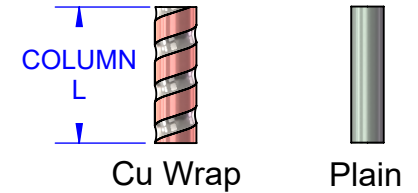
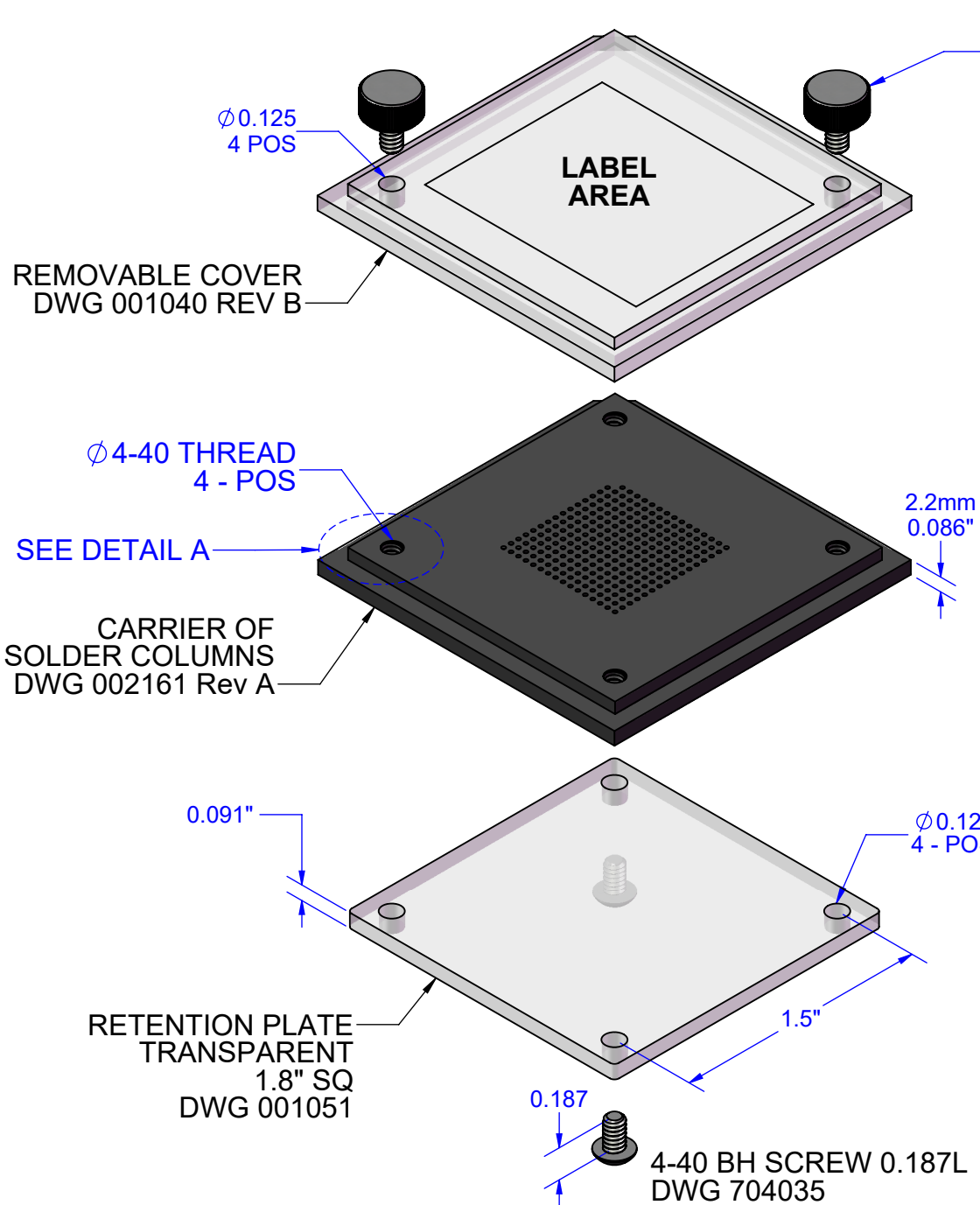
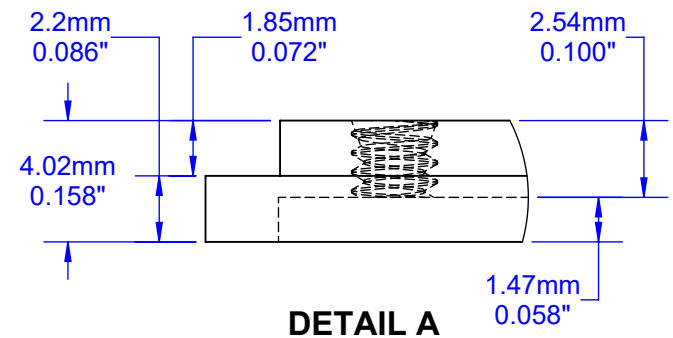


ASSEMBLY EXPLODED VIEW FLIP-PACK[®] SYSTEM

U.S. PATENT No.
9,108,262 and 9,629,259



DIMENSION TABLE			
H	L MAX	W	DWG
4.02mm 0.158"	2.54mm 0.100"	1.82mm 0.072"	120254

