

Notes: (Unless Otherwise Specified).

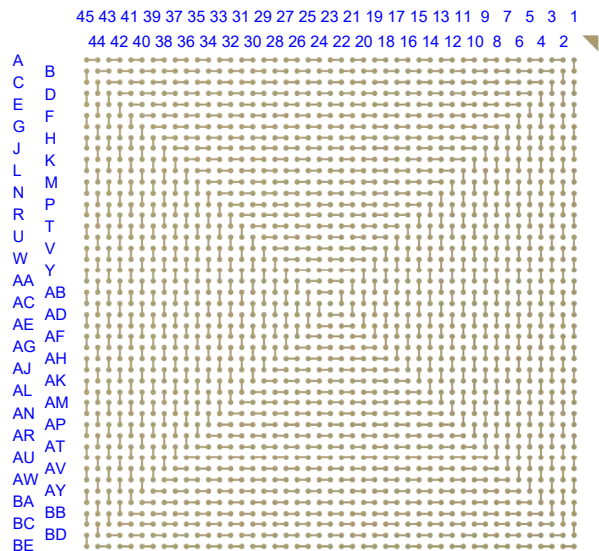
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY: SEE PART NUMBER TABLE.
- 3) BALL DIAMETER (BEFORE REFLOW): 0.35mm (13.8 MIL).
- 4) SOLDER MASK DEFINED PAD OPENING: 0.33mm (13 MIL).
- 5) PAD Cu DIAMETER: 0.45mm (18 MIL).
- 6) SUBSTRATE MATERIAL: BT.
- 7) DUMMY DIE IS OPTIONAL.
- 8) DAISY CHAIN PATTERN (SEE PAGE 2).
- 9) MSL-3 RECOMMENDED BAKING 24 HOURS @ 125°C TO REMOVE MOISTURE PRIOR SOLDERING TO PC BOARD.

PART NUMBER TABLE

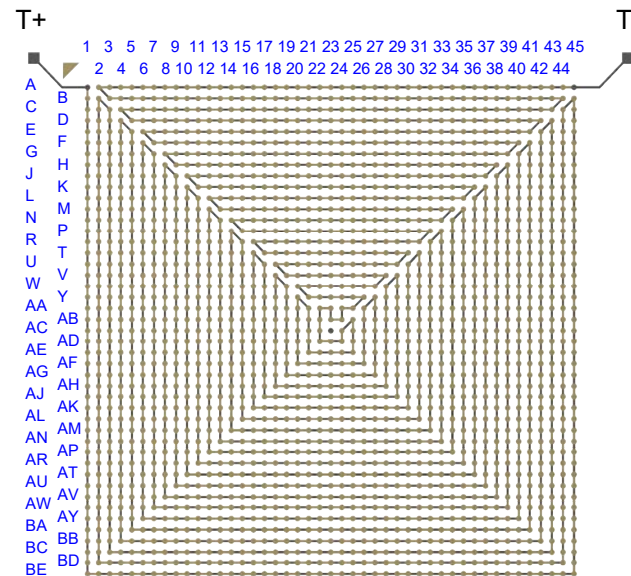
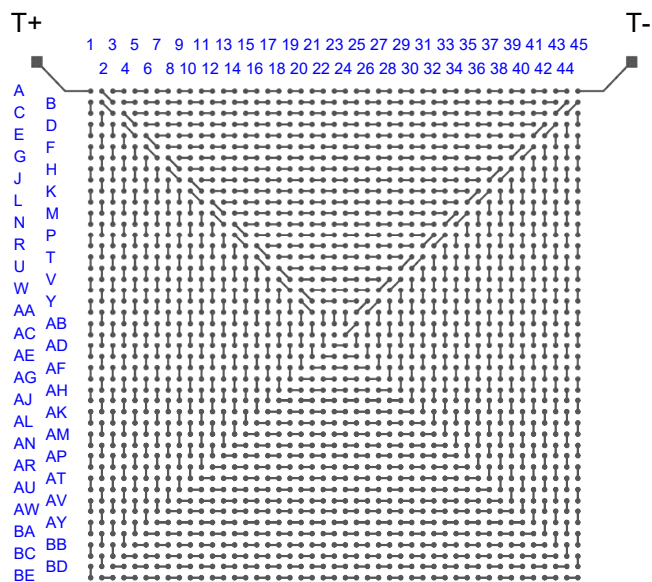
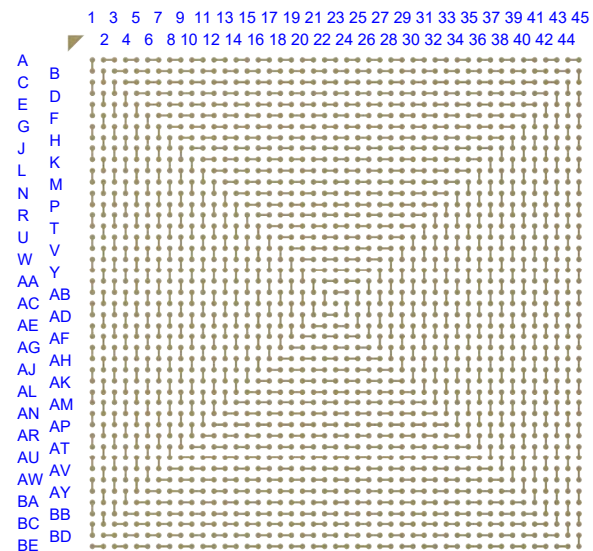
PART NUMBER	BALL ALLOY	Pb-Free	RoHS	Si DIE
FBGA2025T.65C-DC459D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
FBGA2025T.65-DC459D	Sn63/Pb37	NO	NO	YES

