE - LAYER 3

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39  
 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38

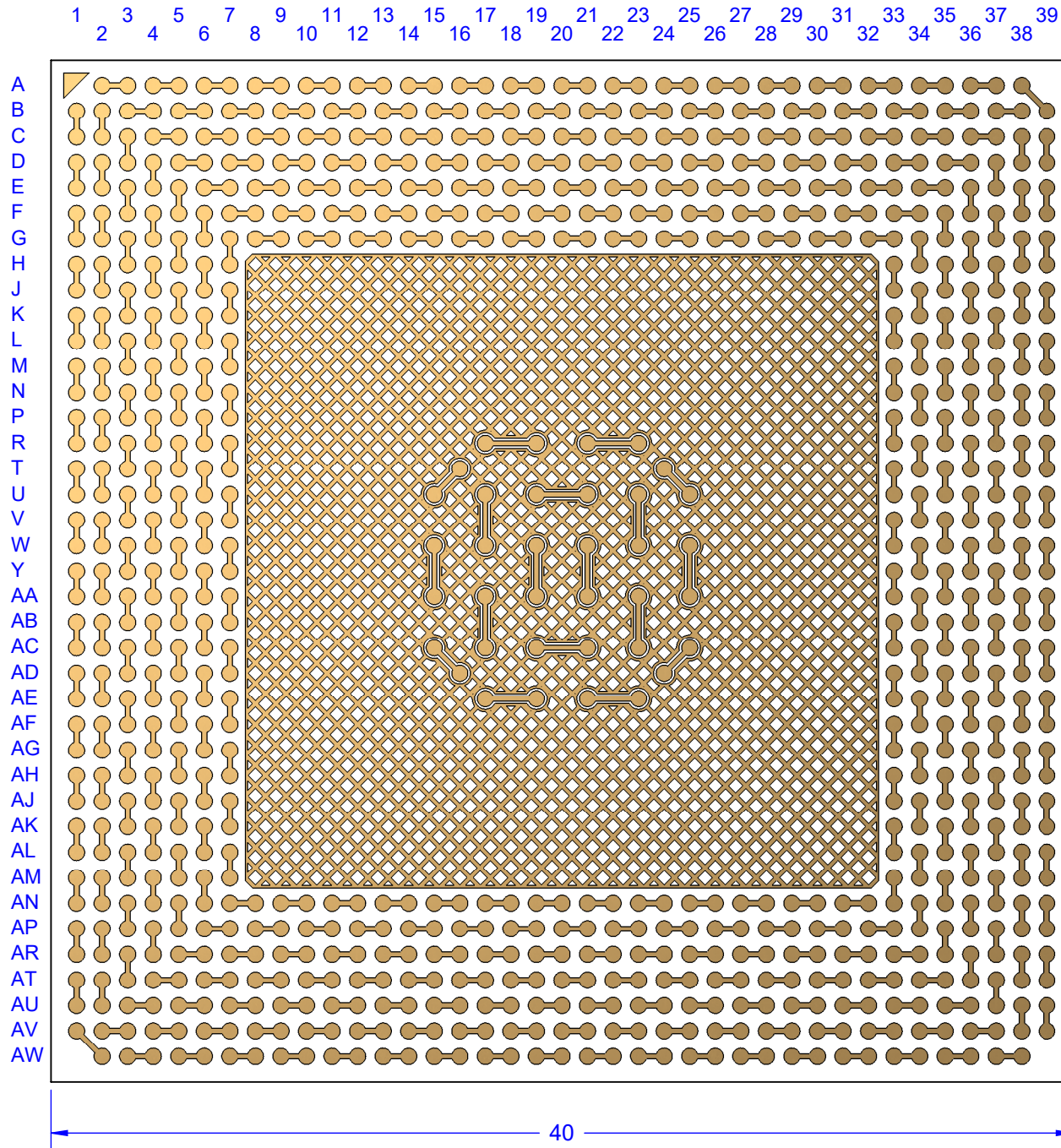
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<b>TopLine®</b>			
TITLE SBGA928T1.0C-DC394D DAISY CHAIN DUMMY			
SCALE 4:1	SIZE A	DRAWING NO. 513945	REV A
DO NOT SCALE DRAWING		SHEET 9 OF 12	

