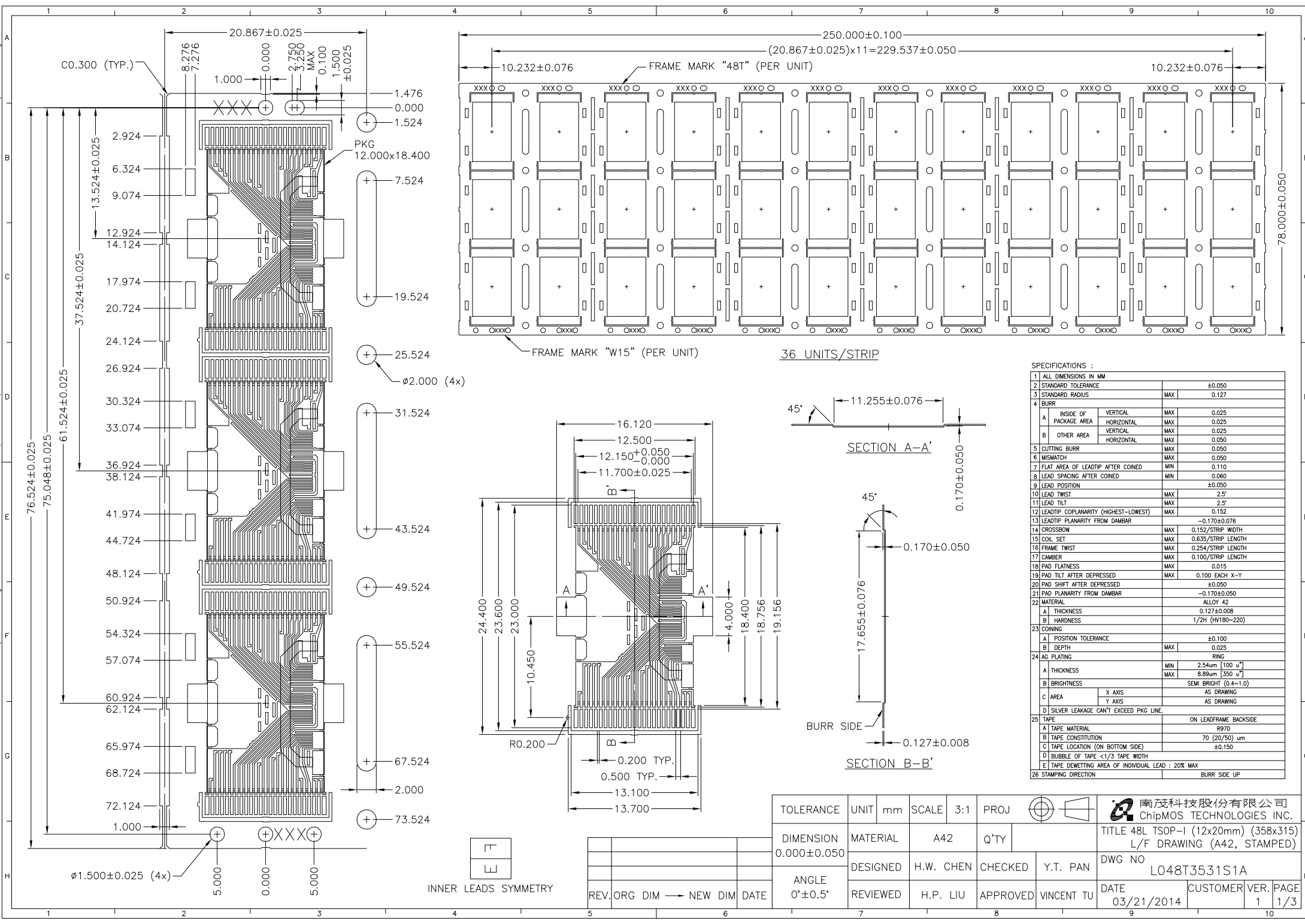


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