APPROVALS	DATE	TopLine®			
DRAWN T.Au	10/06/2024				
ENG M. Hart	10/06/2024	TITLE FBGA2025T.65C-DC459D DAISY CHAIN DUMMY			
MFG		SCALE 3:1	SIZE A	DRAWING NO. 564597	REV A
QA		DO NOT SCALE DRAWING			SHEET 1 OF 10
CUST					
REVISED					

BALL VIEW



BOTTOM SIDE (TOP X-RAY VIEW)



TEST VEHICLE BOARD

AFTER MOUNTING

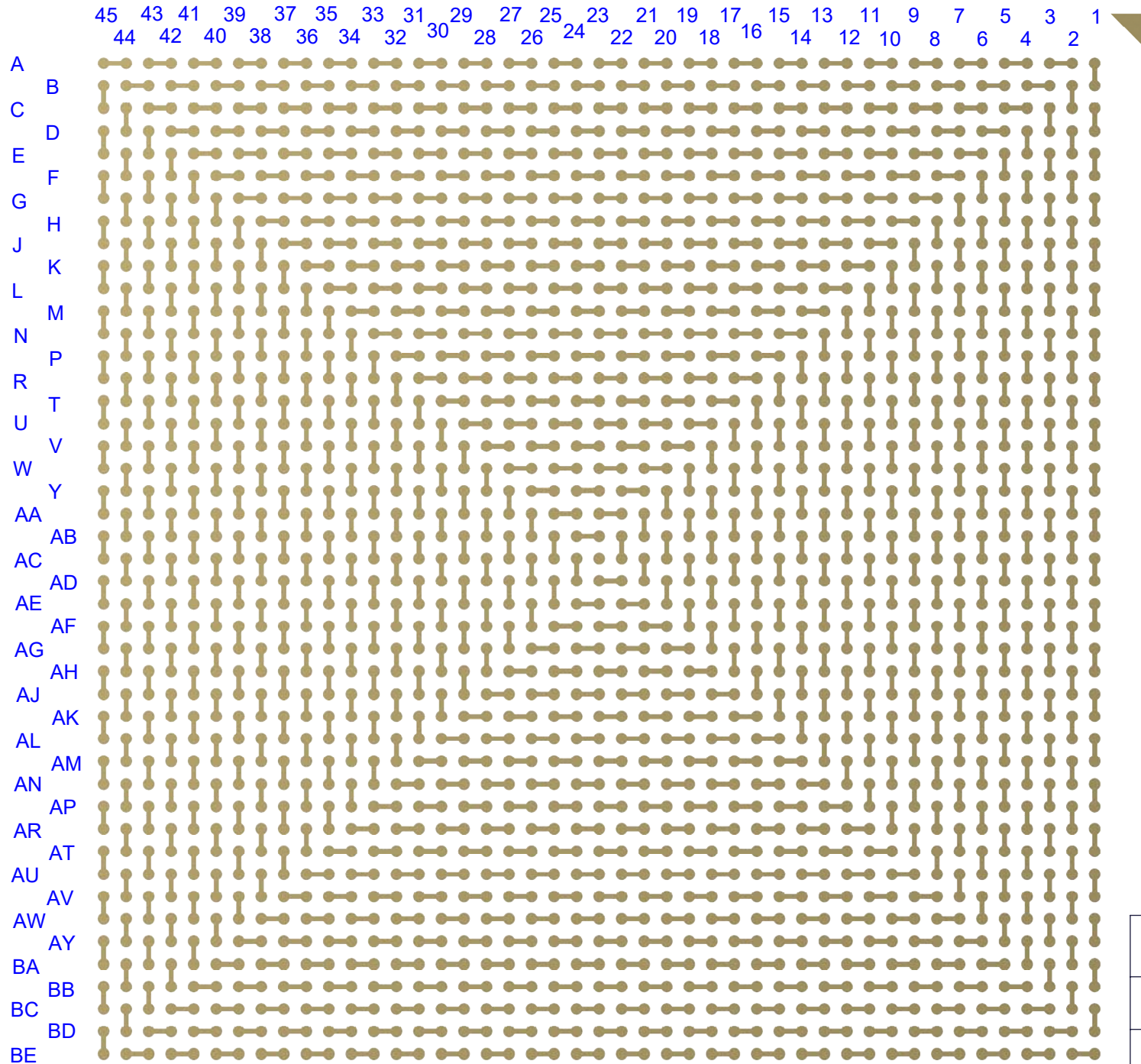
Notes:

- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.45mm (18 MIL).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.152mm (6 MIL).
- 4) SMD (SOLDER MASK DEFINED) PAD OPENING: 0.33mm (13 MIL).



