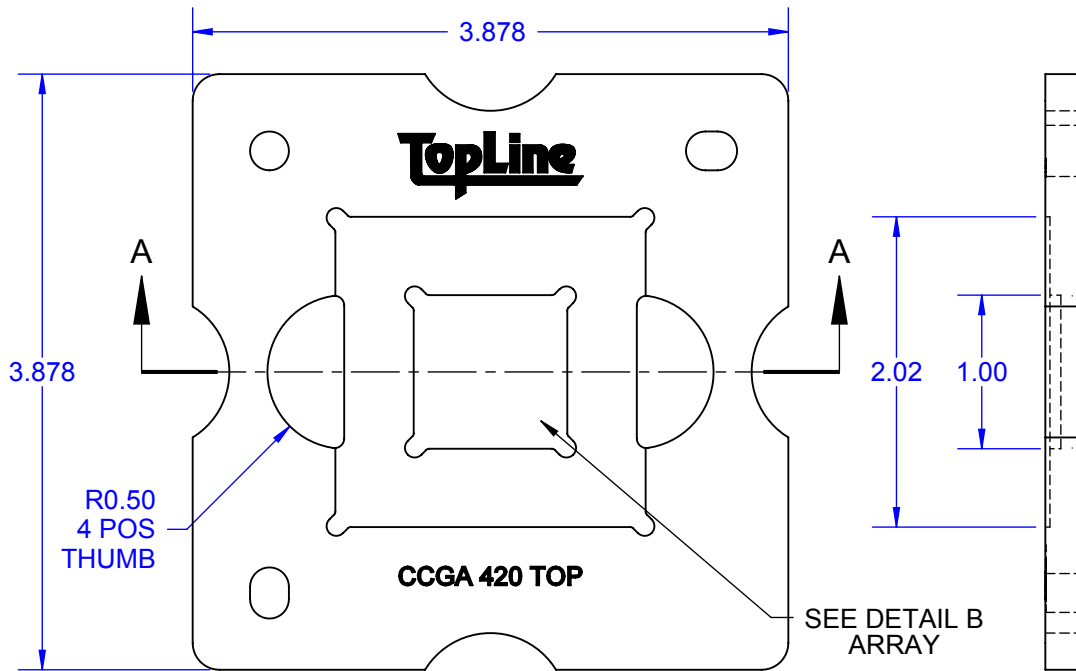
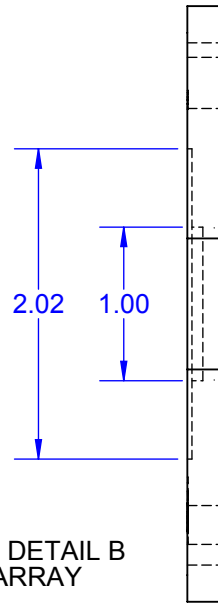


