

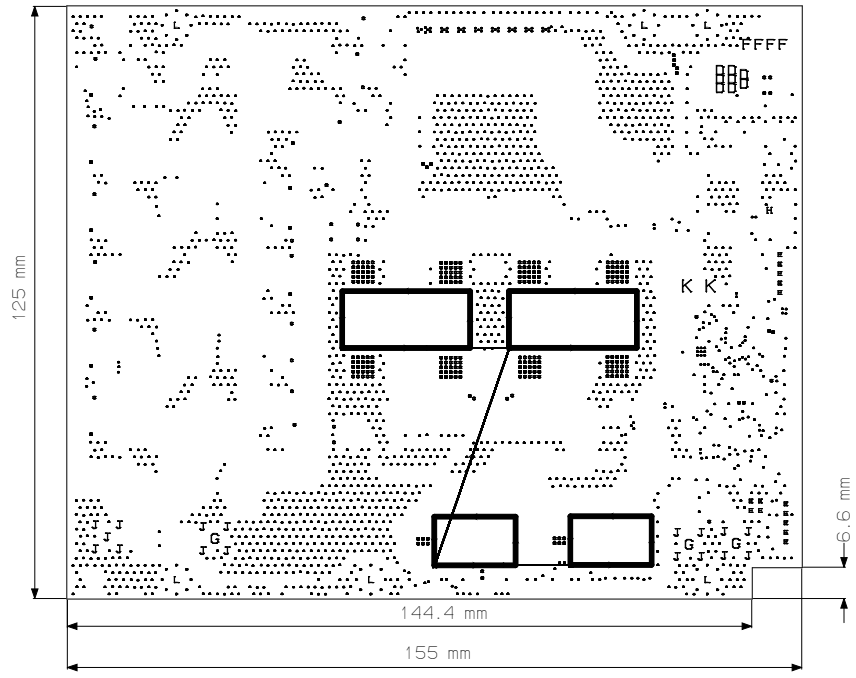
8 7 6 5 4 3 2 1

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

SHEET LEGEND:
 SHEET 1: Fabrication drawing
 SHEET 2: Layer 1(Top signal)
 SHEET 3: Layer 2(Bottom signal)
 SHEET 4: Top solder mask pattern
 SHEET 5: Bottom solder mask pattern
 SHEET 6: Top silkscreen pattern
 SHEET 7: Bottom silkscreen pattern
 SHEET 8: Top mask pattern
 SHEET 9: Bottom mask pattern
 SHEET 10: Assembly Top drawing
 SHEET 11: Assembly Bottom drawing
 SHEET 12: Mechanical drawing

Notes:

- Fabricate PCB in accordance with IPC-6012, Class 2; per IPC-6011.
- Materials:
 - Laminate and Prepreg (B-stage) to be in accordance with IPC-4101/21.
 - Copper foil to be in accordance with IPC-MF-150. Unless otherwise specified, all copper weight for inner signal layers and inner plane layers to be 70um (2 oz.). For outer layers 70um (2 oz + finished copper). Copper weight is to be considered 'finished'. The total thickness of PCB shall be 1.6 mm.
- All holes shall be located within 0.2 (0.008") Diameter of True Position. Layer to layer registration shall be within 0.125 (0.005").
- Finish:
 - All exposed conductive pattern areas not covered with solder mask or other plating shall be plated Electroless Nickel Immersion Gold (ENIG) per IPC-4552.
 - Apply liquid photo imageable solder mask (color black) per IPC-SM-840, class H, to both sides of the board over bare copper. Via holes covered with solder mask do not need to be plugged. Only solder mask images that are the same size as the component pads may be enlarged, and shall not be enlarged beyond 0.08 (0.003") per side or 0.15 (0.006") overall. All other solder mask images shall not be enlarged.
 - Silkscreen shall be white, permanent, organic, non-conductive ink. There shall be no silkscreen on any solderable component pad.
- Marking:
 - Board part number and revision letter is rendered in silkscreen on the top side of the board. Revision letter should be identical to this drawing.
 - UL logo, manufactures identification and date code letter shall be rendered in silkscreen on the bottom side of the board approximately where shown.
- Test requirements:
 - 100% net list electrical verification using customer supplied IPC-D-356 net list for opens and shorts.
 - The supplier may add thieving to compensate for low copper density areas on this design. Thieving shall not be added to within 3.8mm (0.150") minimum distance to any existing feature. There shall be no exposed thieving in any areas free of solder mask.