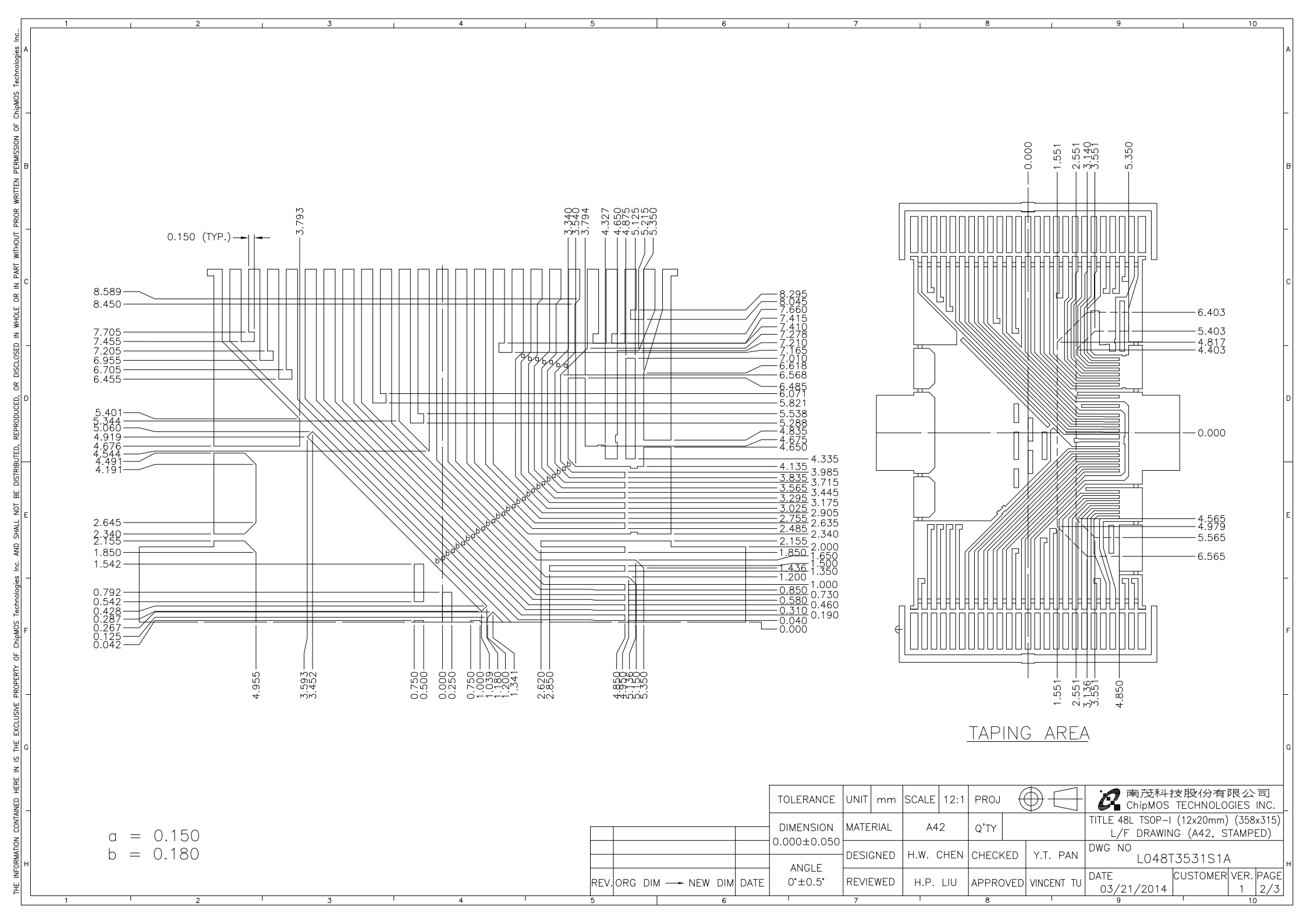
SPECIFICATIONS :