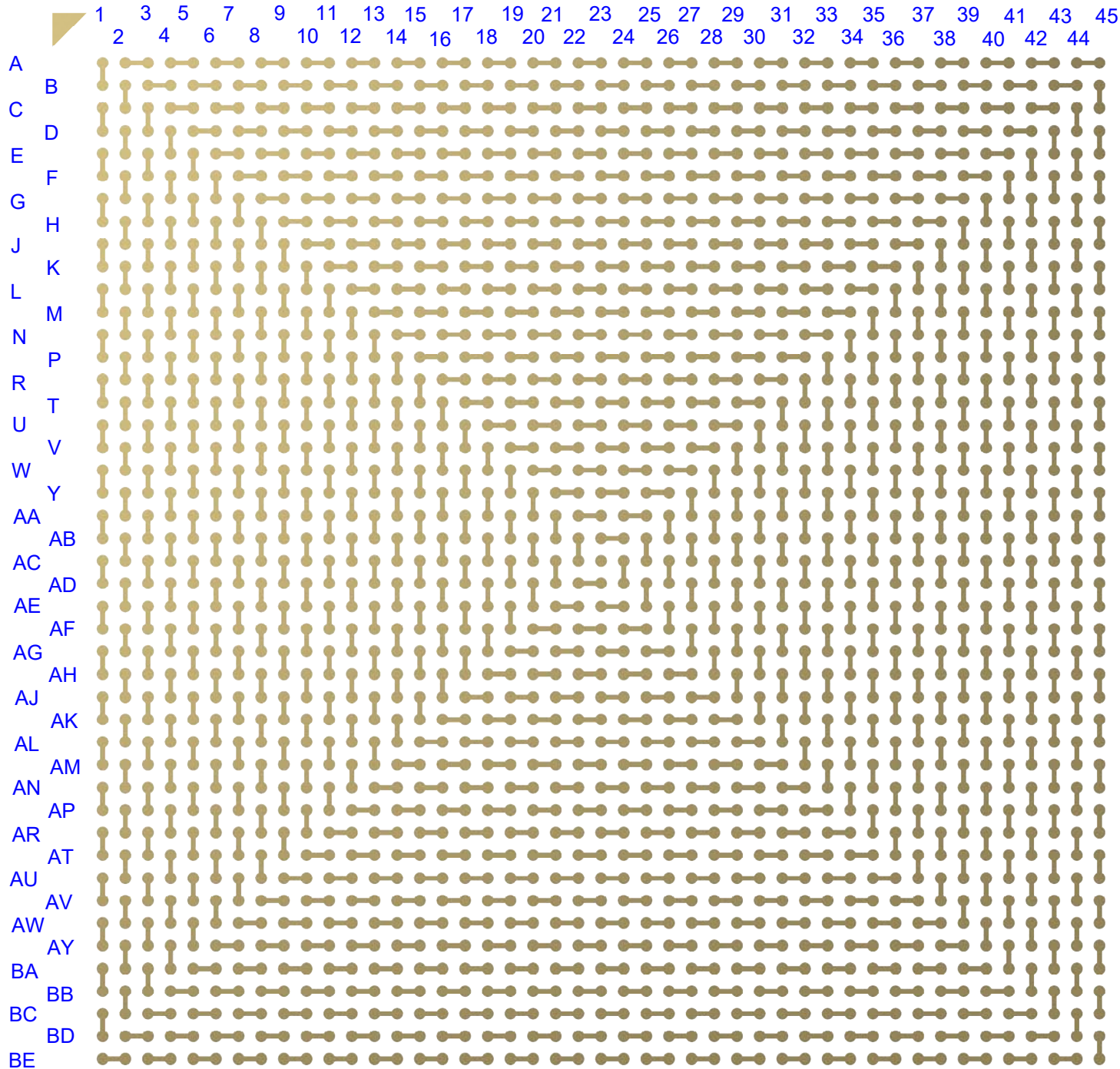
TITLE			
FBGA2025T.65C-DC459D DAISY CHAIN DUMMY			
SCALE	SIZE	DRAWING NO.	REV
2.25:1	A	564597	A
DO NOT SCALE DRAWING			SHEET 2 OF 10

BALL VIEW



TopLine®			
TITLE FBGA2025T.65C-DC459D DAISY CHAIN DUMMY			
SCALE 2.25:1	SIZE A	DRAWING NO. 564597	REV A
DO NOT SCALE DRAWING			SHEET 3 OF 10

BOTTOM SIDE (TOP X-RAY VIEW)

