



Engineering Stackup & Impedance

Stackup Information:

No	StackUp	Foil	Thickness
L1		1_PT_1.5 OZ	
		106(72%)+106(72%)R-5620S	0.099 mm Dk:3.38
L2		0.2mm(0.5/0.5 oz)(Exclude Copper)R-5725S	Dk:3.83
L3			
		1080(65%)+1080(65%)R-5620S	0.137 mm Dk:3.6
L4		0.2mm(0.5/0.5 oz)(Exclude Copper)R-5725S	Dk:3.83
L5			
		106(72%)+1080(65%)R-5620S	0.112 mm Dk:3.49
L6		0.1mm(0.5/0.5 oz)(Exclude Copper)R-5725S	Dk:3.86
L7			
		106(72%)+1080(65%)R-5620S	0.111 mm Dk:3.49
L8		0.08mm(0.5/1 oz)(Exclude Copper)R-5725S	Dk:3.6
L9			
		106(72%)+106(72%)R-5620S	0.087 mm Dk:3.38
L10		0.08mm(1/0.5 oz)(Exclude Copper)R-5725S	Dk:3.6
L11			
		1080(65%)+106(72%)R-5620S	0.12 mm Dk:3.49
L12		0.1mm(0.5/0.5 oz)(Exclude Copper)R-5725S	Dk:3.86
L13			
		1080(65%)+106(72%)R-5620S	0.111 mm Dk:3.49
L14		0.2mm(0.5/0.5 oz)(Exclude Copper)R-5725S	Dk:3.83
L15			
		1080(65%)+1080(65%)R-5620S	0.136 mm Dk:3.6
L16		0.2mm(0.5/0.5 oz)(Exclude Copper)R-5725S	Dk:3.83
L17			
		106(72%)+106(72%)R-5620S	0.099 mm Dk:3.38
L18		1_PT_1.5 OZ	

FinishBoardThickness:	2.65(+0.265/-0.265)MM
PressBoardThickness:	2.557(±0.08)MM
ReMark:	08072024

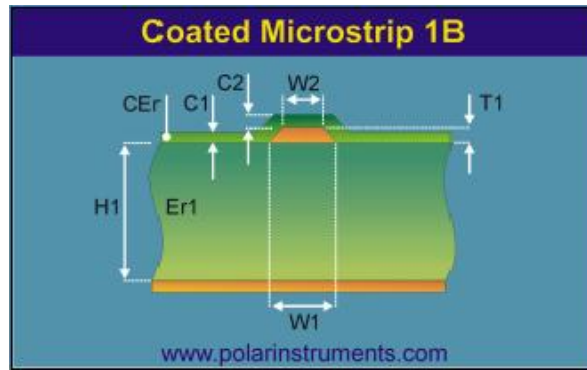
Impedance Information:

index	Type	Control Layer	Reference Layer	Original LineWidth	Original LineSpace	Original Line to Cu	Original Resistance	Adjust LineWidth	Adjust LineSpace	Adjust Line to Cu	Actual Resistance
1	Outer Layer Single-ended	L1	L2	15			36 Ω	12.5			36 Ω
2	Outer Layer Single-ended	L18	L17	15			36 Ω	12.5			36 Ω
3	Inner Layer Single-ended (2 layer)	L3	L2/L4	11.5			36 Ω	11.2			36 Ω
4	Inner Layer Single-ended (2 layer)	L5	L4/L6	11.5			36 Ω	9.9			36 Ω
5	Inner Layer Single-ended (2 layer)	L7	L6/L8	7.5			36 Ω	7.2			36 Ω
6	Inner Layer Single-ended (2 layer)	L14	L13/L15	11.5			36 Ω	9.8			36 Ω
7	Inner Layer Single-ended (2 layer)	L16	L15/L17	11.5			36 Ω	11.2			36 Ω
8	Inner Layer Single-ended (2 layer)	L16	L15/L17	10.2			39 Ω	9.9			39 Ω
9	Inner Layer Single-ended (2 layer)	L14	L13/L15	10.2			39 Ω	8.6			39 Ω
10	Inner Layer Single-ended (2 layer)	L7	L6/L8	6.6			39 Ω	6.3			39 Ω
11	Inner Layer Single-ended (2 layer)	L5	L4/L6	10.2			39 Ω	8.6			39 Ω
12	Inner Layer Single-ended (2 layer)	L3	L2/L4	10.2			39 Ω	9.9			39 Ω
13	Outer Layer Single-ended	L18	L17	13.3			39 Ω	11.2			39 Ω
14	Outer Layer Single-ended	L1	L2	13.3			39 Ω	11.2			39 Ω
15	Outer Layer Single-ended	L1	L2	8.3			50 Ω	7			50 Ω
16	Outer Layer Single-ended	L18	L17	8.3			50 Ω	7			50 Ω
17	Inner Layer Single-ended (2 layer)	L3	L2/L4	6.5			50 Ω	6.3			50 Ω