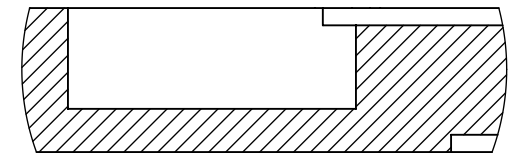
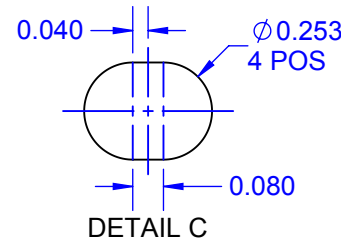
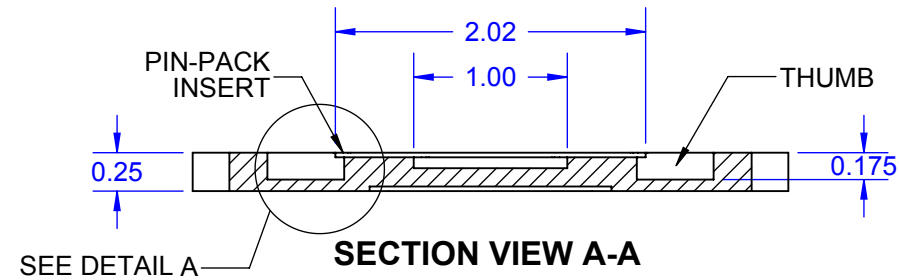
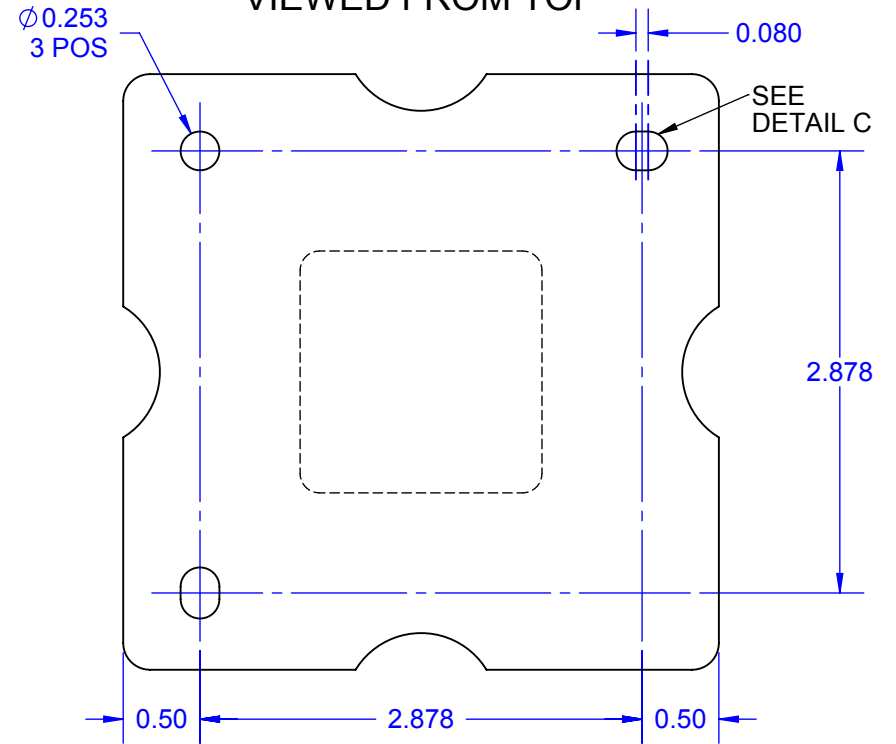
**TOP GRAPHITE  
TOP SIDE**