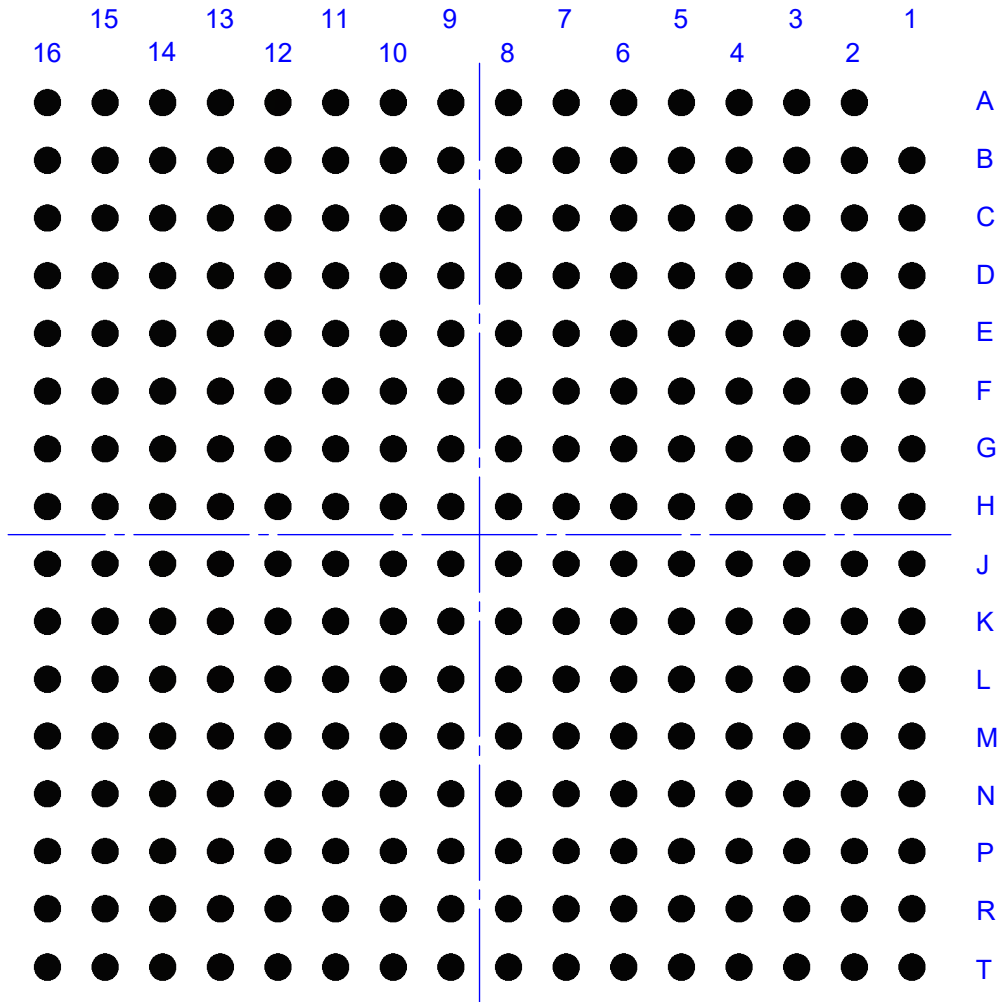


APPROVALS	DATE	TopLine[®]			
DRAWN T. Au	7/31/2023				
ENG M. Hart	7/31/2023	TITLE FP255B FLIP-PACK [®] CCGA COLUMN CARRIER			
MFG		SCALE 1.25:1	SIZE A	DRAWING NO. 002161	REV A
QA					
CUST		DO NOT SCALE DRAWING			SHEET 1 OF 11
REVISED					

PART NUMBER TABLE

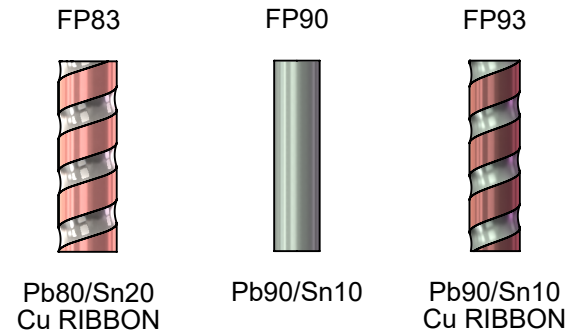
FLIP-PACK®	Pins	Pitch	Matrix	COLUMN					Empty DWG	Filled DWG
				Alloy	Construction	Plating	Ø Dia	*Length		
FP83C255F20x70A	255	1.27mm	16x16	Pb80	Cu Ribbon	SnPb	0.51mm	1.8mm	002161	832161
FP90U255F20x70A				Pb90	Plain					902161
FP93C255F20x70A				Pb90	Cu Ribbon					932161

