FIG. 1

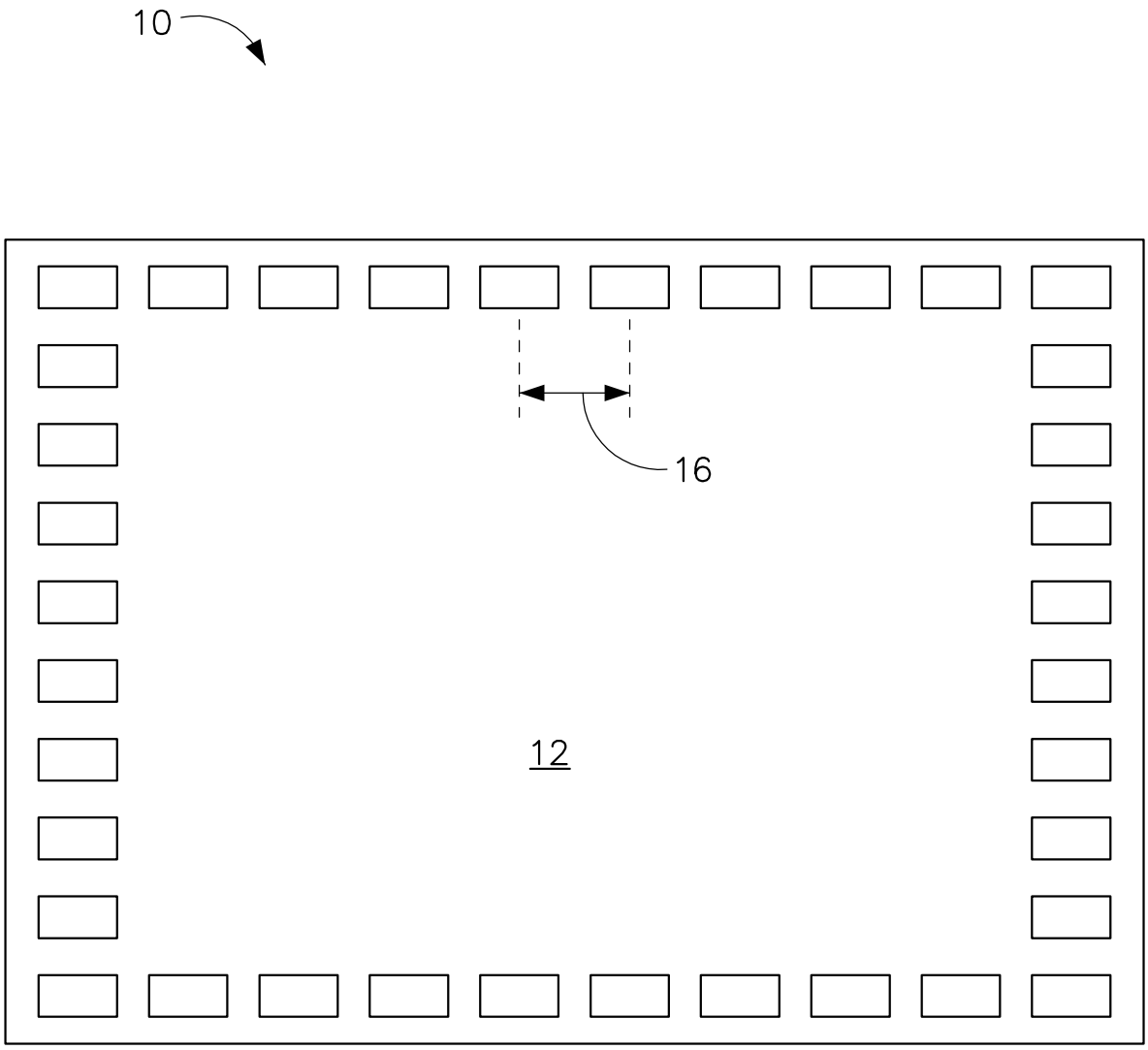


FIG. 2

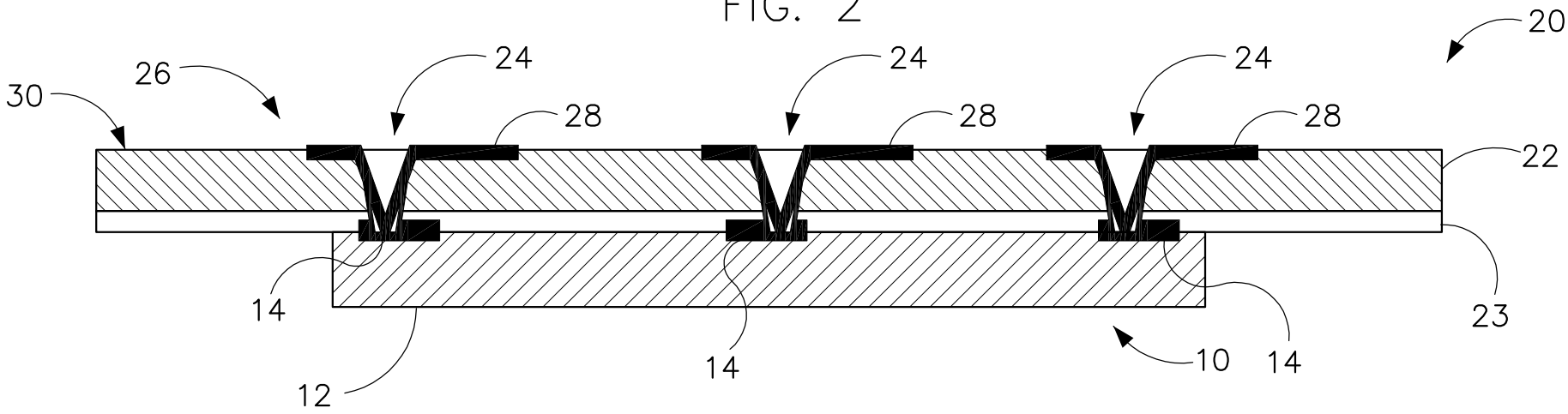

20
26
30
24
24
24
28
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22
14
14
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12
10
14