Through Holes						
Symbol	Dimension	Tolerance	Plated	Type	Quantity	Quantity
A	0.3128	Yes	Dr-11	Rad 0.0	206	206
B	0.3128	Yes	Dr-11	Rad 0.250 mm	48	
C	0.3030	Yes	Dr-11	Rad 0.0	271	
D	0.3029	Yes	Dr-11	Rad 0.250	6	
E	0.3115	Yes	Dr-11	Rad 0.0 mm	14	
F	0.3254	Yes	Dr-11	Rad 0.0	4	
G	0.3413	±0.0025	Yes	Dr-11 Thf 1.85 Hole dia., plated	4	
H	0.3472	Yes	Dr-11	Rad 0.0	3	
I	0.3462	Yes	Dr-11	Rad 1.25 mm	1	
J	0.3512	±0.0025	Yes	Dr-11 Thf 1.28 Hole dia., plated	3	
K	0.3538	Yes	Dr-11	Rad 1.0 mm	17	
L	0.3594	Yes	Dr-11	Rad 2.0 mm	2	
M	0.1228	Yes	Dr-11	Rad 0.1	6	
N	0.3594	Yes	Dr-11	Rad 0	4	

ERMAK

Fabrication drawing
Ermak-PA

SIZE A2	CAGE CODE	DWG NO.	REV 3.0
SCALE 2	SHEET 1 OF 11		

UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE IN MILLIMETERS
 TOLERANCES ON ANGLE ± .XX-
 ° PLACE Z X 11 PLACE Z X
 INTERPRET DIM AND TOL
 PER ASME Y14.5M - 1994

8 7 6 5 4 3 2 1

8

7

6

5

4

3

2

1

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

F

F

E

E

D

D

C

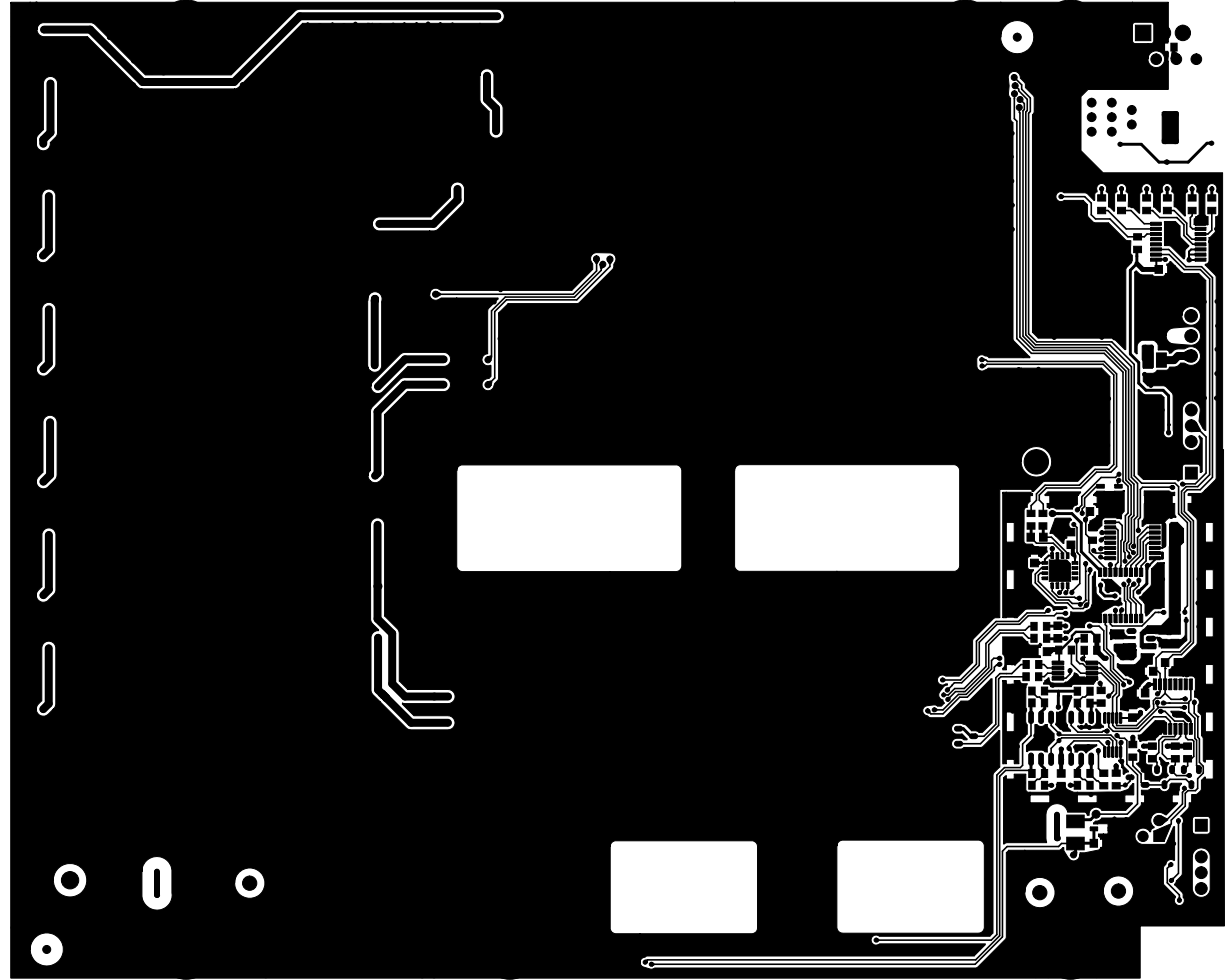
C

B

B

A

A



UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE IN MILLIMETERS
 TOLERANCES ON ANGLE ± .XX°
 Ø PLACE ± .X1 PLACE ± .X
 INTERPRET DIM AND TOL
 PER ASME Y14.5M - 1994