18	Inner Layer Single-ended (2 layer)	L5	L4/L6	6.5			50 Ω	5.5			50 Ω
19	Inner Layer Single-ended (2 layer)	L7	L6/L8	4.5			50 Ω	3.9			50 Ω
20	Inner Layer Single-ended (2 layer)	L14	L13/L15	6.5			50 Ω	5.5			50 Ω
21	Inner Layer Single-ended (2 layer)	L16	L15/L17	6.5			50 Ω	6.3			50 Ω
22	Outer Layer Finite-different	L18	L17	8.5	4.5		76 Ω	8.2	4.8		76 Ω
23	Outer Layer Finite-different	L1	L2	8.5	4.5		76 Ω	8.2	4.8		76 Ω
24	Inner Layer Finite-different (2 layer)	L3	L2/L4	8	4.5		76 Ω	8	4.5		76 Ω
25	Inner Layer Finite-different (2 layer)	L5	L4/L6	8	4.5		76 Ω	7.6	4.9		76 Ω
26	Inner Layer Finite-different (2 layer)	L7	L6/L8	6.1	5		76 Ω	5.9	5.2		76 Ω
27	Inner Layer Finite-different (2 layer)	L14	L13/L15	8	4.5		76 Ω	7.5	5		76 Ω
28	Inner Layer Finite-different (2 layer)	L16	L15/L17	8	4.5		76 Ω	8	4.5		76 Ω
29	Inner Layer Finite-different (2 layer)	L16	L15/L17	6.1	4.6		85 Ω	6.2	4.5		85 Ω
30	Inner Layer Finite-different (2 layer)	L14	L13/L15	6.1	4.6		85 Ω	5.9	4.8		85 Ω
31	Inner Layer Finite-different (2 layer)	L7	L6/L8	6.1	4.6		85 Ω	4.9	5.8		85 Ω
32	Inner Layer Finite-different (2 layer)	L5	L4/L6	6.1	4.6		85 Ω	5.9	4.8		85 Ω
33	Inner Layer Finite-different (2 layer)	L3	L2/L4	6.1	4.6		85 Ω	6.2	4.5		85 Ω
34	Outer Layer Finite-different	L1	L2	6.8	5		85 Ω	6.6	5.2		85 Ω
35	Outer Layer Finite-different	L18	L17	6.8	5		85 Ω	6.6	5.2		85 Ω
36	Inner Layer Finite-different (2 layer)	L16	L15/L17	5.5	4.6		90 Ω	5.5	4.6		90 Ω

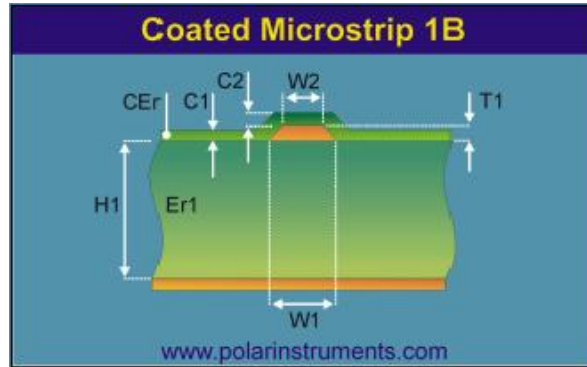
37	Inner Layer Finite-different (2 layer)	L14	L13/L15	5.5	4.6		90 Ω	5.2	4.9		90 Ω
38	Inner Layer Finite-different (2 layer)	L7	L6/L8	4.5	5.6		90 Ω	4.3	5.8		90 Ω
39	Inner Layer Finite-different (2 layer)	L5	L4/L6	5.5	4.6		90 Ω	5.3	4.8		90 Ω
40	Inner Layer Finite-different (2 layer)	L3	L2/L4	5.5	4.6		90 Ω	5.5	4.6		90 Ω
41	Outer Layer Finite-different	L1	L2	6	5		90 Ω	5.8	5.2		90 Ω
42	Outer Layer Finite-different	L18	L17	6	5		90 Ω	5.8	5.2		90 Ω
43	Outer Layer Finite-different	L18	L17	5.4	6.6		100 Ω	5.1	6.9		100 Ω
44	Outer Layer Finite-different	L1	L2	5.4	6.6		100 Ω	5.1	6.9		100 Ω
45	Inner Layer Finite-different (2 layer)	L3	L2/L4	6	11		100 Ω	5.8	11.2		100 Ω
46	Inner Layer Finite-different (2 layer)	L5	L4/L6	6	11		100 Ω	5.3	11.7		100 Ω
47	Inner Layer Finite-different (2 layer)	L7	L6/L8	4	6		100 Ω	3.55	6.45		100 Ω
48	Inner Layer Finite-different (2 layer)	L14	L13/L15	6	11		100 Ω	5.3	11.7		100 Ω
49	Inner Layer Finite-different (2 layer)	L16	L15/L17	6	11		100 Ω	5.8	11.2		100 Ω