FIG. 3

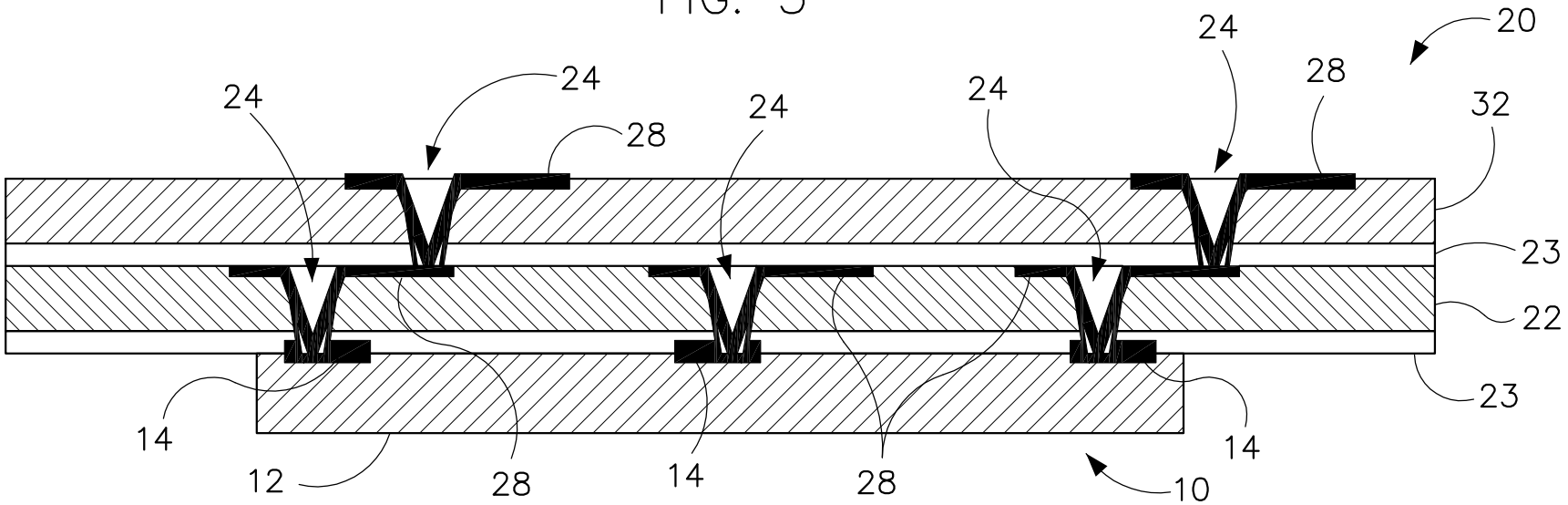

20
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24
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FIG. 4