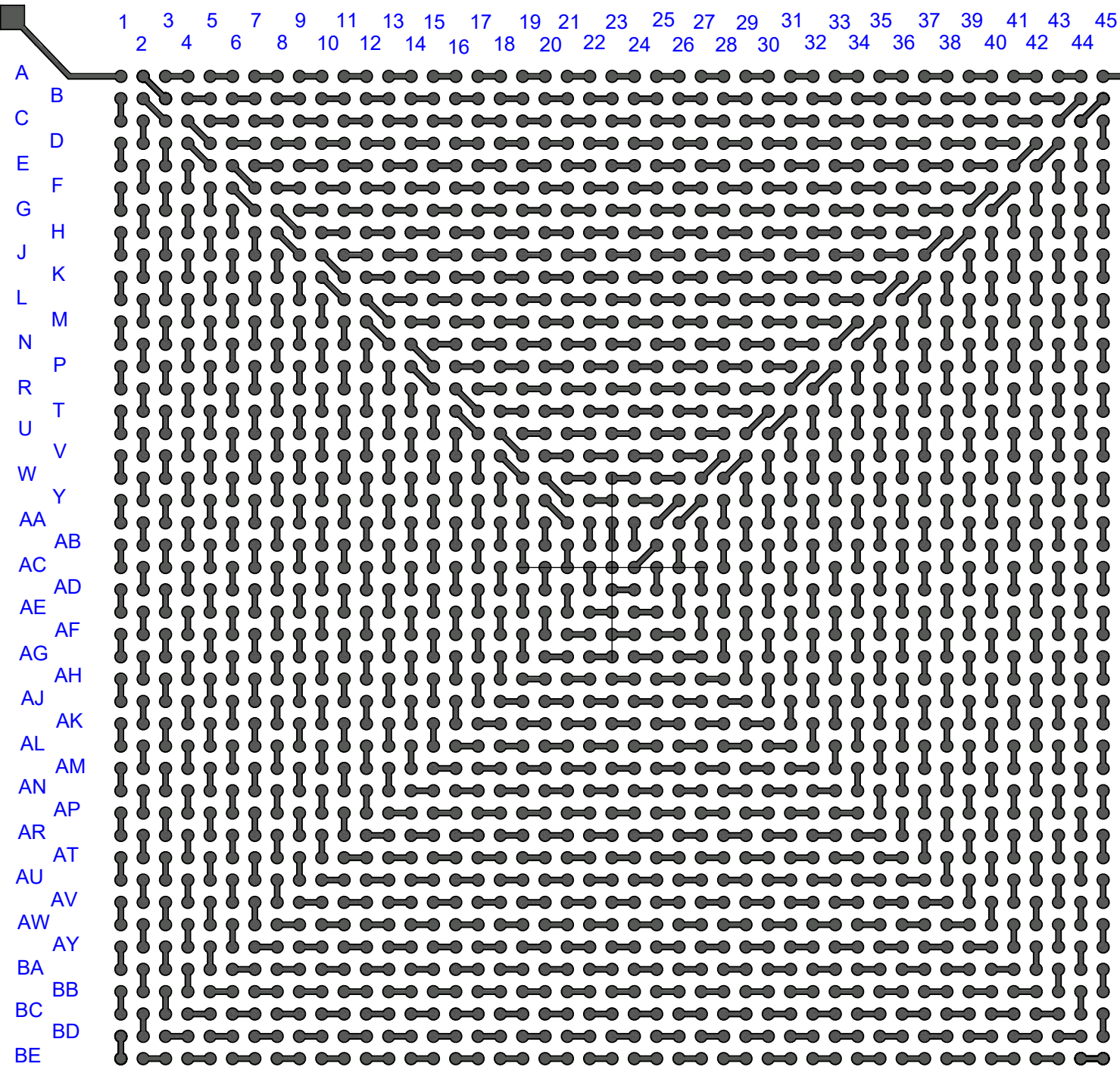


TopLine®			
TITLE		FBGA2025T.65C-DC459D DAISY CHAIN DUMMY	
SCALE	SIZE	DRAWING NO.	REV
2.25:1	A	564597	A
DO NOT SCALE DRAWING			SHEET 4 OF 10