# BOTTOM SIDE (TOP X-RAY VIEW) - LAYER 4

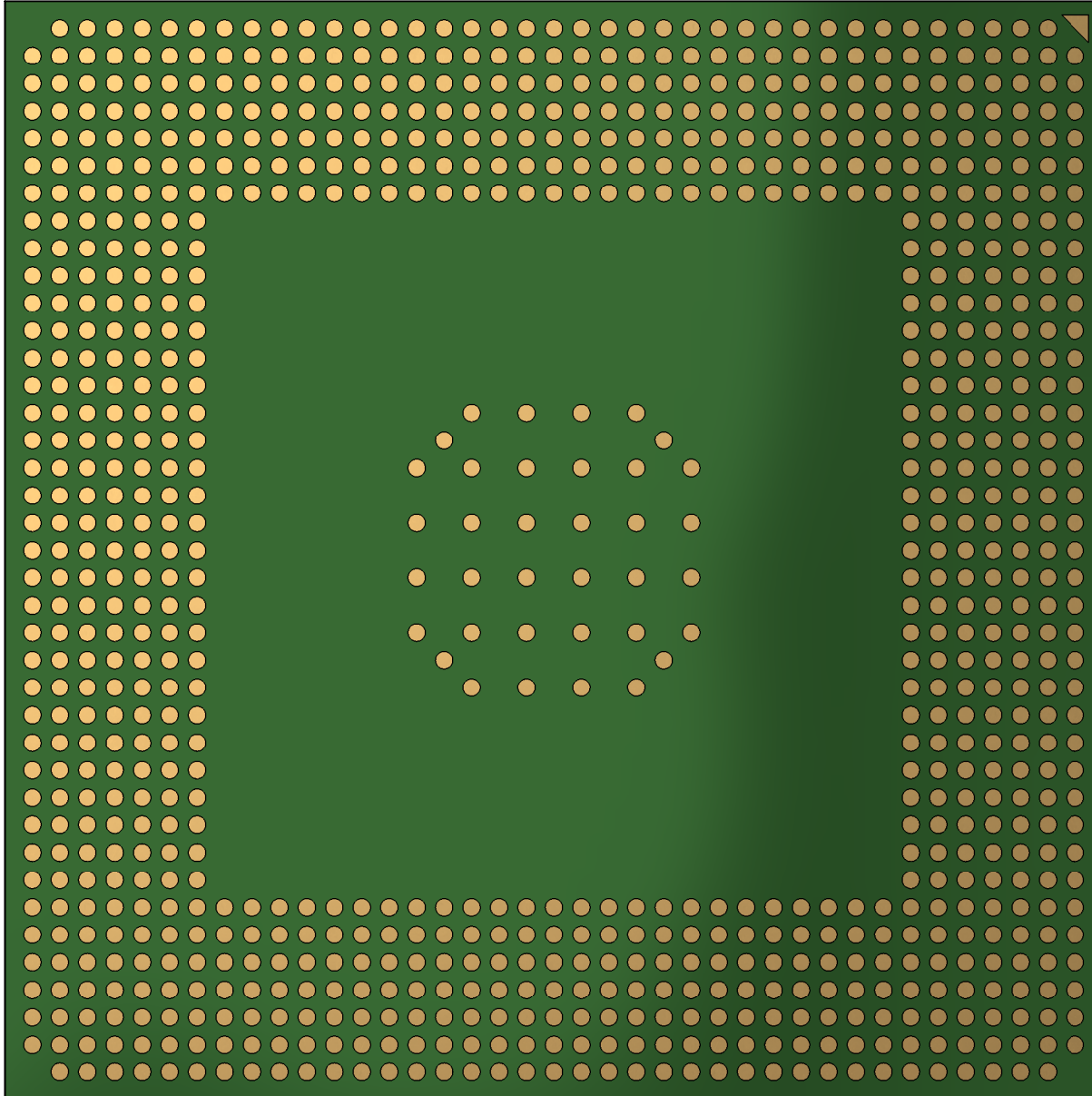


<b>TopLine®</b>			
TITLE SBGA928T1.0C-DC394D DAISY CHAIN DUMMY			
SCALE 4:1	SIZE A	DRAWING NO. 513945	REV A
DO NOT SCALE DRAWING		SHEET 10 OF 12	