*Length before planarizing to 1.6mm

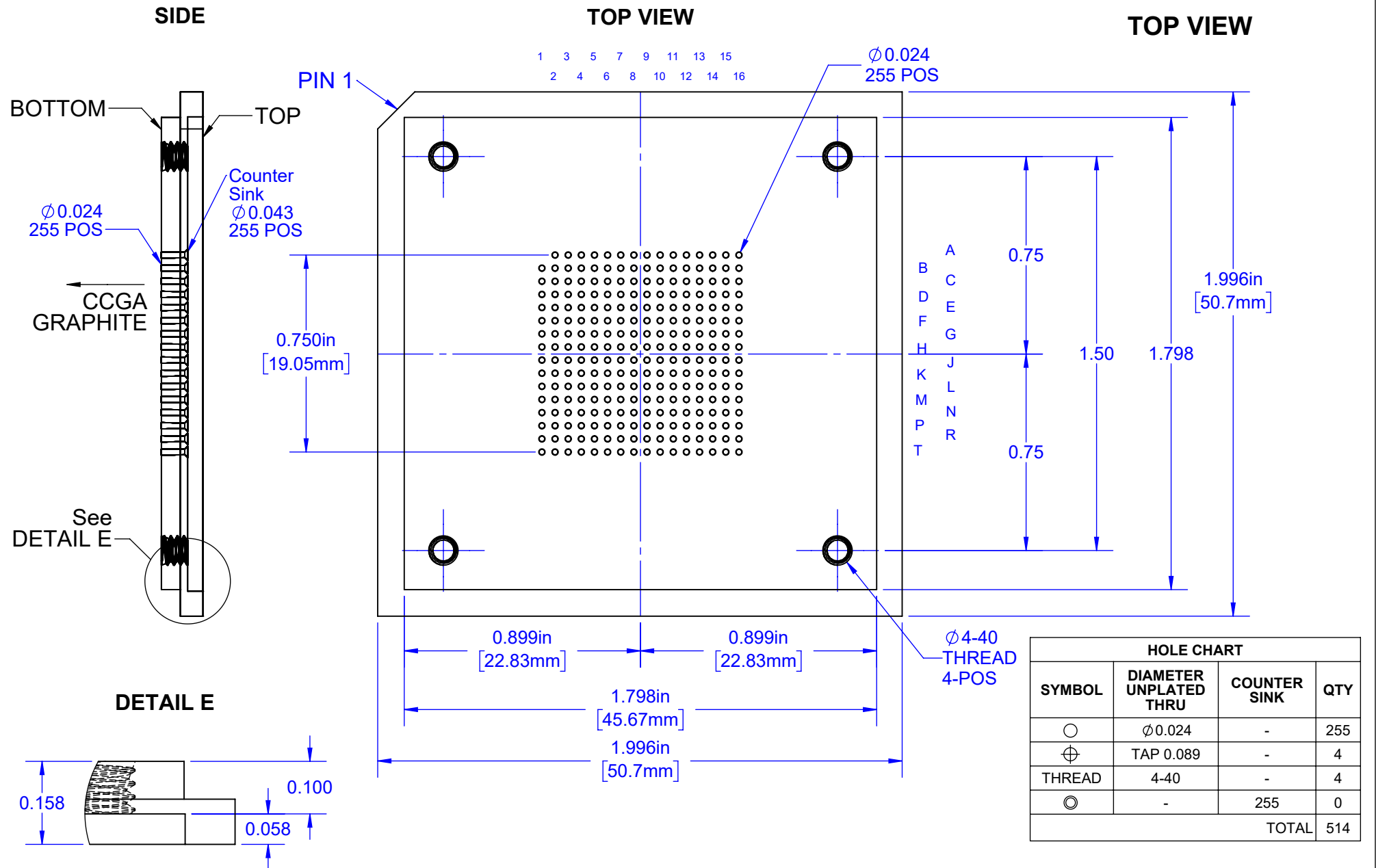


**BOTTOM
COUNTERSINK SIDE**

EXAMPLES OF COLUMNS



TopLine®			
TITLE FP255B FLIP-PACK® CCGA COLUMN CARRIER			
SCALE NONE	SIZE A	DRAWING NO. 002161	REV A
DO NOT SCALE DRAWING			SHEET 2 OF 11

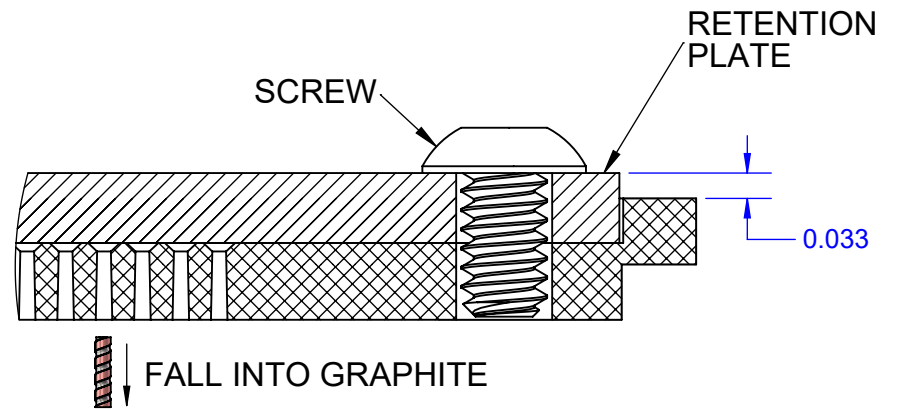
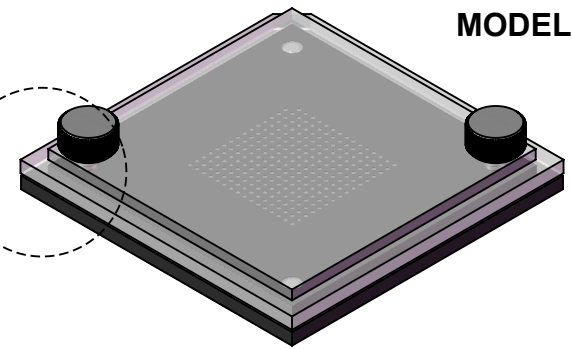
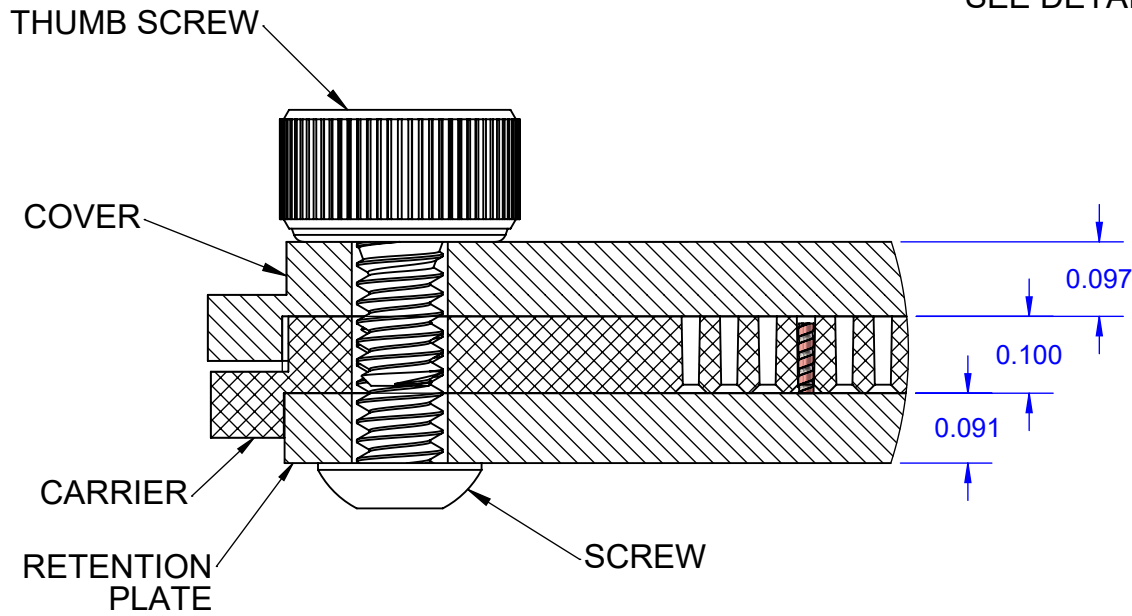