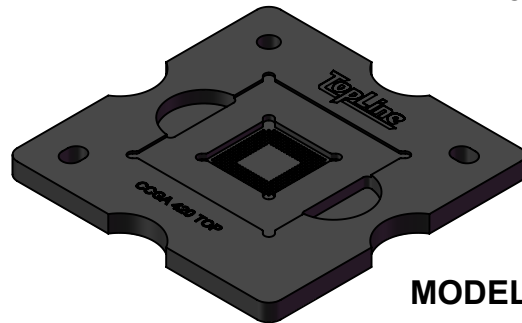
**EDGE**



**TOP GRAPHITE  
BOTTOM SIDE  
VIEWED FROM TOP**



**DETAIL A  
SCALE 3 : 1**



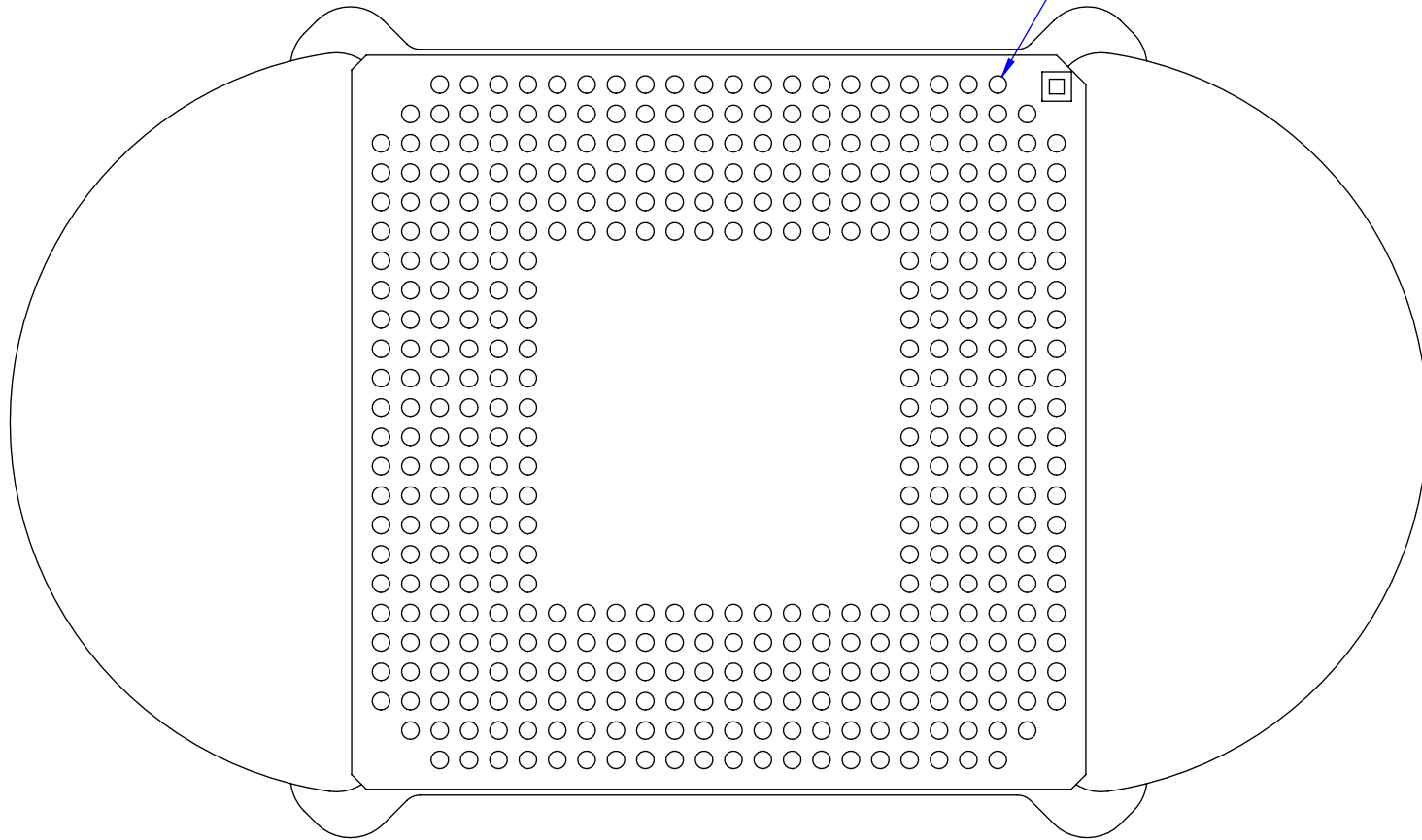
**MODEL**

**NOTES:**  
1. DIMENSIONS in INCHES.

APPROVALS	DATE	<b>TopLine®</b>			
DRAWN T.Au	01/17/15				
ENG M. Hart	01/17/15	TITLE C7-GRAPHITE-420A COLUMN ATTACHMENT TOOLS			
MFG		SCALE 1:1.25	SIZE A	DRAWING NO. 712450	REV A
REVISED		DO NOT SCALE DRAWING			SHEET 1 OF 7

**DETAIL B  
ARRAY  
24x24 MATRIX**

LGA PADS  $\phi 0.0236$  ( $\phi 0.6\text{mm}$ )  
ARRAY  $\phi 0.020$  ( $\phi 0.51\text{mm}$ )  
420 POS