ERMAK			
Layer 1 (Top signal) ErmaK-PA			
SIZE A2	CAGE CODE 2	DWG NO. SHEET 2 OF 11	REV 3.0

8

7

6

5

4

3

2

1

8

7

6

5

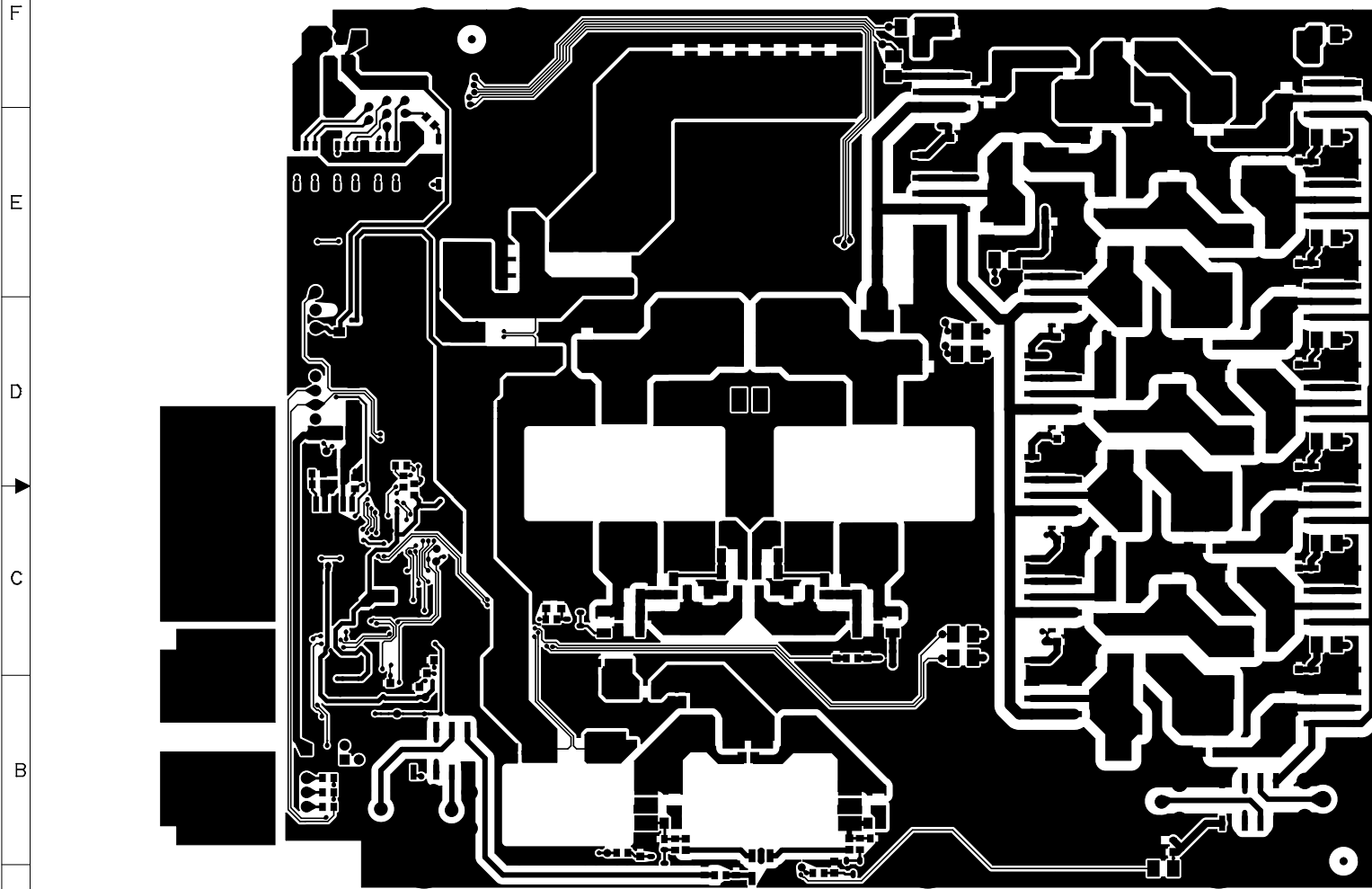
4

3

2

1

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED



ERMAK			
Layer 2 (Bottom signal) Ermak-PA			
SIZE A2	CAGE CODE	DWG NO.	REV 3.0
SCALE 2	SHEET 3 OF 11		1

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MILLIMETERS
TOLERANCES ON ANGLE 2° XX-
0° PLACE 2 X 1° PLACE 2 X
INTERPRET DIM AND TOL
PER ASME Y14.5M - 1994