TITLE			
FP255B FLIP-PACK® CCGA COLUMN CARRIER			
SCALE	SIZE	DRAWING NO.	REV
2:1	A	002161	A
DO NOT SCALE DRAWING			SHEET 3 OF 11

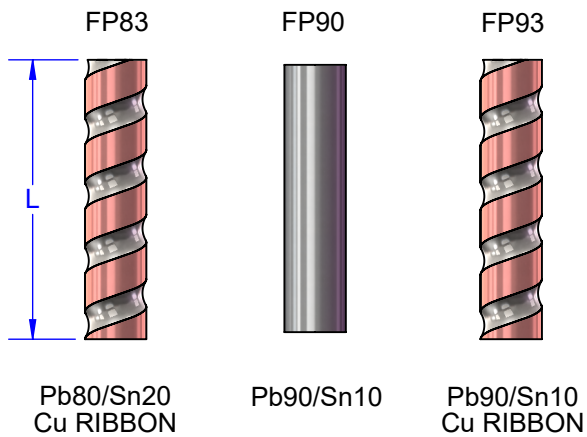
DETAIL D WITH COVER PLATE

MODEL

SEE DETAIL D



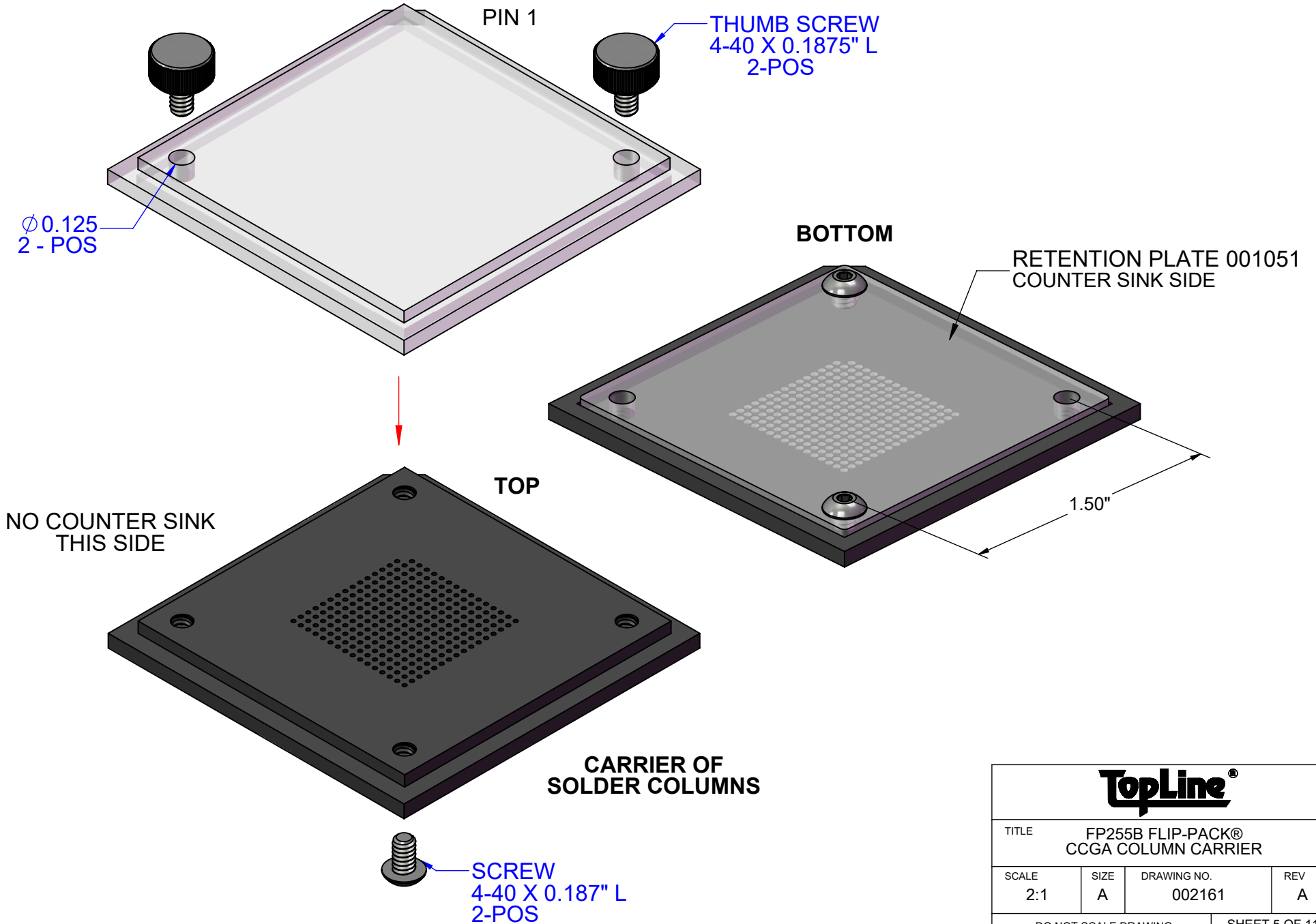
EXAMPLE OF COLUMNS



TopLine®			
TITLE FP255B FLIP-PACK® CCGA COLUMN CARRIER			
SCALE	SIZE	DRAWING NO.	REV
4:1	A	002161	A
DO NOT SCALE DRAWING			SHEET 4 OF 11