1	ALL DIMENSIONS IN MM				
2	STANDARD TOLERANCE				±0.050
3	STANDARD RADIUS		MAX		0.127
4	BURR	INSIDE OF PACKAGE AREA	VERTICAL	MAX	0.025
			HORIZONTAL	MAX	0.025
B	OTHER AREA		VERTICAL	MAX	0.025
			HORIZONTAL	MAX	0.050
5	CUTTING BURR		MAX		0.050
6	MISMATCH		MAX		0.050
7	FLAT AREA OF LEAD TIP AFTER COINED		MIN		0.110
8	LEAD SPACING AFTER COINED		MIN		0.060
9	LEAD POSITION				±0.050
10	LEAD TWIST		MAX		2.5°
11	LEAD TILT		MAX		2.5°
12	LEAD TIP COPLANARITY (HIGHEST-LOWEST)		MAX		0.152
13	LEAD TIP PLANARITY FROM DAMBAR				-0.170±0.076
14	CROSSBOW		MAX		0.152/STRIP WIDTH
15	COIL SET		MAX		0.635/STRIP LENGTH
16	FRAME TWIST		MAX		0.254/STRIP LENGTH
17	CAMBER		MAX		0.100/STRIP LENGTH
18	PAD FLATNESS		MAX		0.015
19	PAD TILT AFTER DEPRESSED		MAX		0.100 EACH X-Y
20	PAD SHIFT AFTER DEPRESSED				±0.050
21	PAD PLANARITY FROM DAMBAR				-0.170±0.050
22	MATERIAL				ALLOY 42
A	THICKNESS				0.127±0.008
B	HARDNESS				1/2H (HV180~220)
23	COINING				
A	POSITION TOLERANCE				±0.100
B	DEPTH		MAX		0.025
24	AG PLATING				RING
A	THICKNESS	MIN			2.54um [100 u"]
		MAX			8.89um [350 u"]
B	BRIGHTNESS				SEMI BRIGHT (0.4~1.0)
C	AREA	X AXIS			AS DRAWING
		Y AXIS			AS DRAWING
D	SILVER LEAKAGE CANT EXCEED PKG LINE.				
25	TAPE				ON LEADFRAME BACKSIDE
A	TAPE MATERIAL				R970
B	TAPE CONSTITUTION				70 (20/50) um
C	TAPE LOCATION (ON BOTTOM SIDE)				±0.150
D	BUBBLE OF TAPE <1/3 TAPE WIDTH				
E	TAPE DOWETTING AREA OF INDIVIDUAL LEAD : 20% MAX				
26	STAMPING DIRECTION				BURR SIDE UP

TOLERANCE	UNIT	mm	SCALE	3:1	PROJ	南茂科技股份有限公司 ChipMOS TECHNOLOGIES INC.		
DIMENSION	MATERIAL	A42	Q'TY			TITLE 48L TSOP-I (12x20mm) (35x315) L/F DRAWING (A42, STAMPED)		
0.000±0.050	DESIGNED	H.W. CHEN	CHECKED	Y.T. PAN		DWG NO L048T3531S1A		
ANGLE	REVIEWED	H.P. LIU	APPROVED	VINCENT TU		DATE	CUSTOMER	VER. PAGE
0°±0.5°						03/21/2014		1 1/3

INNER LEADS SYMMETRY

REV.	ORG	DIM	NEW DIM	DATE



0.150 (TYP.)