8

7

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4

3

2

1

A

B

C

D

E

F

A

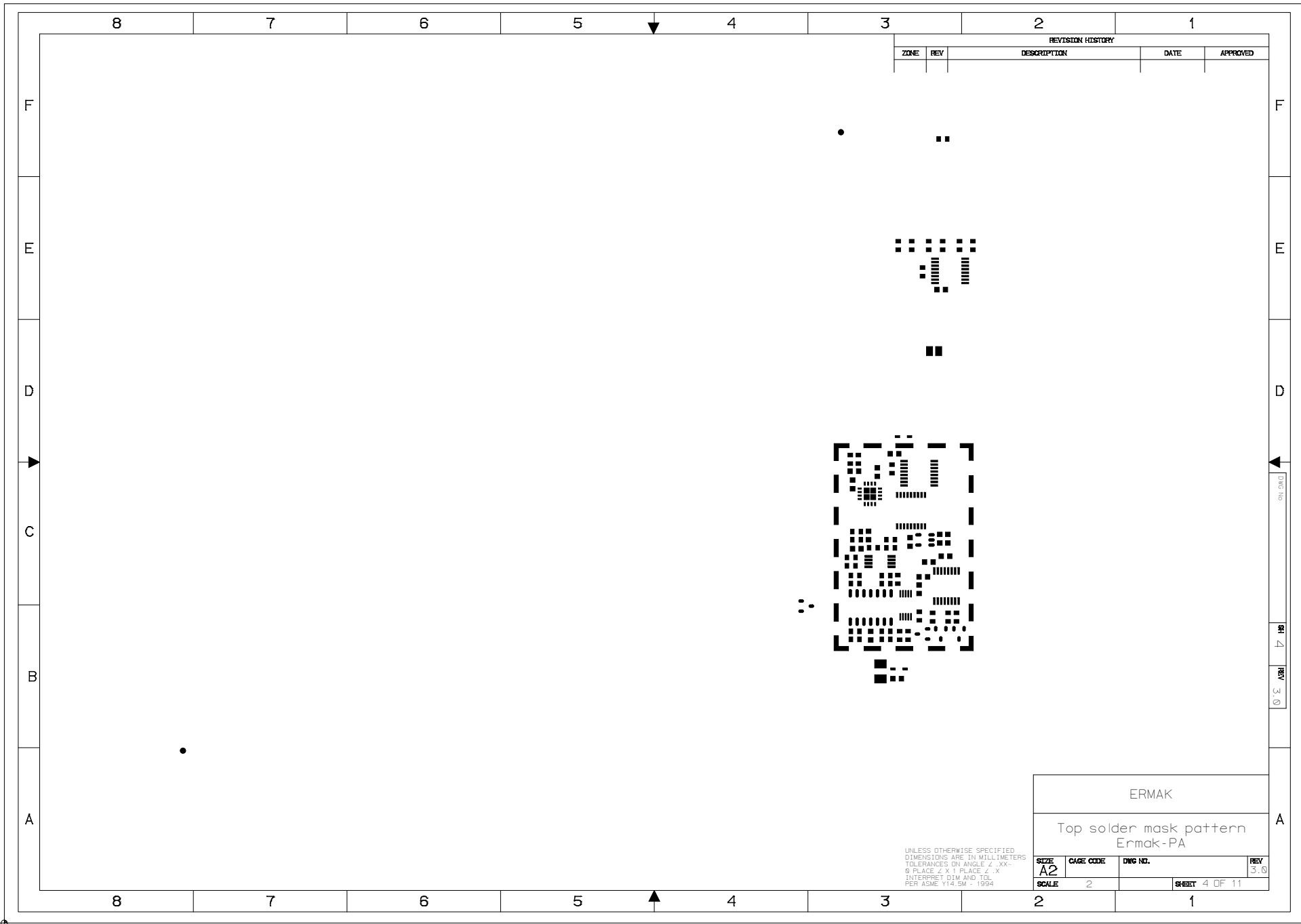
B

C

D

E

F



8

7

6

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4

3

2

1

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

F

F

E

E

D

D

C

C

B

B

A

A



ERMAK			
Bottom solder mask pattern Ermak-PA			
SIZE A2	CAGE CODE 2	DWG NO. SHEET 5 OF 11	REV 3.0

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MILLIMETERS
TOLERANCES ON ANGLE ± .XX°
Ø PLACE ± X.Y PLACE ± X
INTERPRET DIM AND TOL
PER ASME Y14.5M - 1994