FLIP PACK® MODEL

COVER 001040 REV B



TopLine®

TITLE FP255B FLIP-PACK®
CCGA COLUMN CARRIER

SCALE	SIZE	DRAWING NO.	REV
2:1	A	002161	A

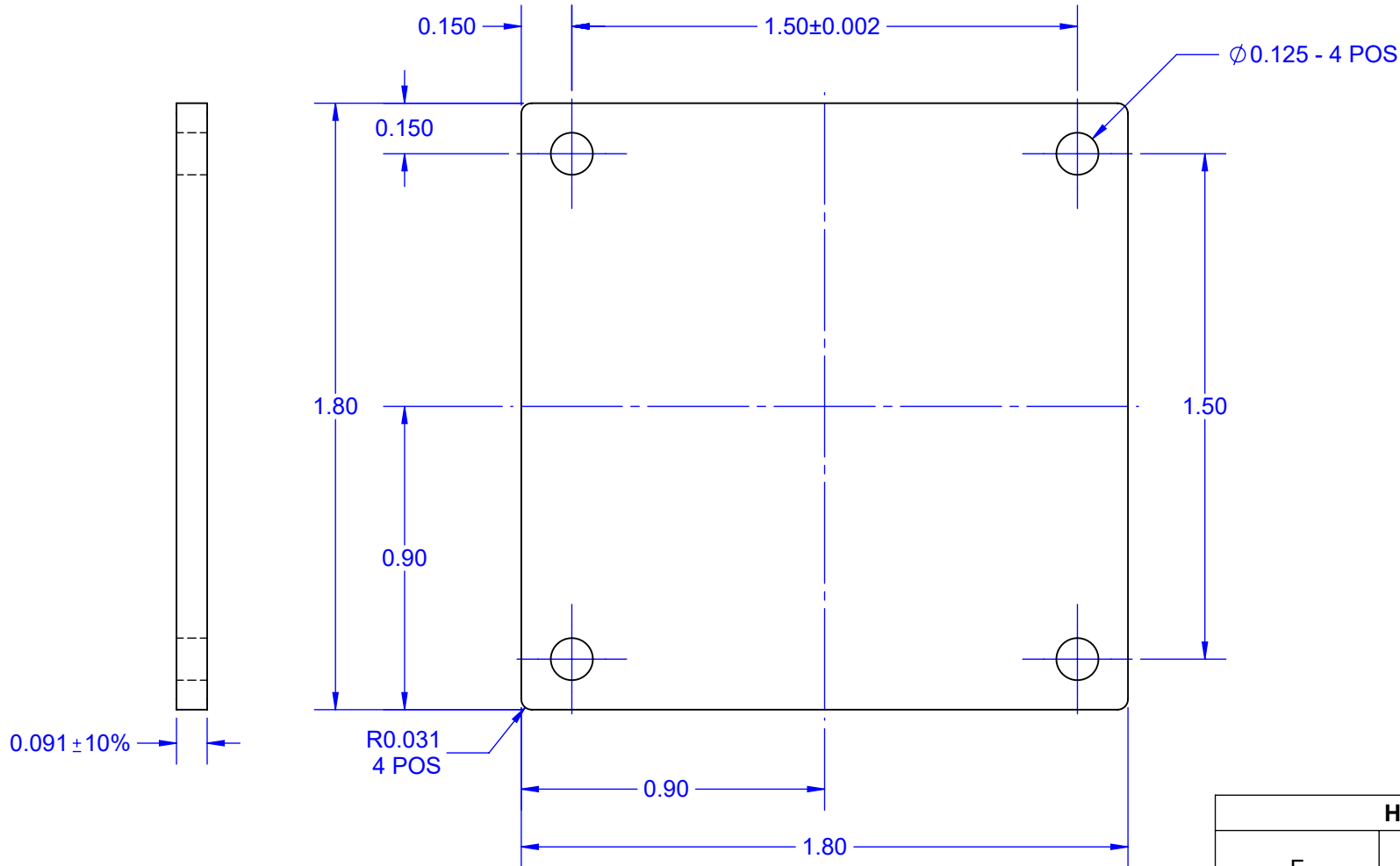
DO NOT SCALE DRAWING

SHEET 5 OF 11

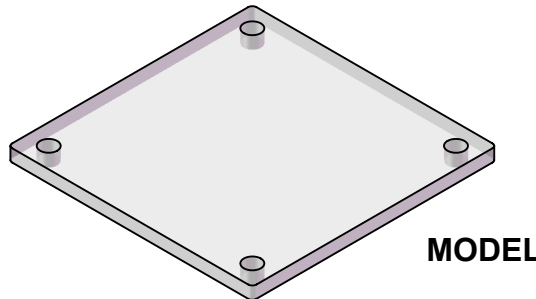
BOTTOM RETENTION PLATE

SIDE VIEW

TOP VIEW



HOLE CHART		
F	DIAMETER UNPLATED	QTY HOLES