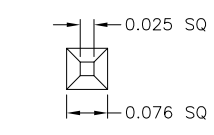
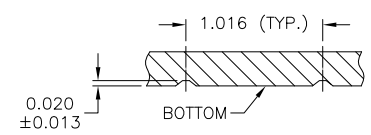
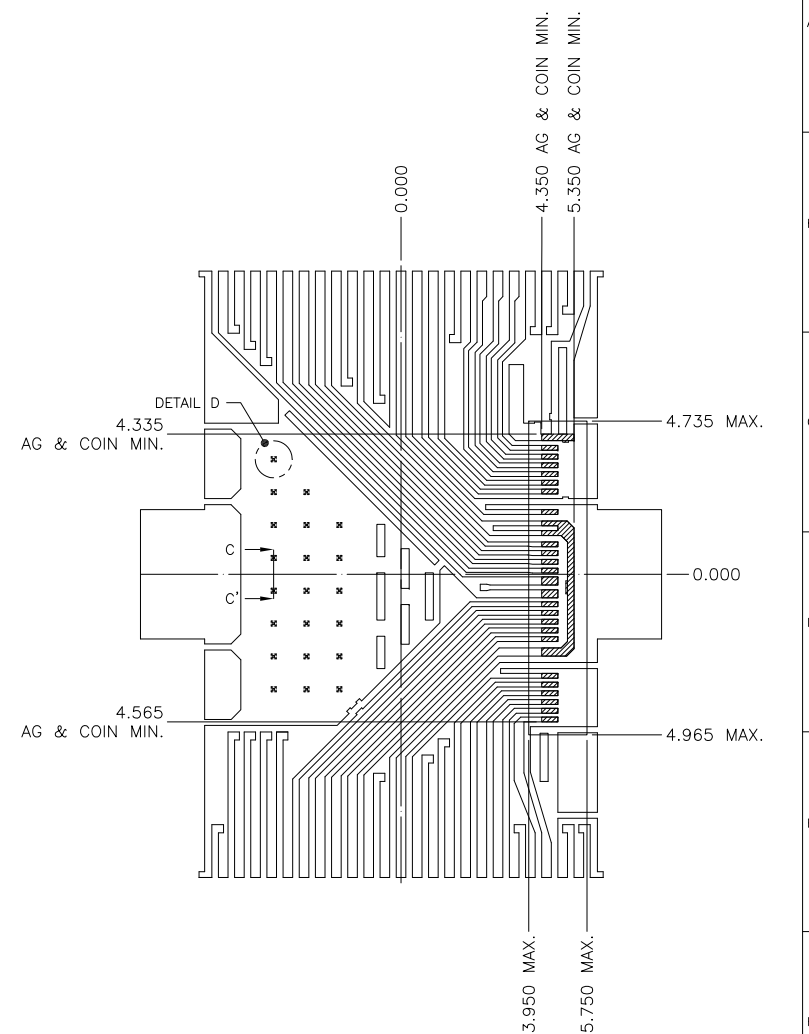
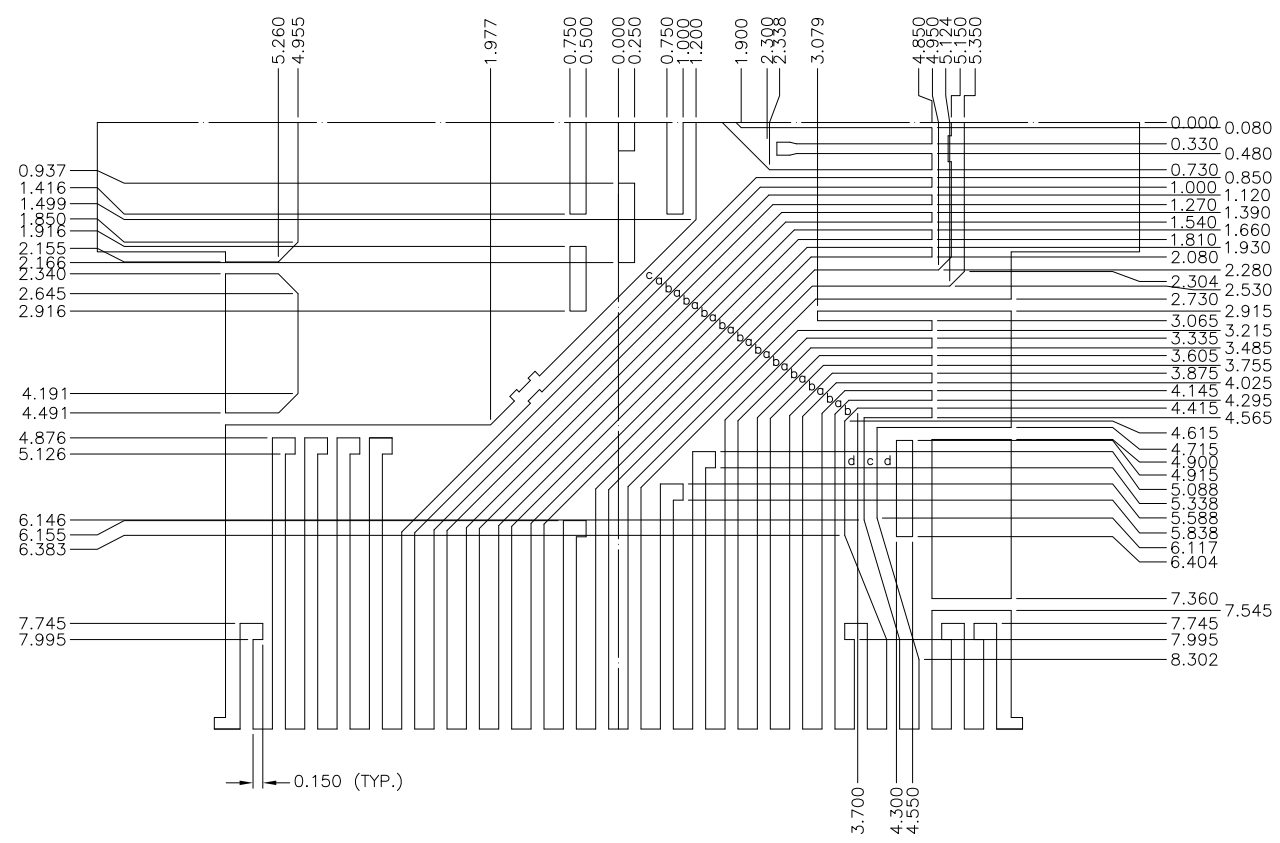
TAPING AREA