8

7

6

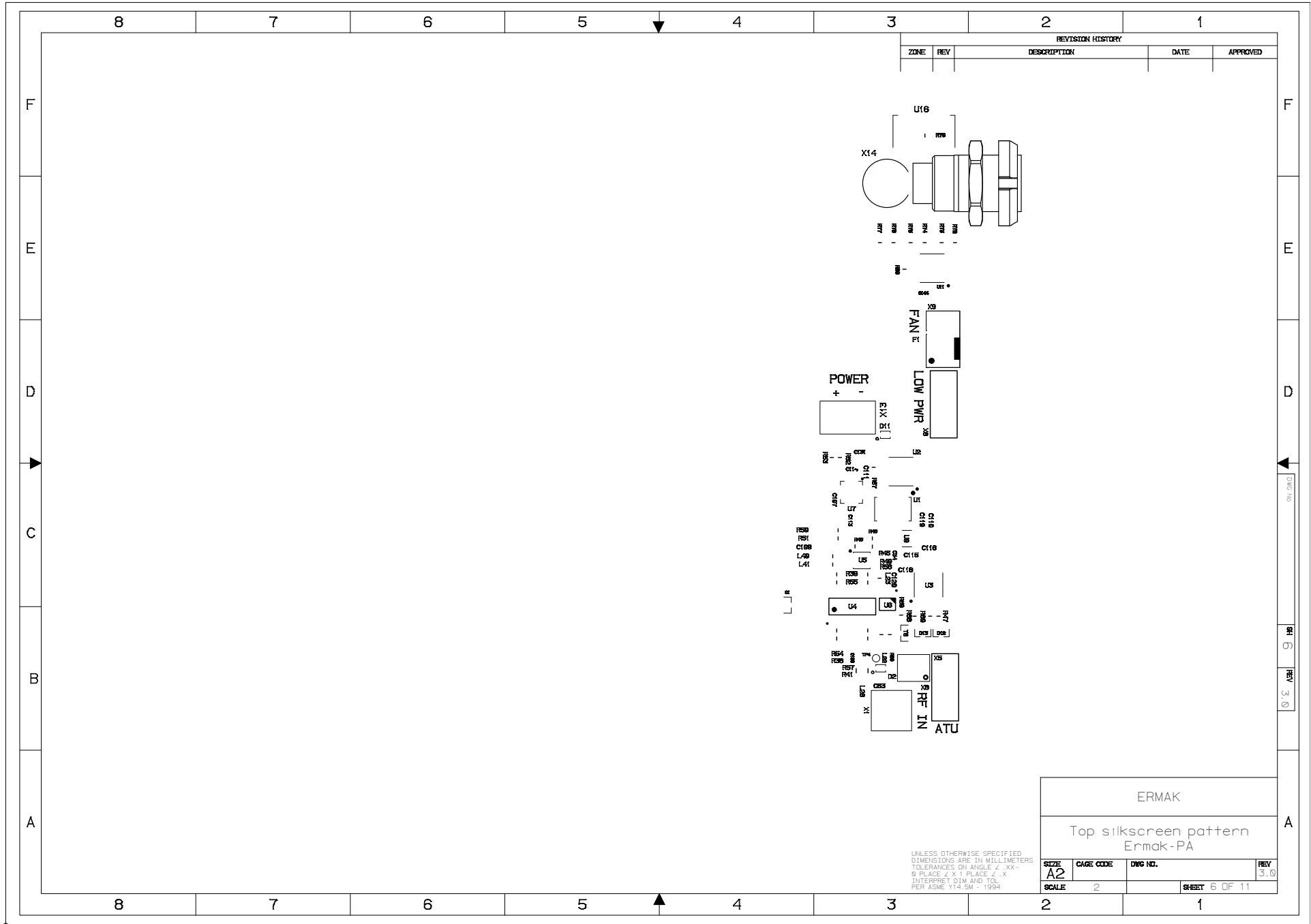
5

4

3

2

1

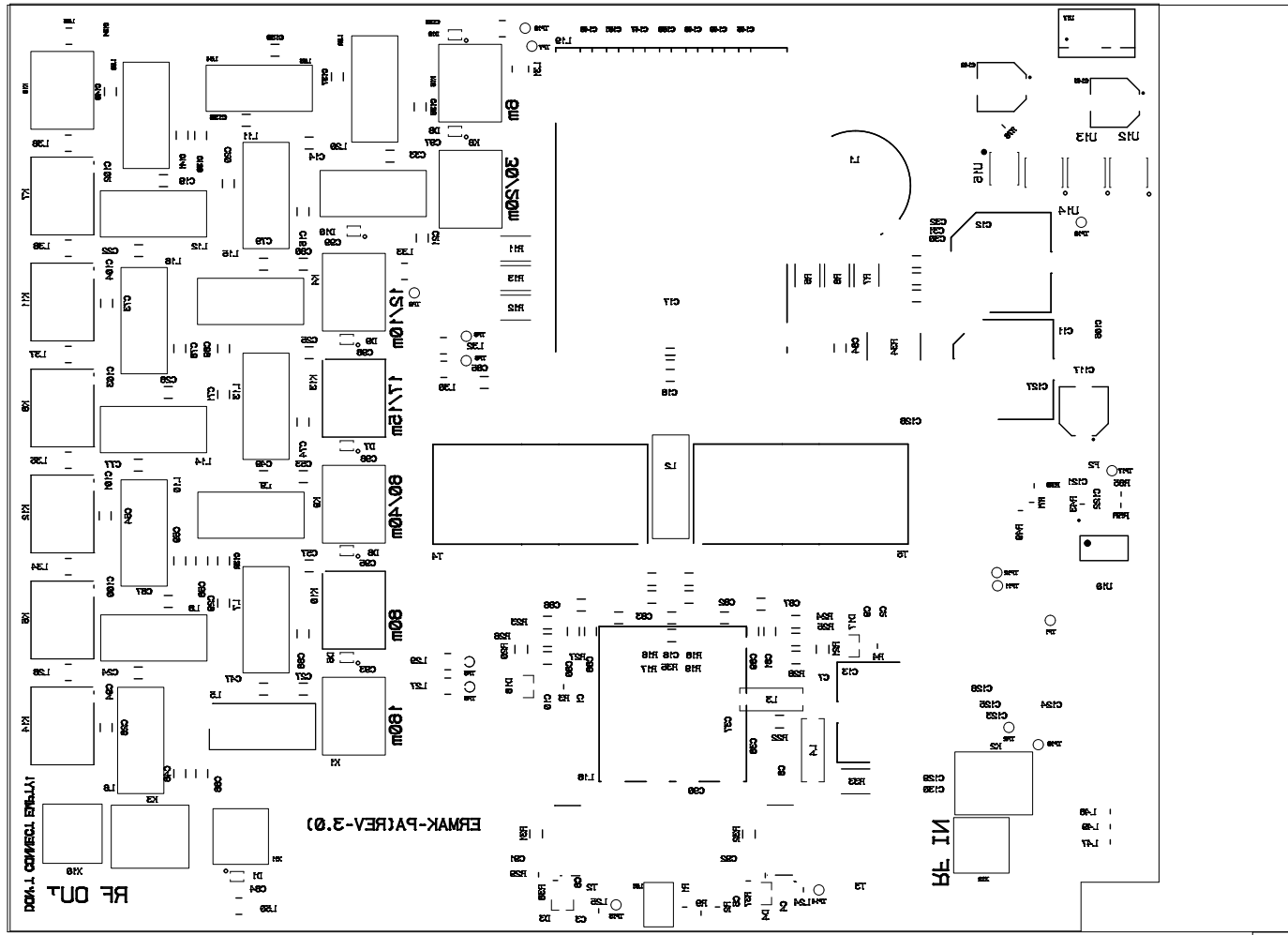


REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

ERMAK			
Top silkscreen pattern Ermak-PA			
SIZE A2	CAGE CODE 2	DWG NO. SHEET 6 OF 11	REV 3.0