+	$\phi 0.125$	4



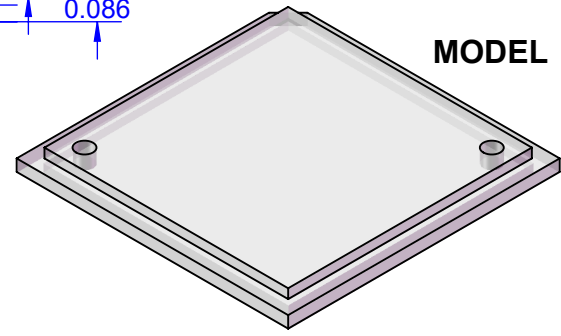
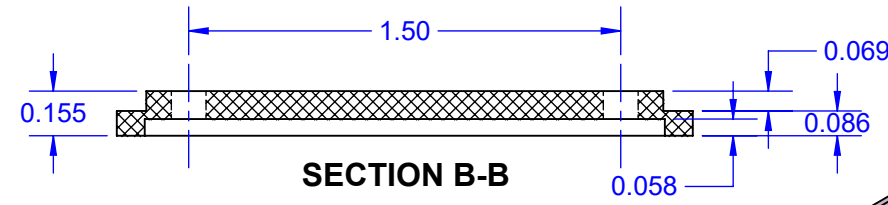
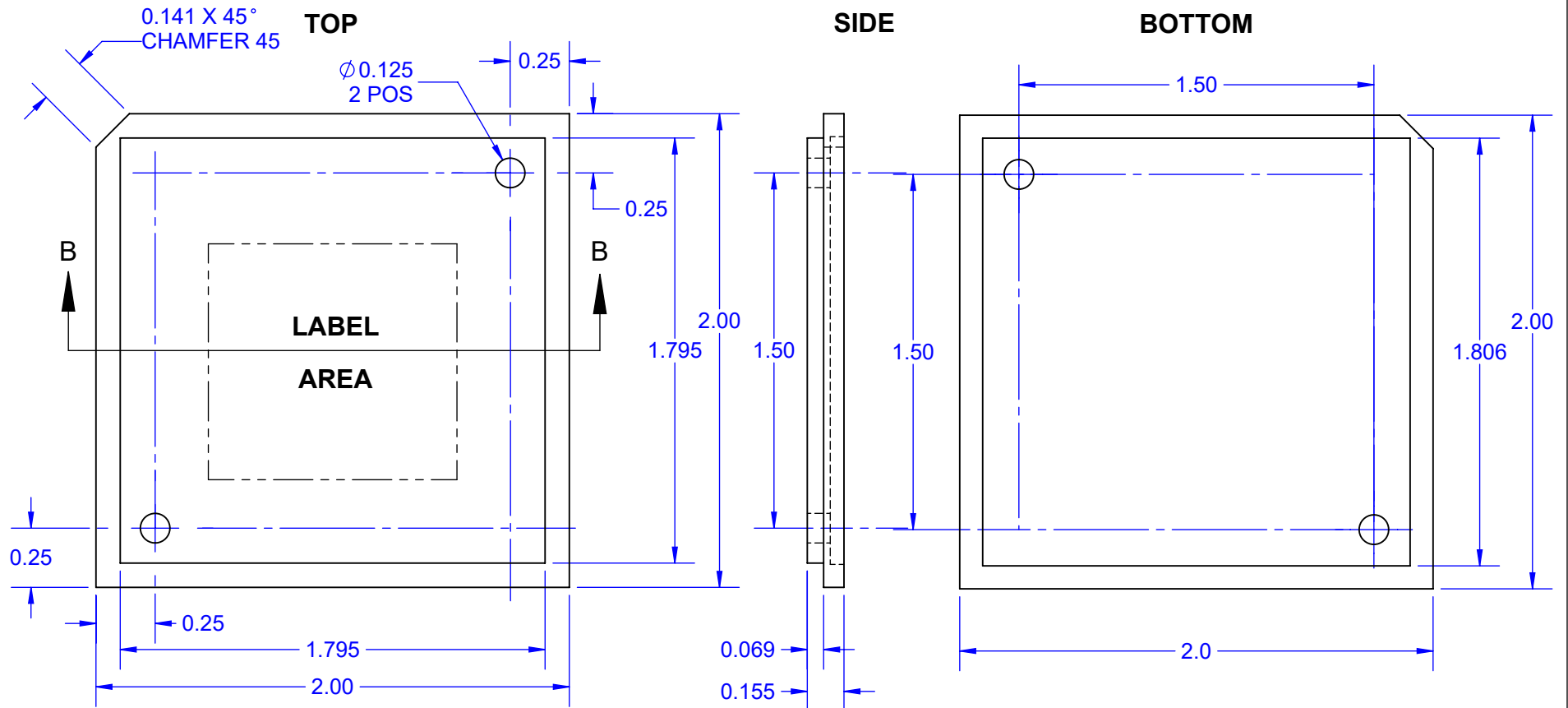
MODEL

NOTES: (Unless Otherwise Specified).

- 1) DIMENSIONS INCH.
- 2) MATERIAL: CLEAR PC-300 POLYCARBONATE.
- 3) STATIC DISIPATIVE $10^6 \sim 10^8 \Omega$. (ESD SAFE).
- 4) HOLE BREAK OUT ALLOWED.