**TopLine<sup>®</sup>**

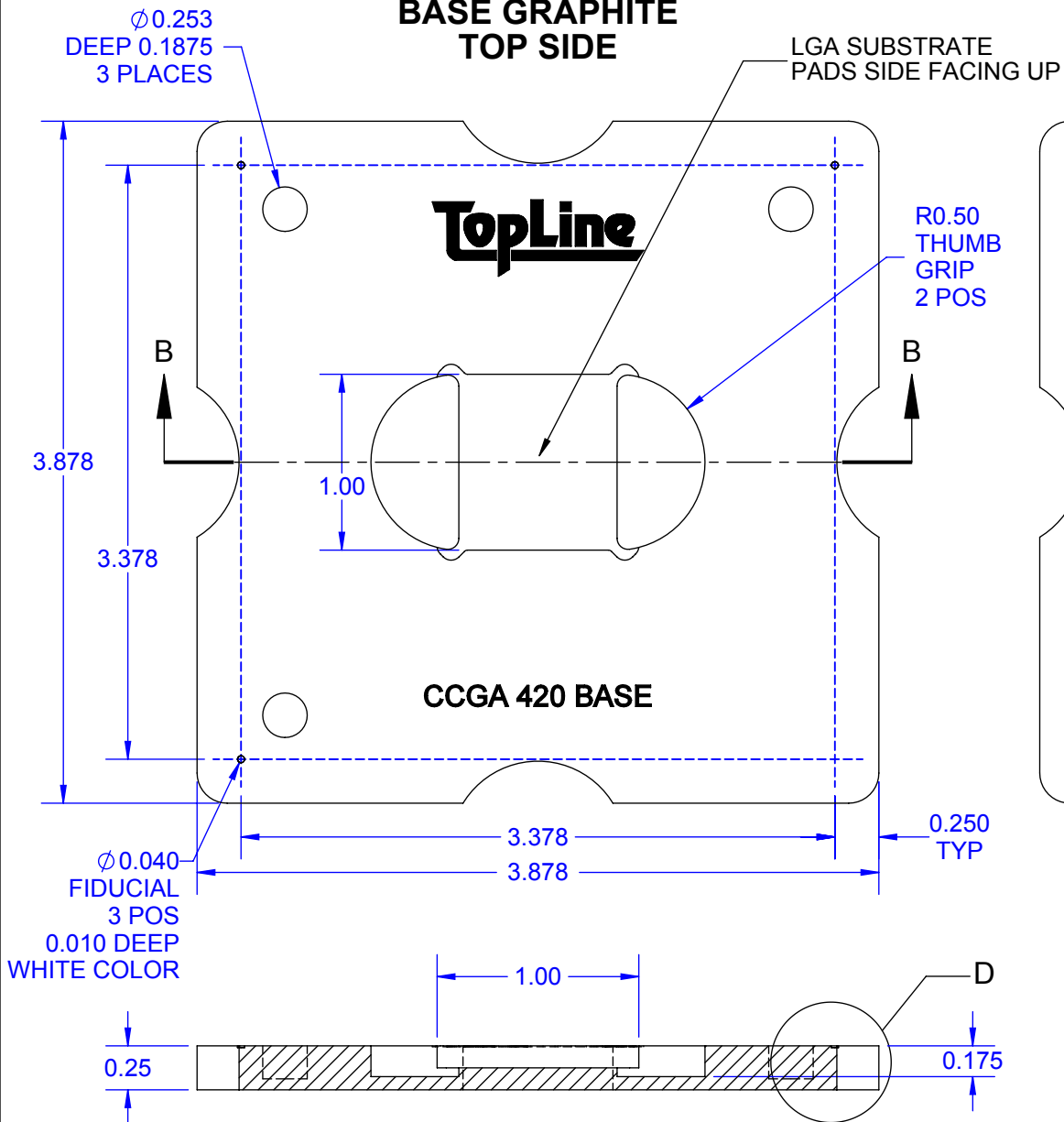
TITLE C7-GRAPHITE-420A  
COLUMN ATTACHMENT TOOLS

SCALE 4:1	SIZE A	DRAWING NO. 712450	REV A
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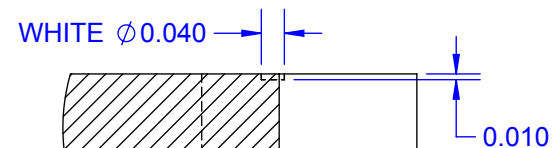
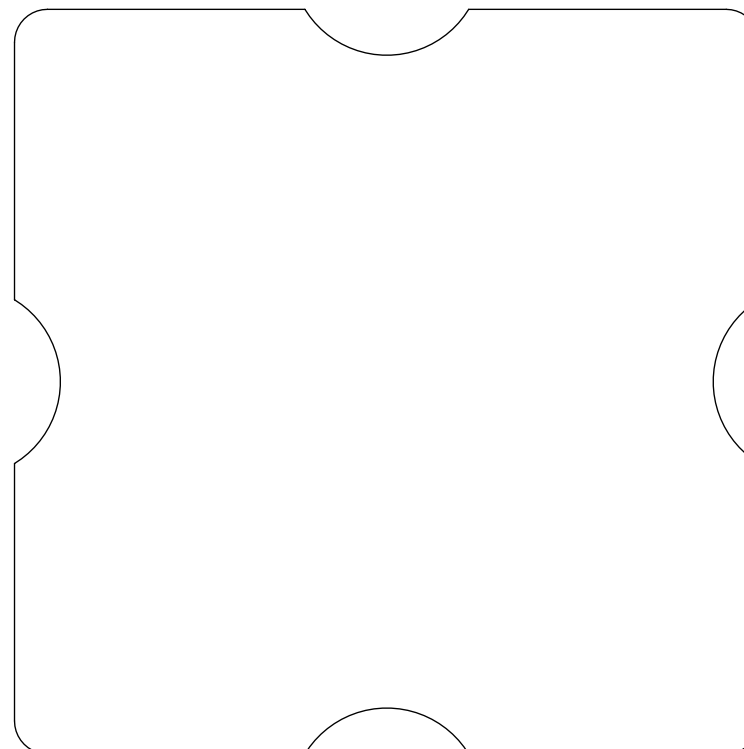
DO NOT SCALE DRAWING