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MILLIMETERS
TOLERANCES ON ANGLE ± .XX°
Ø PLACE ± .X1 PLACE ± .X
INTERPRET DIM AND TOL
PER ASME Y14.5M - 1994

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED



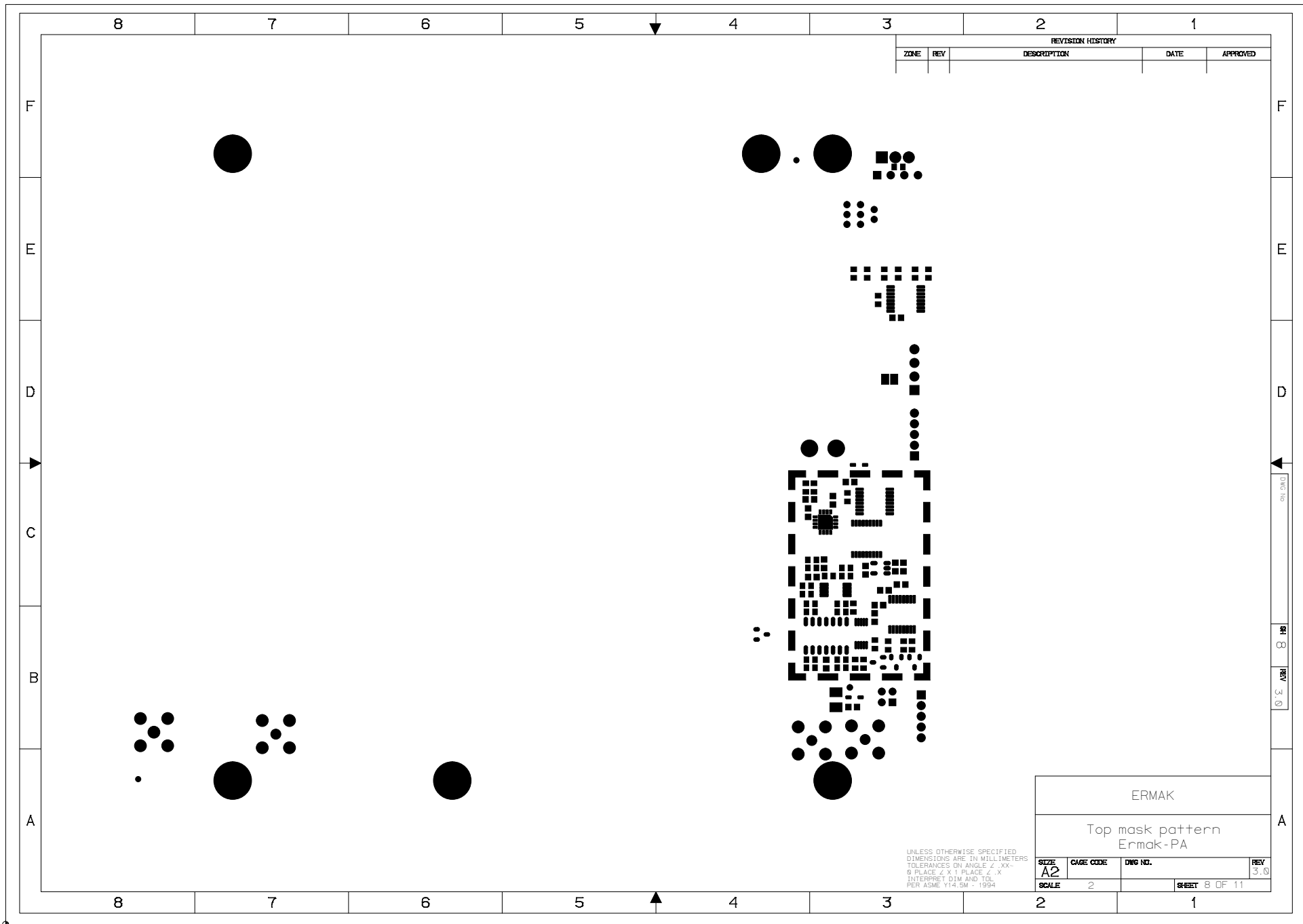
REF. OUT.
 DON'T COMMENT TYPING

ERMAK-PA(REV-2.0)