(Model-1)



H1	3.91 Mil
Er1	3.38
W1	12.5 Mil
W2	11.1 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
CEr	3.5
Imp	36.43 Ω

(Model-2)



H1	3.91 Mil
Er1	3.38
W1	12.5 Mil
W2	11.1 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
CEr	3.5
Imp	36.43 Ω

(Model-3)



H1	7.87 Mil
Er1	3.83
H2	6.08 Mil
Er2	3.6
W1	11.2 Mil
W2	10.8 Mil
T1	0.6 Mil
Imp	35.78 Ω

(Model-4)



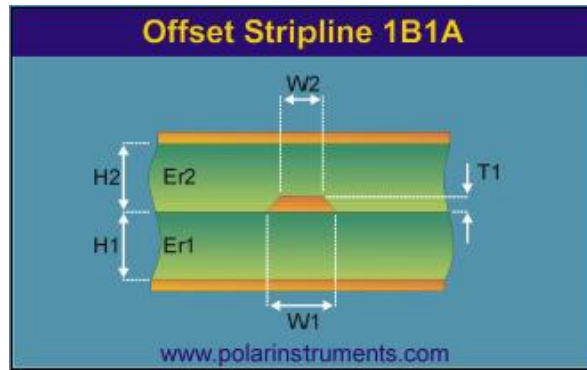
H1	7.87 Mil
Er1	3.83
H2	5.11 Mil
Er2	3.49
W1	9.9 Mil
W2	9.5 Mil
T1	0.6 Mil
Imp	35.99 Ω

(Model-5)



H1	3.94 Mil
Er1	3.86
H2	5.06 Mil
Er2	3.49
W1	7.2 Mil
W2	6.8 Mil
T1	0.6 Mil
Imp	35.56 Ω

(Model-6)



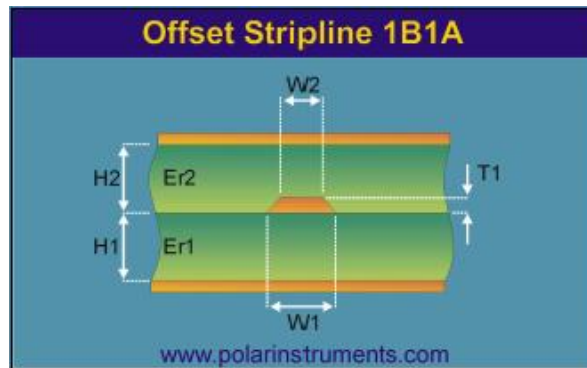
H1	7.87 Mil
Er1	3.83
H2	5.06 Mil
Er2	3.49
W1	9.8 Mil
W2	9.4 Mil
T1	0.6 Mil
Imp	36.05 Ω

(Model-7)



H1	7.87 Mil
Er1	3.83
H2	6.06 Mil
Er2	3.6
W1	11.2 Mil
W2	10.8 Mil
T1	0.6 Mil
Imp	35.73 Ω

(Model-8)



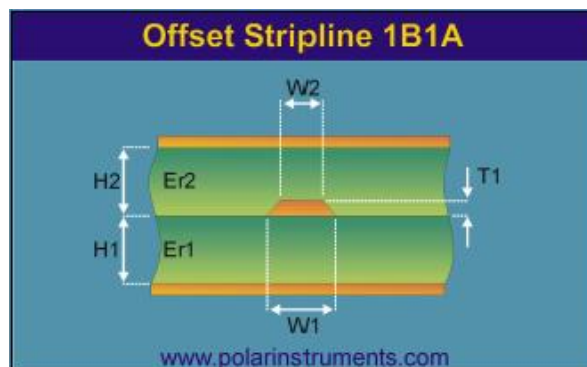
H1	7.87 Mil
Er1	3.83
H2	6.06 Mil
Er2	3.6
W1	9.9 Mil
W2	9.5 Mil
T1	0.6 Mil
Imp	38.57 Ω

(Model-9)