SHEET 2 OF 7

**BASE GRAPHITE  
TOP SIDE**



**BASE GRAPHITE  
BOTTOM SIDE**



FIDUCIAL - DETAIL D  
SCALE 3:1

NOTES:  
1. DIMENSIONS in INCHES.

**TopLine®**

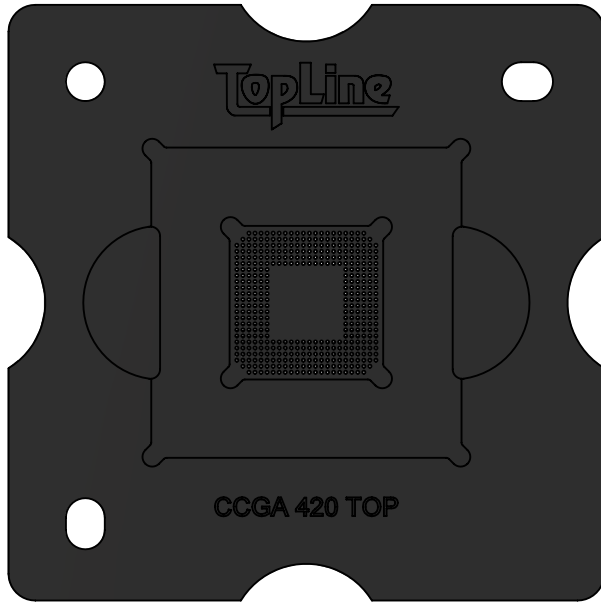
TITLE C7-GRAPHITE-420A  
COLUMN ATTACHMENT TOOLS