TEST VEHICLE BOARD

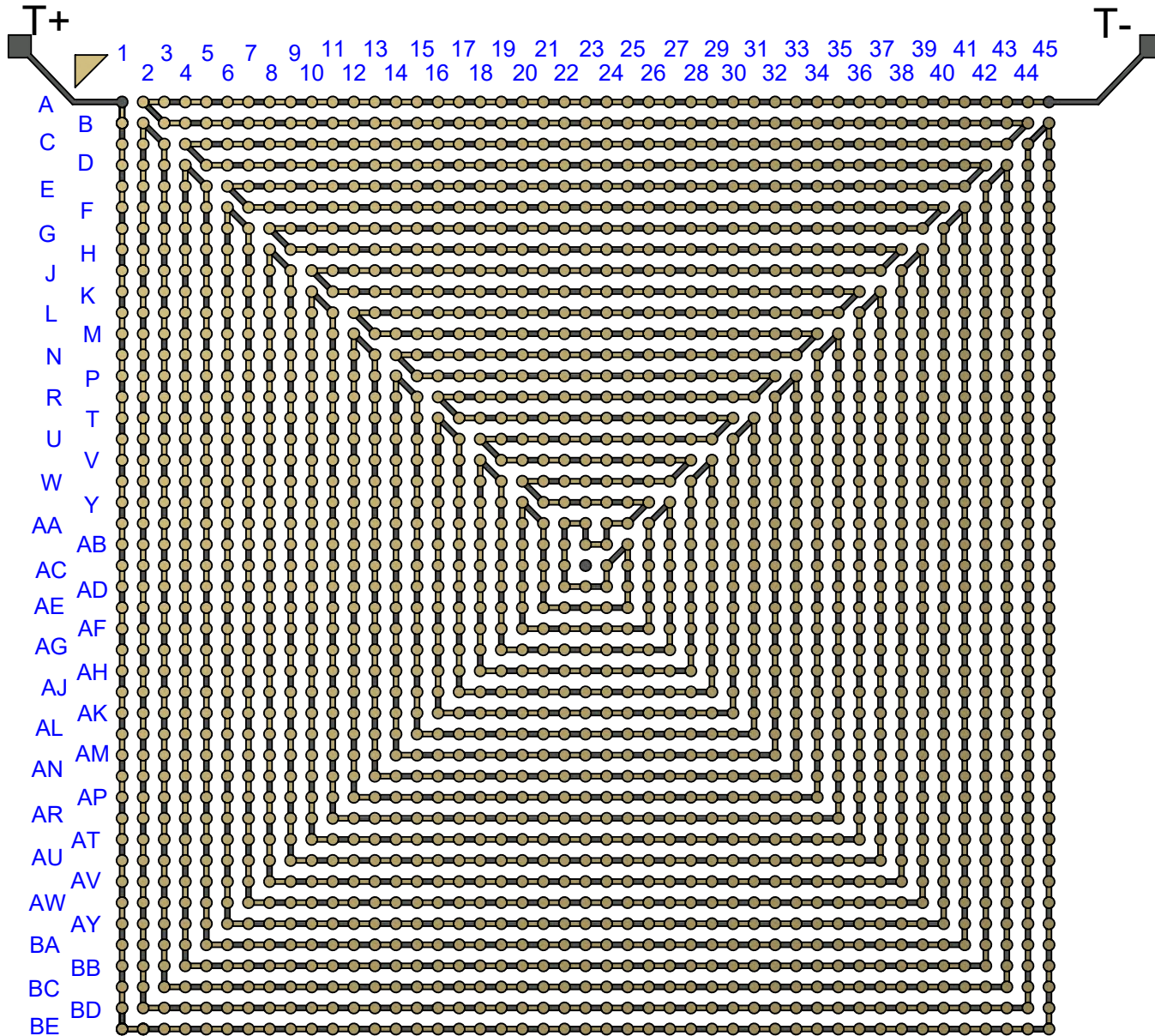
T+

T-



TITLE			
FBGA2025T.65C-DC459D DAISY CHAIN DUMMY			
SCALE	SIZE	DRAWING NO.	REV
2.25:1	A	564597	A
DO NOT SCALE DRAWING			SHEET 5 OF 10

AFTER MOUNT



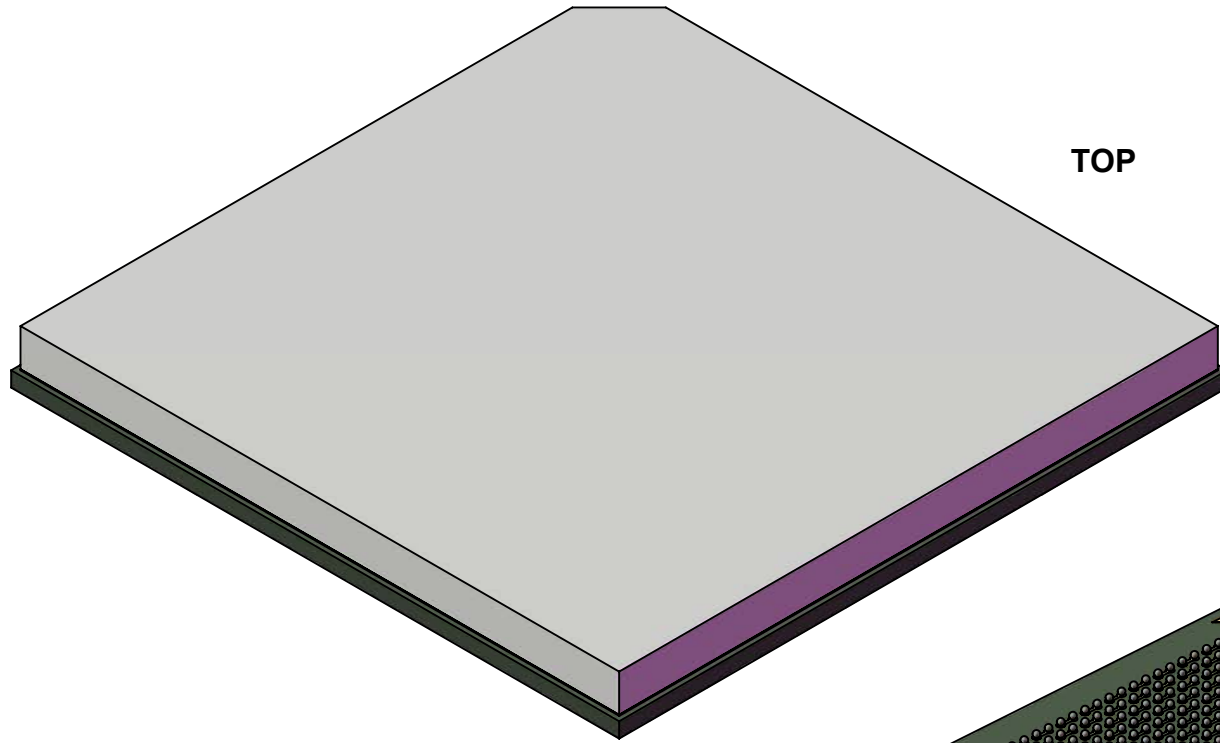
Notes:

- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.45mm (18 MIL).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.152mm (6 MIL).
- 4) SMD (SOLDER MASK DEFINED) PAD OPENING: 0.33mm (13 MIL).