ERMAK			
Bottom silkscreen pattern Ermak-PA			
SIZE A2	CAGE CODE 2	DWG. NO. SHEET 7 OF 11	REV 3.0

UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE IN MILLIMETERS
 TOLERANCES ON ANGLE 2° XX-
 0 PLACE 2 X 1 PLACE 2 X
 INTERPRET DIM AND TOL
 PER ASME Y14.5M - 1994

Grid labels: 8, 7, 6, 5, 4, 3, 2, 1 (horizontal); F, E, D, C, B, A (vertical)



REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

DWG No

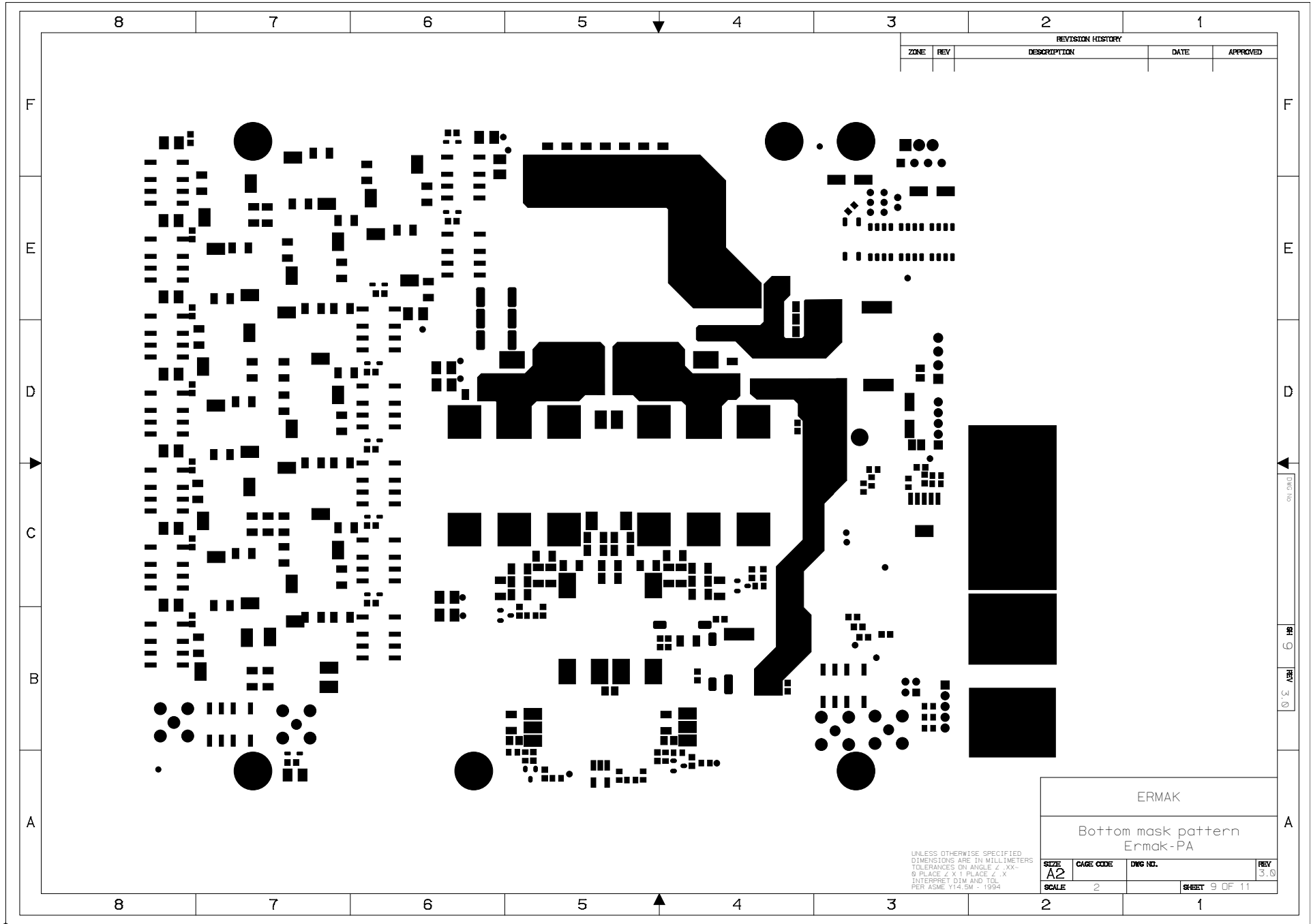
REV

REV

3.0

ERMAK			
Top mask pattern Ermak-PA			
SIZE A2	CAGE CODE 2	DWG NO. SHEET 8 OF 11	REV 3.0