# BOTTOM SOLDER MASK (RIGHT READING)

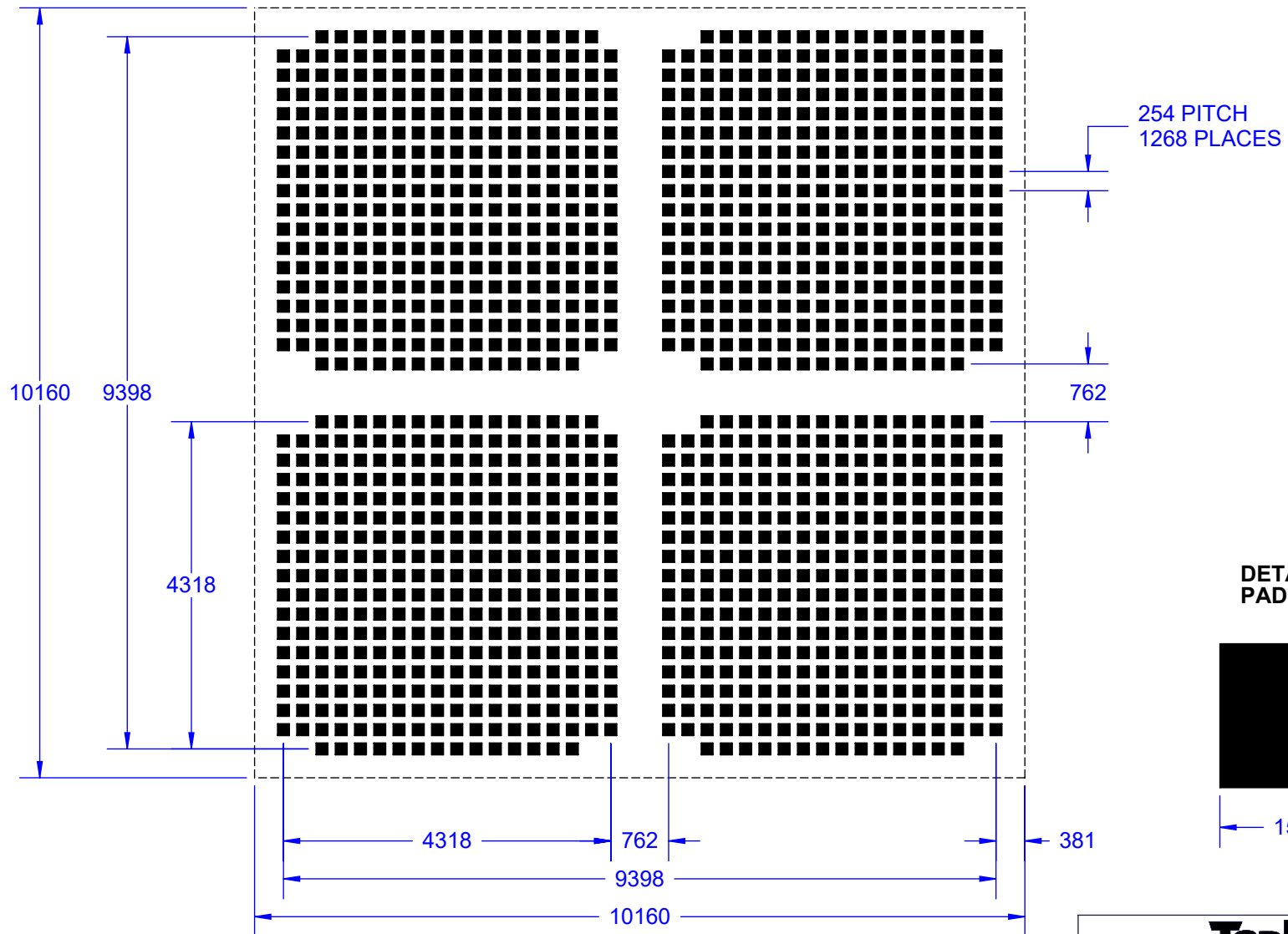
39 37 35 33 31 29 27 25 23 21 19 17 15 13 11 9 7 5 3 1  
 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2

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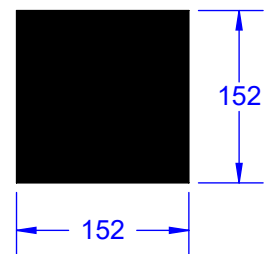


<b>TopLine<sup>®</sup></b>			
TITLE		SBGA928T1.0C-DC394D DAISY CHAIN DUMMY	
SCALE	SIZE	DRAWING NO.	REV
4:1	A	513945	A
DO NOT SCALE DRAWING			SHEET 11 OF 12

**DETAIL B  
PCB DIE PADS (TOP)  
Micron ( $\mu\text{m}$ )**



**DETAIL C  
PAD SIZE**



**TopLine<sup>®</sup>**

TITLE SBGA928T1.0C-DC394D  
DAISY CHAIN DUMMY

SCALE 4:1	SIZE A	DRAWING NO. 513945	REV A
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