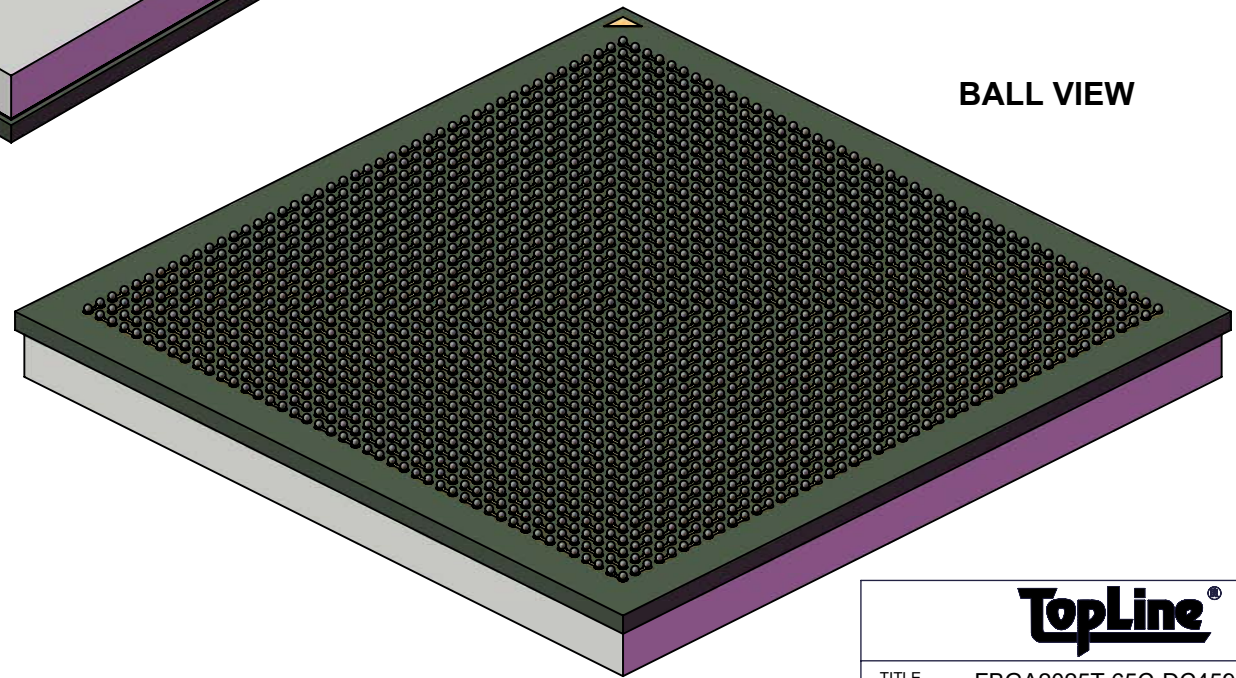
TopLine®

TITLE			
FBGA2025T.65C-DC459D DAISY CHAIN DUMMY			
SCALE	SIZE	DRAWING NO.	REV
2.25:1	A	564597	A
DO NOT SCALE DRAWING			SHEET 6 OF 10

MODEL



TOP



BALL VIEW

TopLine[®]

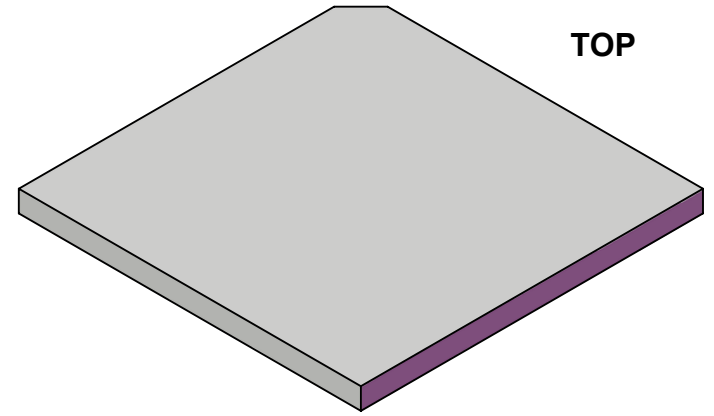
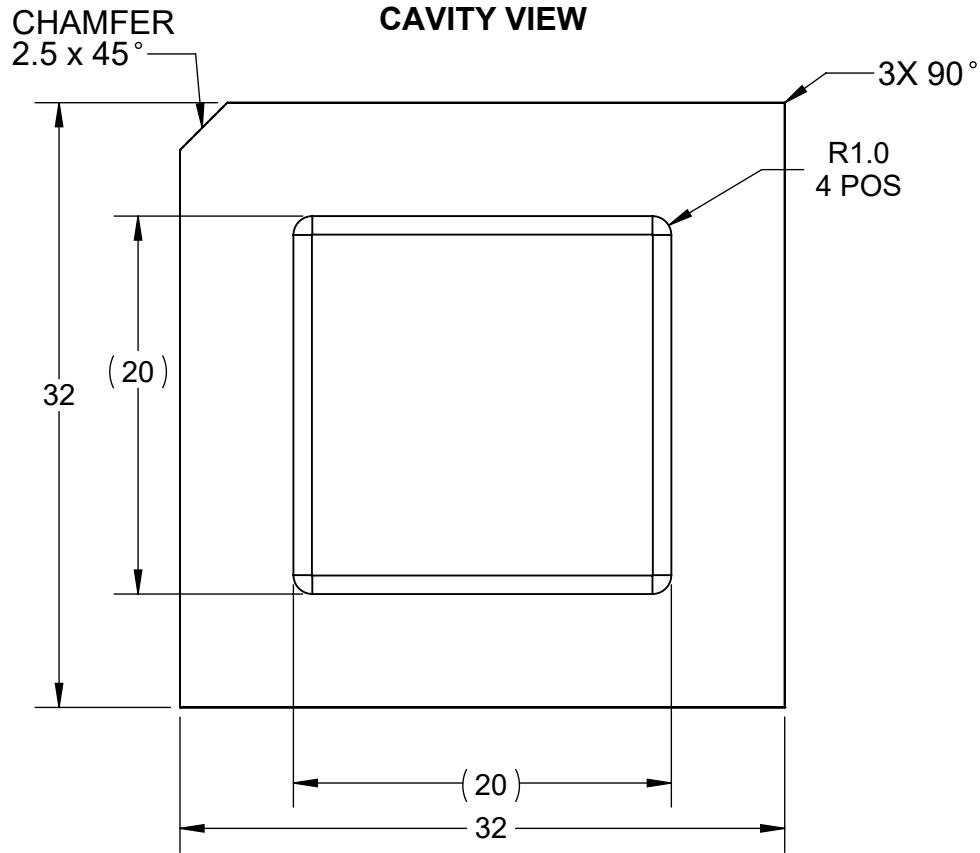
TITLE FBGA2025T.65C-DC459D
DAISY CHAIN DUMMY