TITLE			
FP1.8-BOTTOM-1.5B BOTTOM RETENTION PLATE			
SCALE	SIZE	DRAWING NO.	REV
2:1	A	001051	A
DO NOT SCALE DRAWING			SHEET 6 OF 11

COVER 001040 REV B



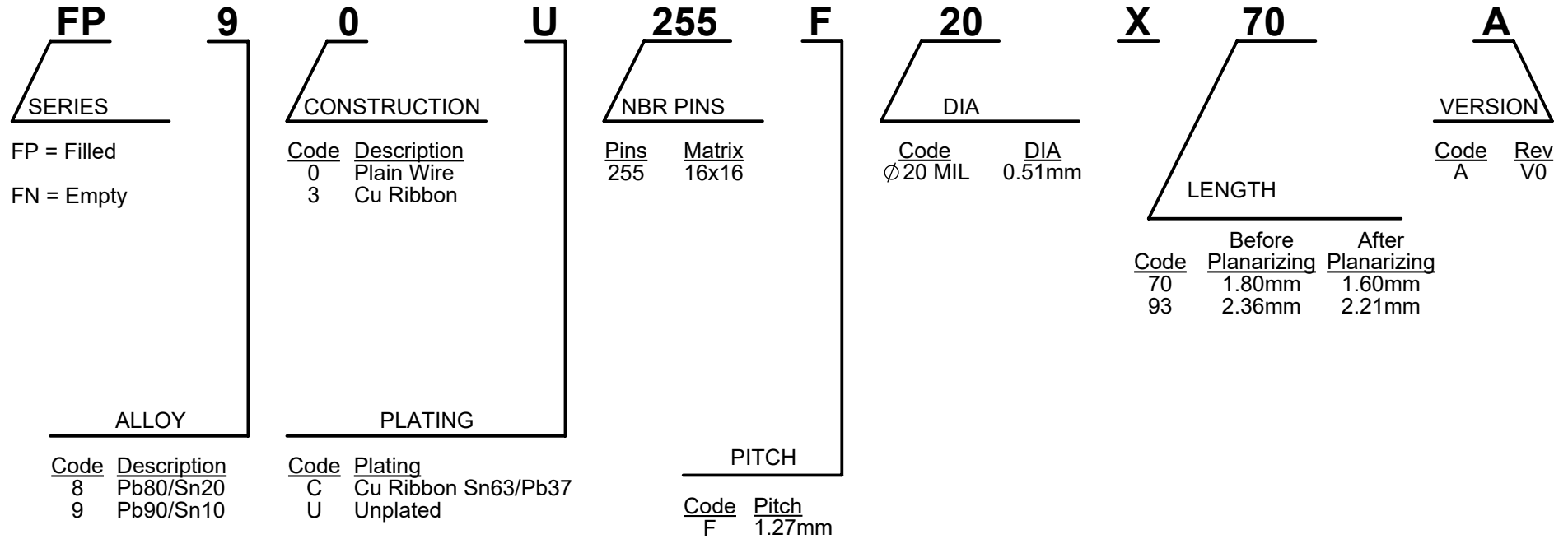
HOLE CHART		
SYMBOL	DIAMETER UNPLATED	QTY HOLES
+	Ø0.125	2

Notes: (Unless Otherwise Specified).

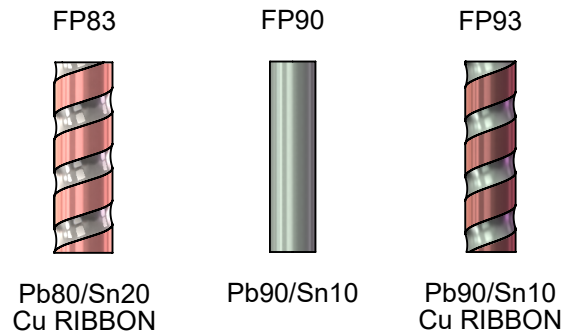
- 1) DIMENSIONS: INCH.
- 2) MATERIAL: TRANSPARENT PMMA PLASTIC.
- 3) ANTISTATIC: $10^{12} \Omega$ SURFACE RESISTANCE.

TopLine®			
TITLE FLIP-PACK® TOP COVER 2-INCH 1.50 SPACE			
SCALE 3:2	SIZE A	DRAWING NO. 001040	REV B
DO NOT SCALE DRAWING			SHEET 7 OF 11

FLIP-PACK® PART NUMBERING SYSTEM



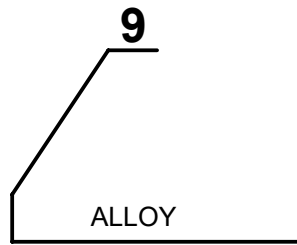
EXAMPLES OF COLUMNS



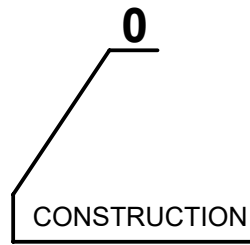
NOTE: COLUMN TO BE TRIMMED AFTER ATTACHMENT.

TopLine®			
TITLE FP255B FLIP-PACK® CCGA COLUMN CARRIER			
SCALE 14:1	SIZE A	DRAWING NO. 002161	REV A
DO NOT SCALE DRAWING			SHEET 8 OF 11

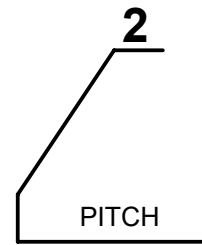
FLIP-PACK® DRAWING NUMBERING SYSTEM



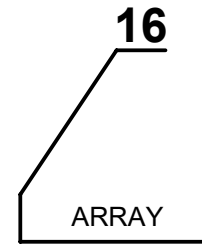
Code	Description
00	Empty
8	Pb80/Sn20
9	Pb90/Sn10



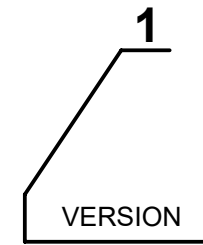
Code	Description
0	Plain Wire
3	Cu Ribbon