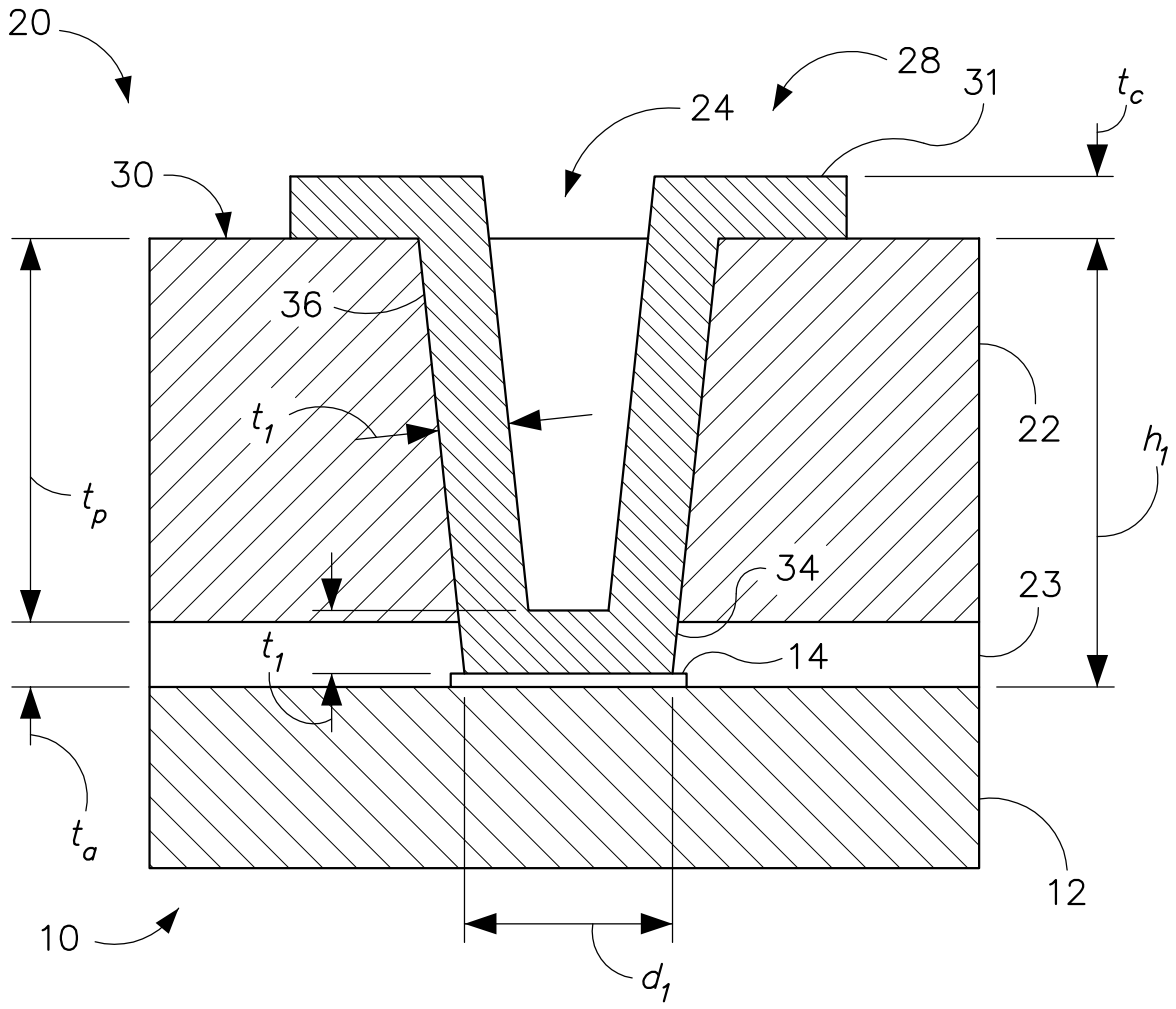


FIG. 5

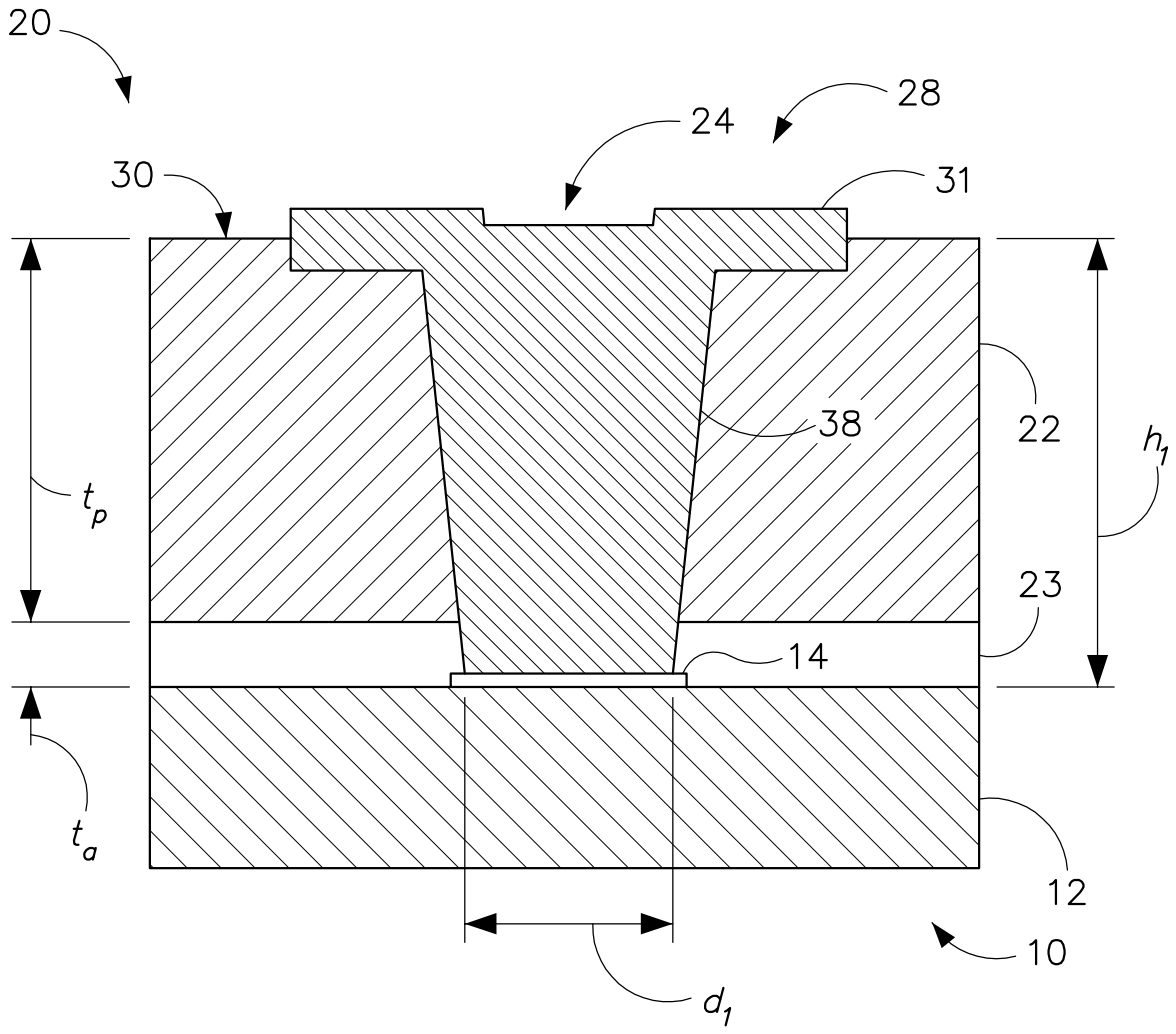


FIG. 6A

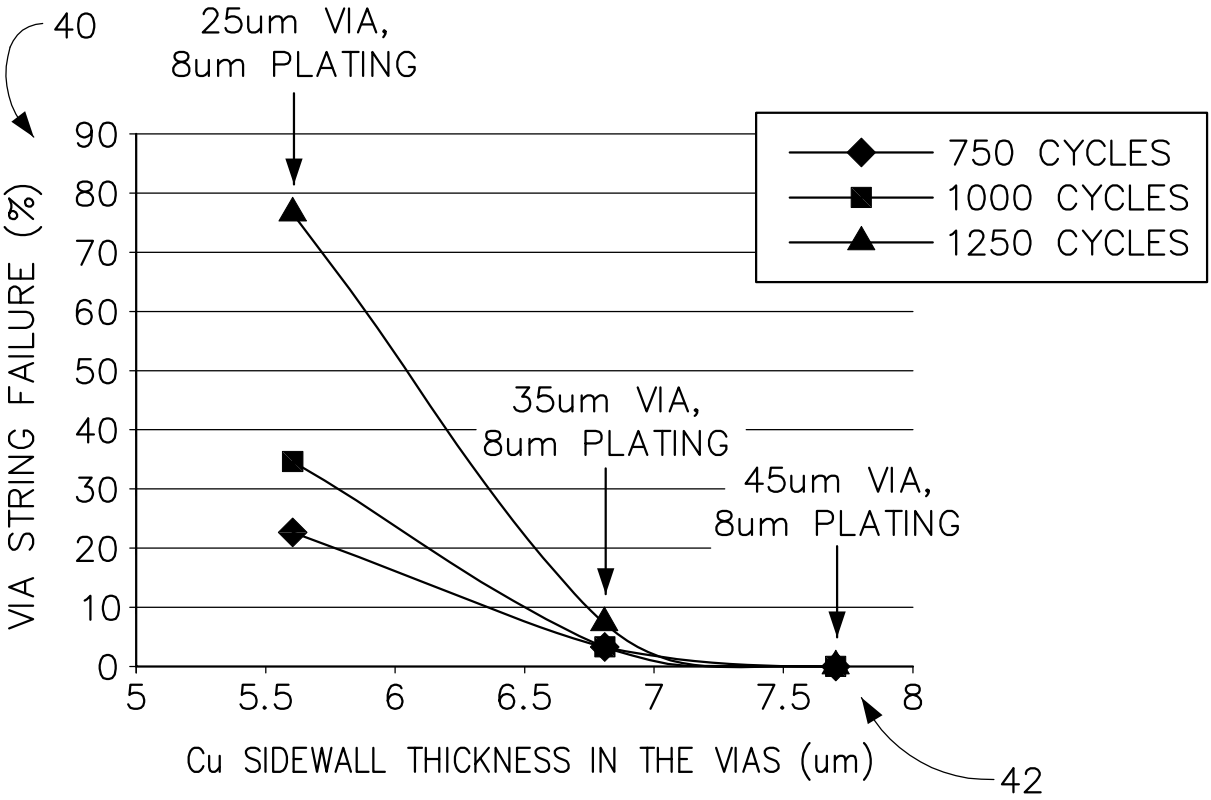