SCALE 2.25:1	SIZE A	DRAWING NO. 564597	REV A
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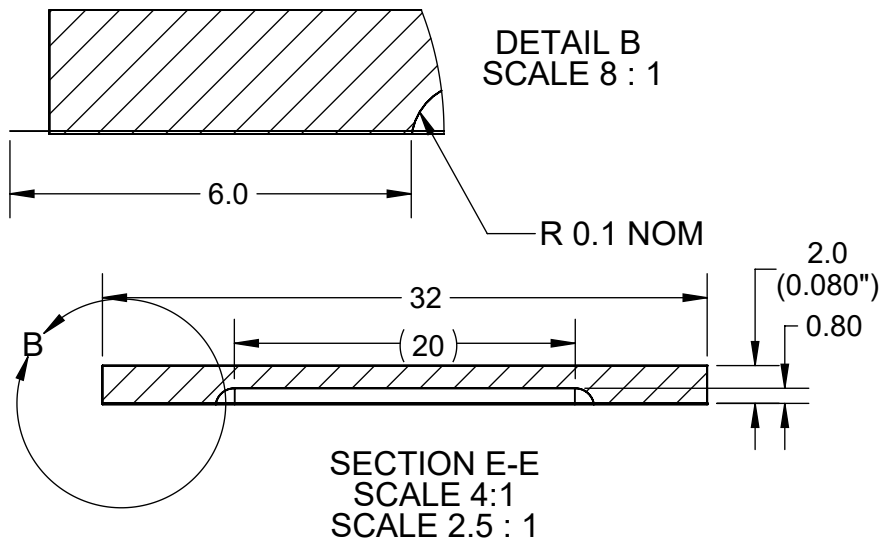
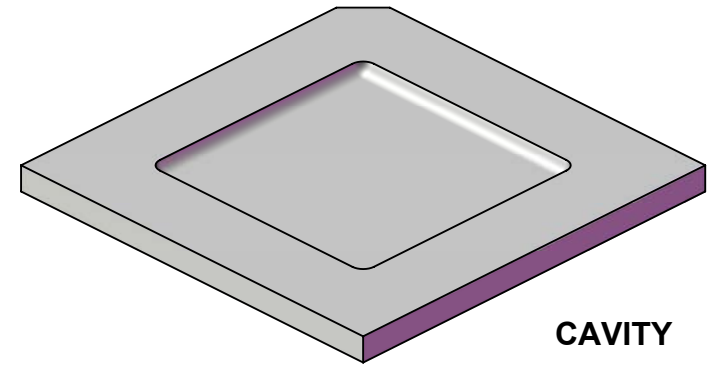
DO NOT SCALE DRAWING

SHEET 7 OF 10

HEAT SPREADER



MODEL



Notes: (Unless Otherwise Specified).