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MILLIMETERS
TOLERANCES ON ANGLE ± .XX°
Ø PLACE ± .X ± PLACE ± .X
INTERPRET DIM AND TOL
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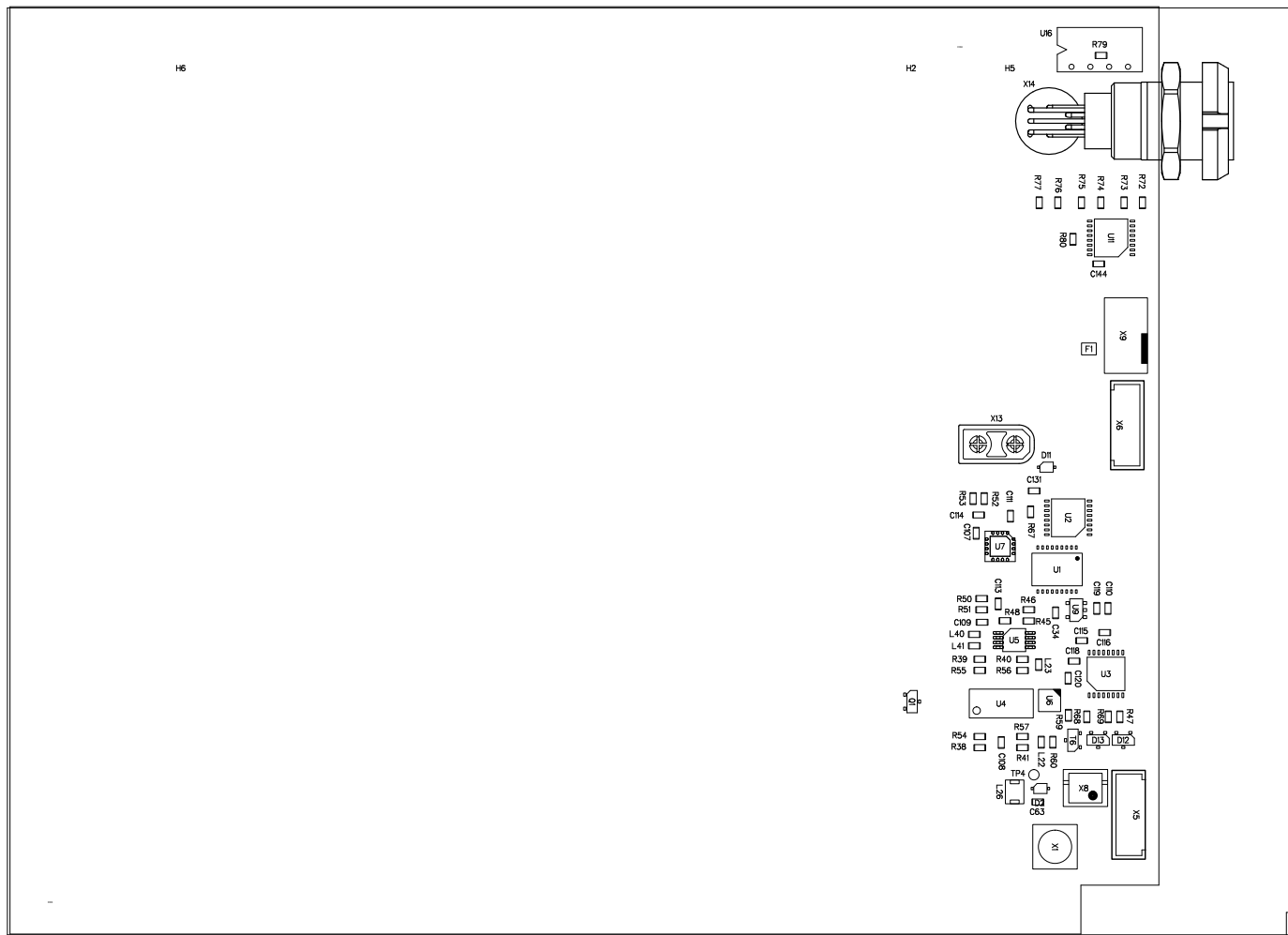
REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

ERMAK			
Bottom mask pattern ErmaK-PA			
SIZE A2	CAGE CODE 2	DWG NO. SHEET 9 OF 11	REV 3.0

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MILLIMETERS
TOLERANCES ON ANGLE ± .XX°
Ø PLACE Z X .1 PLACE Z X
INTERPRET DIM AND TOL
PER ASME Y14.5M - 1994

8 7 6 5 4 3 2 1

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED



F
E
D
C
B
A

F
E
D
C
B
A

ERMAK			
Assembly Top drawing Ermak-PA			
SIZE A2	CAGE CODE 2	DWG NO. SHEET 10 OF 11	REV 3.0

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MILLIMETERS
TOLERANCES ON ANGLE ± .XX°
Ø PLACE ± X.1 PLACE ± X
INTERPRET DIM AND TOL
PER ASME Y14.5M - 1994

8 7 6 5 4 3 2 1