SCALE 1:1	SIZE A	DRAWING NO. 712450	REV A
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DO NOT SCALE DRAWING

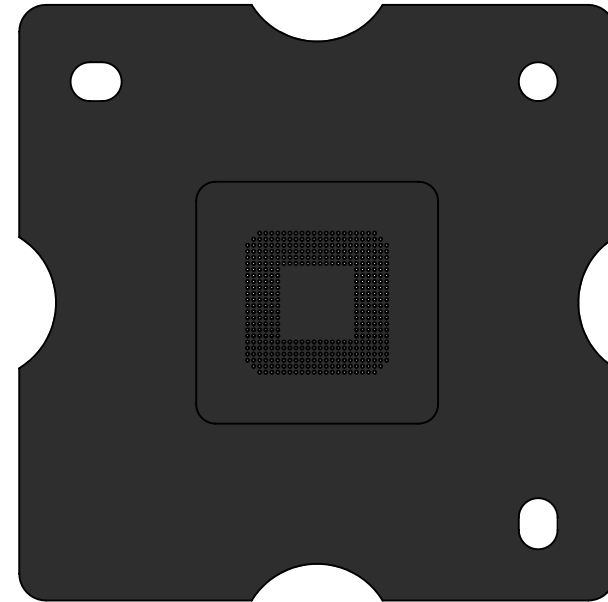
SHEET 3 OF 7

UPPER GRAPHITE  
TOP SIDE  
SHOWN WITHOUT PIN-PACK™

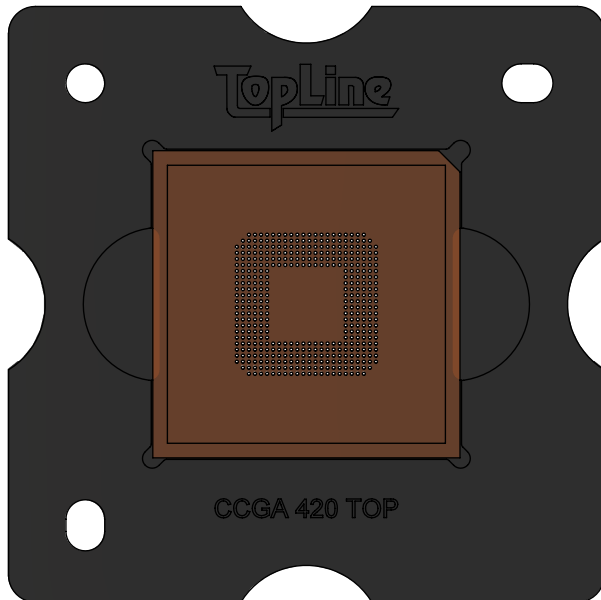


MODELS