Code	Pitch
2	1.27mm



Code	Matrix
16	16x16



Code	Before	After
	Planarizing	Planarizing
1	1.80mm	1.60mm
0	2.36mm	2.21mm

DIAMETER ϕ 0.51mm

EXAMPLES OF COLUMNS

FP83



Pb80/Sn20
Cu RIBBON

FP90



Pb90/Sn10

FP93



Pb90/Sn10
Cu RIBBON

TopLine®

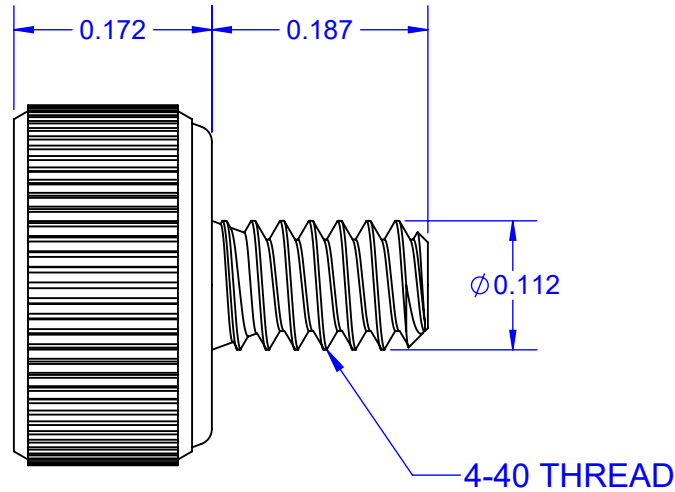
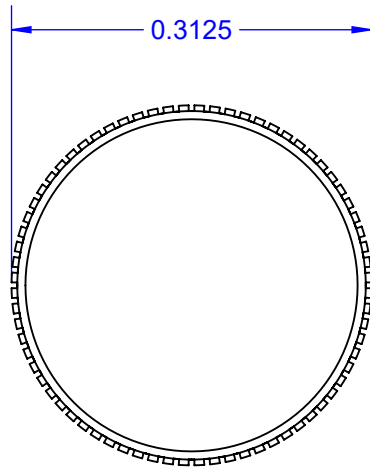
TITLE FP255B FLIP-PACK®
CCGA COLUMN CARRIER

SCALE 14:1	SIZE A	DRAWING NO. 002161	REV A
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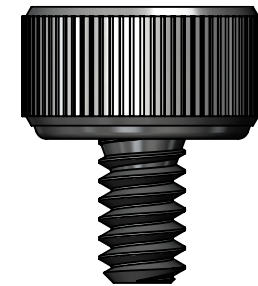
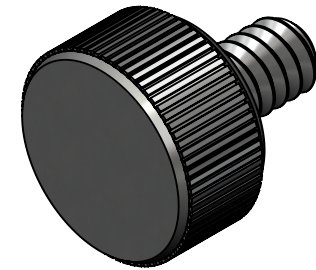
DO NOT SCALE DRAWING

SHEET 9 OF 11

HARDWARE PLASTIC KNURLED HEAD THUMB SCREW



MODELS



NOTES:

1. DIMENSIONS INCHES (UNLESS OTHERWISE SPECIFIED).
2. SHAFT MATERIAL 18-8 STAINLESS STEEL.
3. HEAD: PLASTIC.
4. COLOR: BLACK.

DRILL TABLE

HEAD COLOR	THREAD	MAX OD	TAP DRILL Start Hole	CL HOLE Loose Fit	L SHAFT	DWG
BLACK	4-40	0.112"	0.089"	0.136"	0.187	704018

TopLine®

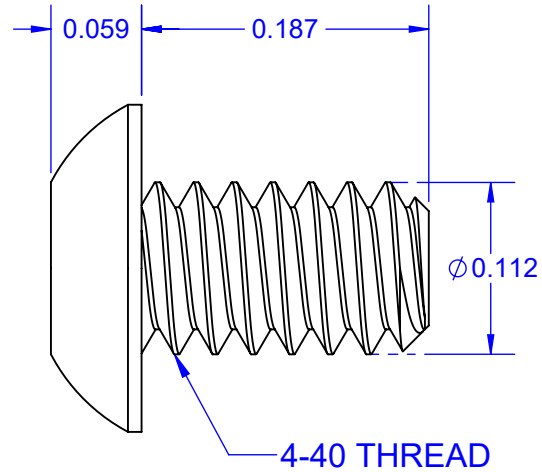
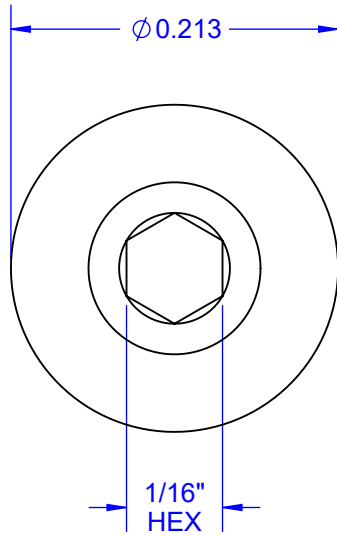
TITLE KNURL THUMB SCREW
4-40 PLASTIC HEAD

SCALE 6:1	SIZE A	DRAWING NO. 704018	REV A
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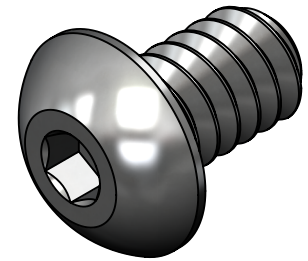
DO NOT SCALE DRAWING

SHEET 10 OF 11

BUTTON HEAD SCREW




MODELS



- NOTES: (UNLESS OTHERWISE SPECIFIED)
1. DIMENSIONS INCHES.
 2. MATERIAL: SEE TABLE.
 3. COLOR: SEE TABLE.

DRILL TABLE						
MATERIAL	COLOR	THREAD	MAX OD	TAP DRILL Start Hole	L	DWG
8-18	STAINLESS	4-40	0.112"	0.089"	0.187"	704035

			
TITLE BUTTON HEAD CAP SCREW 4-40x .187" (1/16 HEX)			
SCALE 8:1	SIZE A	DRAWING NO. 704035	REV A
DO NOT SCALE DRAWING			SHEET 11 OF 11