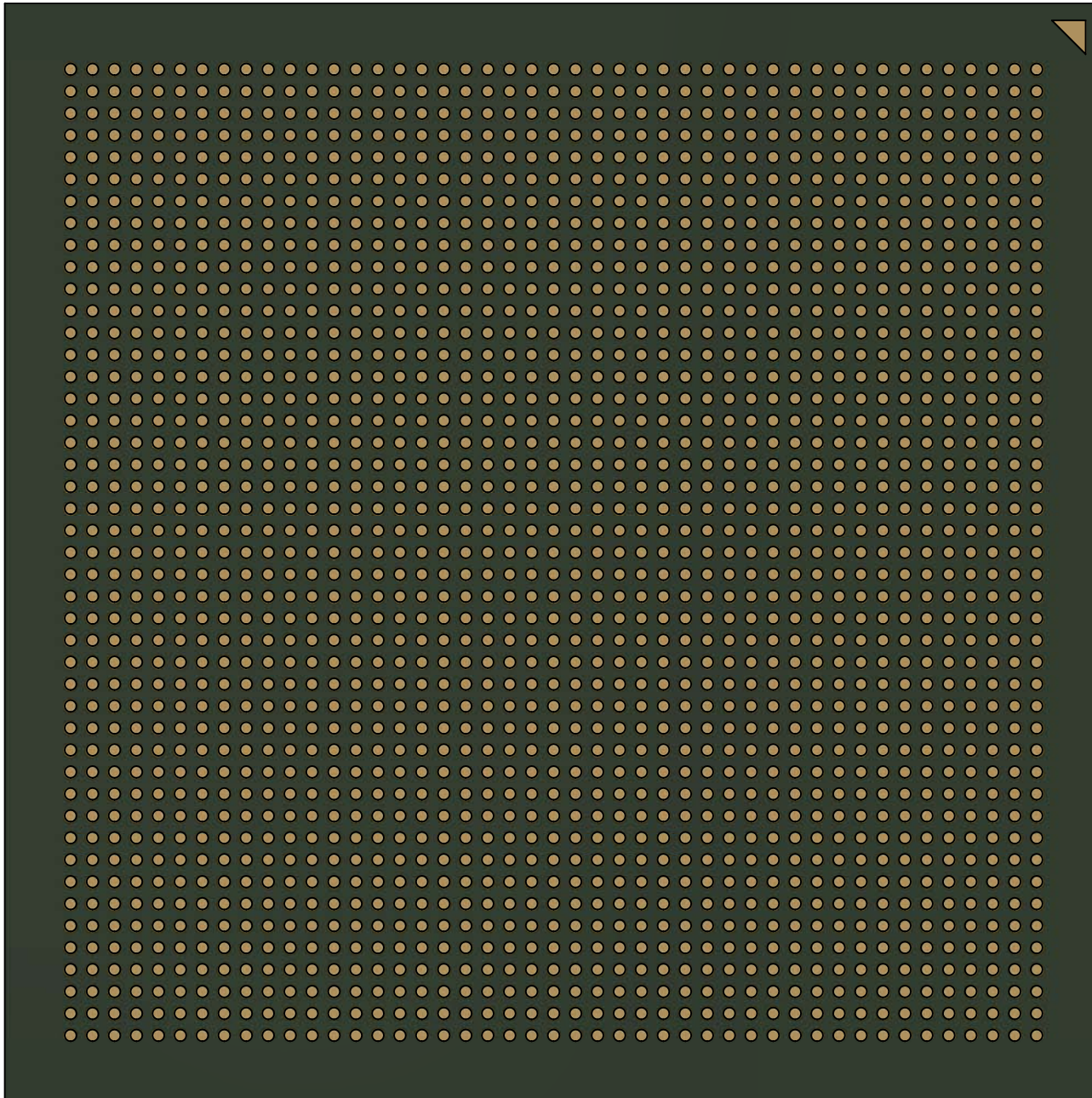
- 1) DIMENSIONS mm
- 2) MATERIAL: COPPER C110 HALF-HARD
- 3) PLATING: ELECTROLESS NICKEL
 - a. PER MIL-C-26074E
 - b. NICKEL (Ni) 0.0002 ~ 0.0004-INCH
 - c. MID-PHOSPHOROUS
 - d. COPPER (Cu) STRIKE

TopLine®

TITLE			
F-CAP32A FLAT CAVITY HEAT SPREADER			
SCALE	SIZE	DRAWING NO.	REV
2.5:1	A	564597	A
DO NOT SCALE DRAWING			SHEET 8 OF 10

44 42 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2
 45 43 41 39 37 35 33 31 29 27 25 23 21 19 17 15 13 11 9 7 5 3 1

A
B
C
D
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H
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AT
AU
AV
AW
AY
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BB
BC
BD
BE



**BOTTOM SOLDER MASK
(BALL VIEW)**

TopLine[®]			
TITLE FBGA2025T.65C-DC459D DAISY CHAIN DUMMY			
SCALE 2.25:1	SIZE A	DRAWING NO. 564597	REV A
DO NOT SCALE DRAWING			SHEET 9 OF 10

STACKUP -SECTION VIEW (NOT TO SCALE)

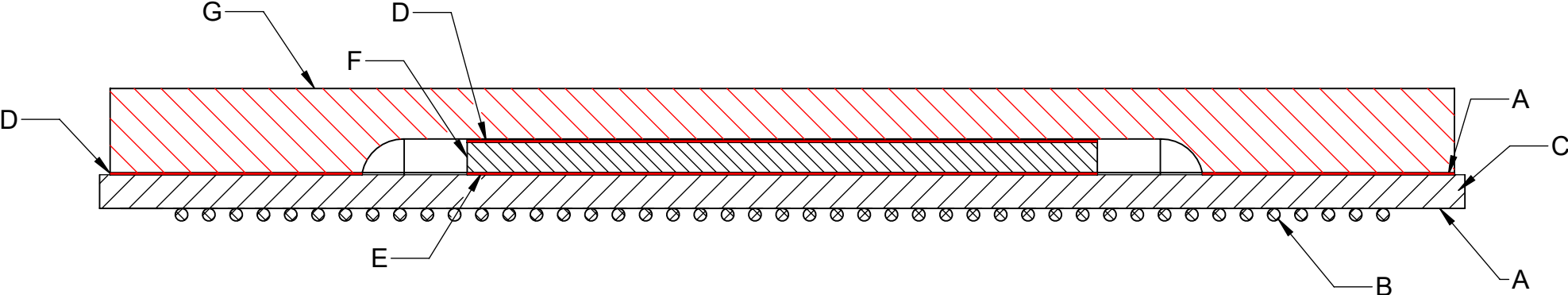


TABLE OF MATERIAL		
	DESCRIPTION	MATERIAL
A	COPPER PADS	18um TK SOLDER MASK DEFINED PAD
B	SOLDER BALL	Sn96.5/Ag3.0/Cu0.5 OR Sn63/Pb37
C	SUBSTRATE	BT
D	TIM	CORNING SE-4450
E	DIE ATTACH ADHESIVE	CORNING SE-4450
F	DUMMY DIE	Si WITHOUT BUMPS
G	HEAT SPREADER	COPPER C110

TopLine®			
TITLE FBGA2025T.65C-DC459D DAISY CHAIN DUMMY			
SCALE 3:1	SIZE A	DRAWING NO. 564597	REV A
DO NOT SCALE DRAWING			SHEET 10 OF 10