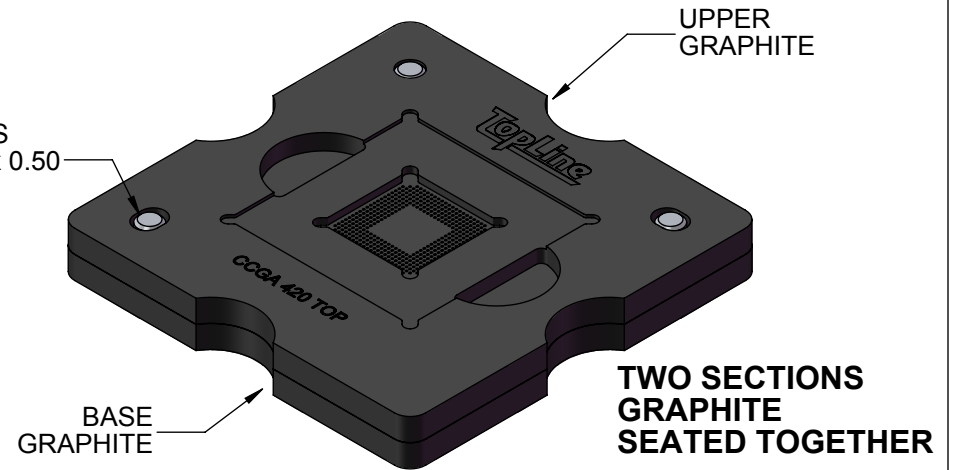
UPPER GRAPHITE  
BOTTOM VIEW  
RIGHT READING



UPPER GRAPHITE  
TOP SIDE  
SHOWN WITH PIN-PACK™



3x PEGS  
0.2945 x 0.50



**TopLine®**

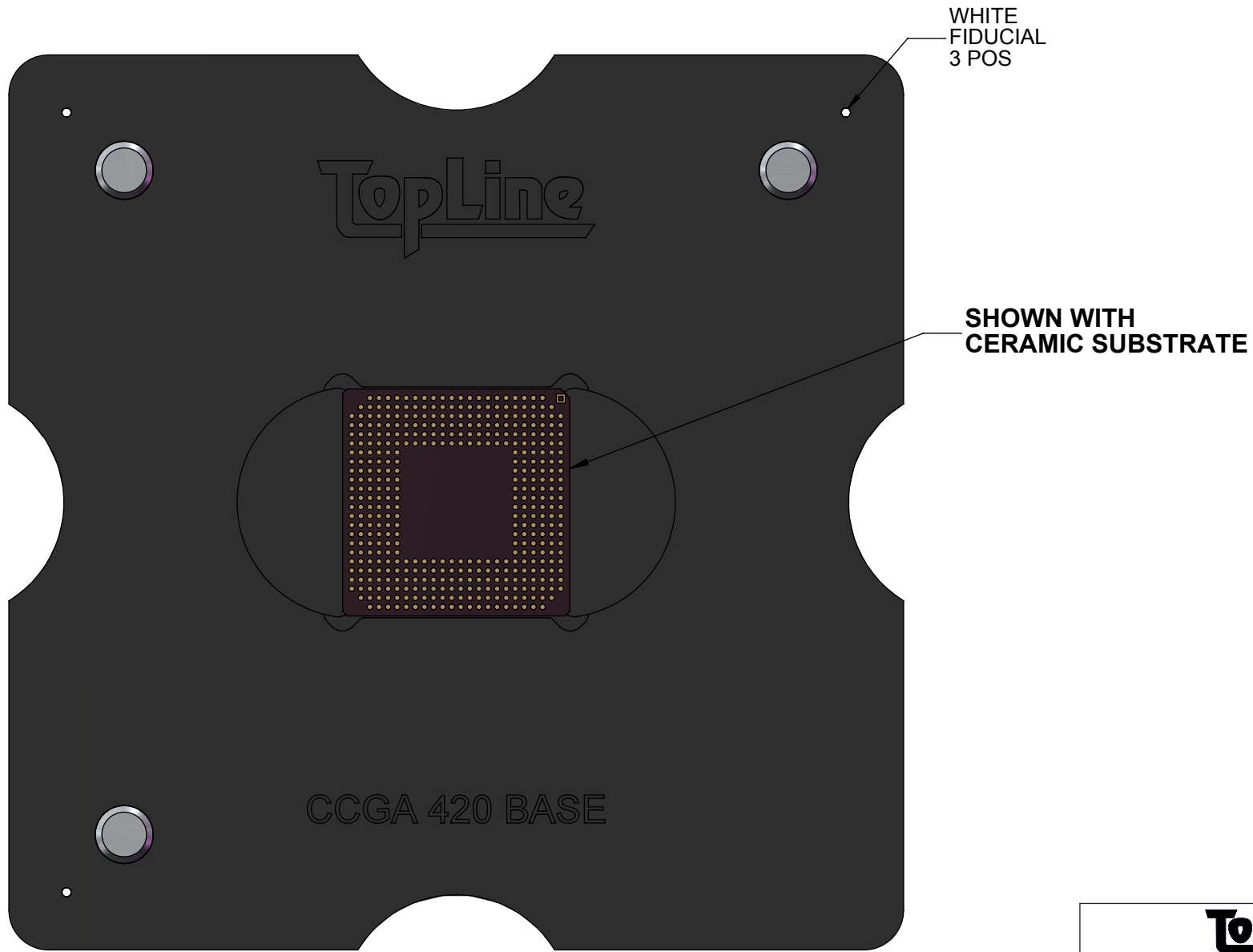
TITLE C7-GRAPHITE-420A  
COLUMN ATTACHMENT TOOLS