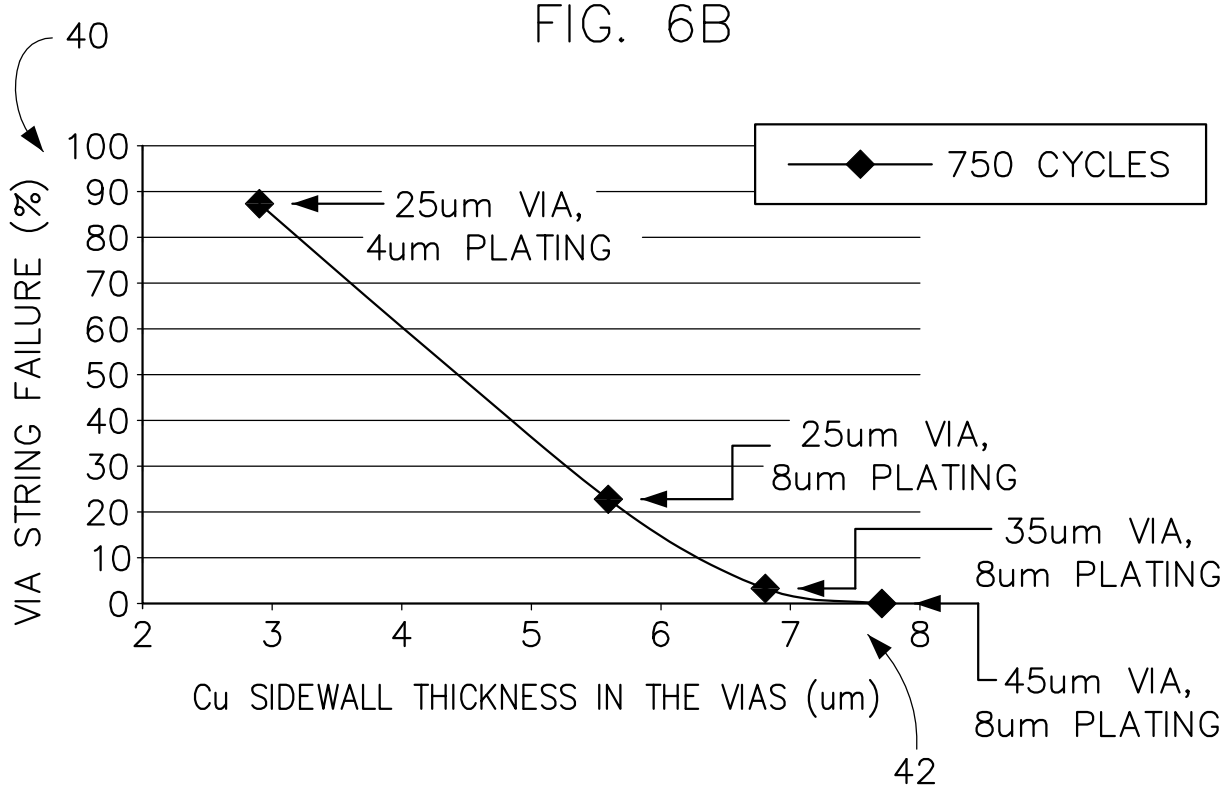

40
25um VIA,
8um PLATING
750 CYCLES
1000 CYCLES
1250 CYCLES
VIA STRING FAILURE (%)
90
80
70
60
50
40
30
20
10
0
35um VIA,
8um PLATING
45um VIA,
8um PLATING
5
5.5
6
6.5
7
7.5
8
Cu SIDEWALL THICKNESS IN THE VIAS (um)
42

FIG. 6B


40
750 CYCLES
VIA STRING FAILURE (%)
100
90
80
70
60
50
40
30
20
10
0
25um VIA,
4um PLATING
25um VIA,
8um PLATING
35um VIA,
8um PLATING
45um VIA,
8um PLATING
2
3
4
5
6
7
8
Cu SIDEWALL THICKNESS IN THE VIAS (um)
42