a = 0.150
b = 0.180

REV.	ORG	DIM	→	NEW DIM	DATE

TOLERANCE	UNIT	mm	SCALE	12:1	PROJ			南茂科技股份有限公司 ChipMOS TECHNOLOGIES INC.
DIMENSION	MATERIAL	A42	Q'TY				TITLE 48L TSOP-I (12x20mm) (35x315) L/F DRAWING (A42, STAMPED)	
0.000±0.050	DESIGNED	H.W. CHEN	CHECKED	Y.T. PAN	DWG NO		L048T3531S1A	
ANGLE	REVIEWED	H.P. LIU	APPROVED	VINCENT TU	DATE	CUSTOMER	VER.	PAGE
0°±0.5°					03/21/2014		1	2/3

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PLATING & BACKSIDE DIMPLE
 MIN. PLATING & COIN AREA

- a = 0.150
- b = 0.180
- c = 0.200
- d = 0.300

REV.	ORG DIM	NEW DIM	DATE

TOLERANCE	UNIT	mm	SCALE	12:1	PROJ		南茂科技股份有限公司 ChipMOS TECHNOLOGIES INC.	
DIMENSION	MATERIAL	A42	Q'TY	TITLE 48L TS0P-I (12x20mm) (35x315) L/F DRAWING (A42, STAMPED)				
0.000±0.050	DESIGNED	H.W. CHEN	CHECKED	Y.T. PAN	DWG NO L048T3531S1A			
ANGLE	REVIEWED	H.P. LIU	APPROVED	VINCENT TU	DATE	CUSTOMER	VER.	PAGE
0°±0.5°					03/21/2014		1	3/3