SCALE 1:1.25	SIZE A	DRAWING NO. 712450	REV A
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DO NOT SCALE DRAWING

SHEET 4 OF 7

**BASE GRAPHITE  
TOP SIDE**



WHITE  
FIDUCIAL  
3 POS

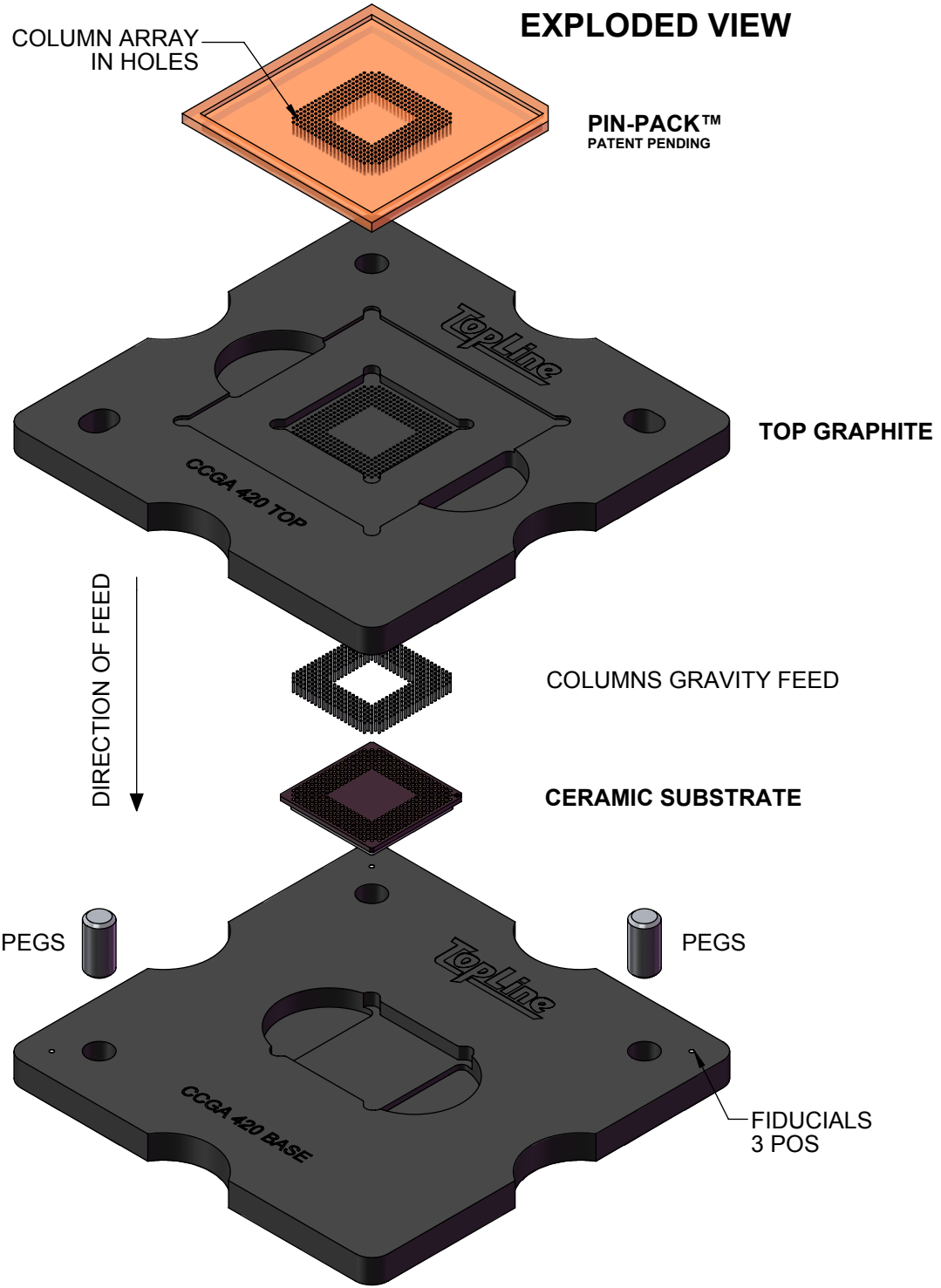
SHOWN WITH  
CERAMIC SUBSTRATE

CCGA 420 BASE

NOTE 1. APPLY SOLDER PASTE TO SUBSTRATE PADS BEFORE COVERING WITH TOP GRAPHITE.

<b>TopLine®</b>			
TITLE C7-GRAPHITE-420A COLUMN ATTACHMENT TOOLS			
SCALE 2:1	SIZE A	DRAWING NO. 712450	REV A
DO NOT SCALE DRAWING			SHEET 5 OF 7

# EXPLODED VIEW



TITLE			
C7-GRAPHITE-420A COLUMN ATTACHMENT TOOLS			
SCALE	SIZE	DRAWING NO.	REV
1:1.25	A	712450	A
DO NOT SCALE DRAWING			SHEET 6 OF 7

**TOOL PART NUMBERS & ACCESSORIES**

MODEL NUMBER	DESCRIPTION	LGA X/Y SIZE	LGA DEPTH	PAD MATRIX	PITCH	DWG
C7-GRAPHITE-420A	GRAPHITE SET	25mm SQ 0.9842-inch	2.78mm 0.109"	24x24	1.0mm	712450
C7-BASE-420A	GRAPHITE BOTTOM	25mm SQ 0.9842-inch	2.78mm 0.109"	ALL	ALL	325310
C7-TOP-420A	GRAPHITE TOP	25mm SQ 0.9842-inch	ALL	24x24	1.0mm	512450
C7-PEG	ALIGNMENT PEG	6.3 x 1.27mm 0.25 x 0.50-inch	ALL	ALL	ALL	702550
PP83C420E15x91A	Pin-Pack Pb80/Sn20 Copper	0.38 x 2.31mm 0.015 x 0.091-inch	ALL	24x24	1.0mm	831241
PP94E420E15x91A	Pin-Pack Pb90/Sn10 Copper	0.38 x 2.31mm 0.015 x 0.091-inch	ALL	24x24	1.0mm	942451
PP90U420E15x91A	Pin-Pack Pb90/Sn10	0.38 x 2.31mm 0.015 x 0.091-inch	ALL	24x24	1.0mm	902451
PP17P420E16x40A	Pin-Pack Micro-Coil Spring	0.40 x 1.0mm 0.016 x 0.040-inch	ALL	24x24	1.0mm	171241
C7-PLATE-A	Top Cover for Micro-Coil Spring	44.5 x 44.5mm 1.75 x 1.75-inch	ALL	ALL	ALL	700150

**TopLine®**

TITLE C7-GRAPHITE-420A  
COLUMN ATTACHMENT TOOLS

SCALE NONE	SIZE A	DRAWING NO. 712450	REV A
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DO NOT SCALE DRAWING

SHEET 7 OF 7