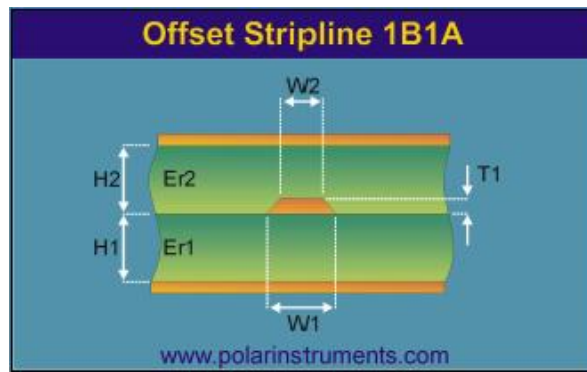
H1	7.87 Mil
Er1	3.83
H2	5.06 Mil
Er2	3.49
W1	8.6 Mil
W2	8.2 Mil
T1	0.6 Mil
Imp	39.06 Ω

(Model-10)



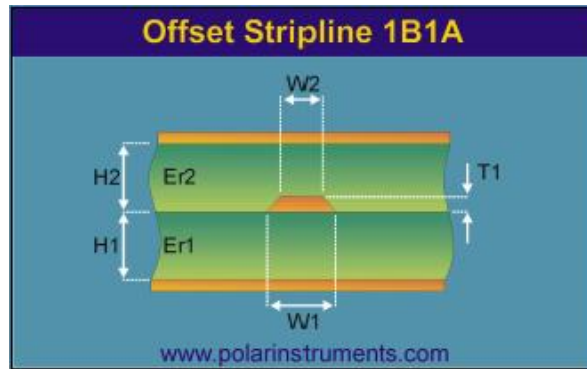
H1	3.94 Mil
Er1	3.86
H2	5.06 Mil
Er2	3.49
W1	6.3 Mil
W2	5.9 Mil
T1	0.6 Mil
Imp	38.58 Ω

(Model-11)



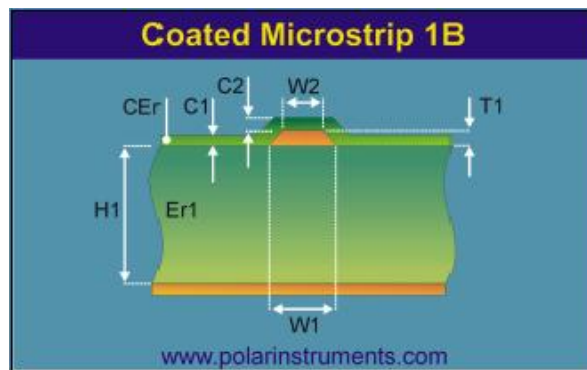
H1	7.87 Mil
Er1	3.83
H2	5.11 Mil
Er2	3.49
W1	8.6 Mil
W2	8.2 Mil
T1	0.6 Mil
Imp	39.25 Ω

(Model-12)



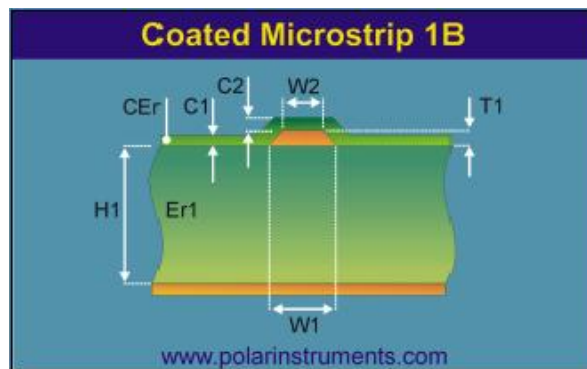
H1	7.87 Mil
Er1	3.83
H2	6.08 Mil
Er2	3.6
W1	9.9 Mil
W2	9.5 Mil
T1	0.6 Mil
Imp	38.63 Ω

(Model-13)



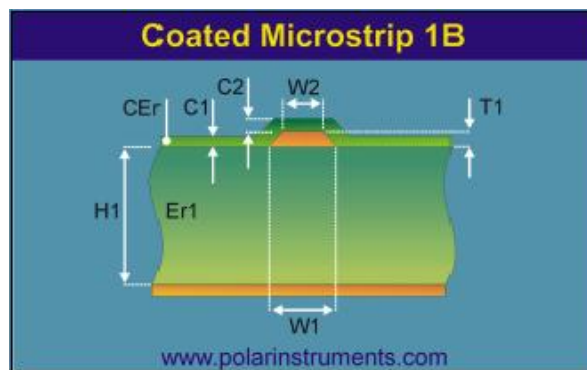
H1	3.91 Mil
Er1	3.38
W1	11.2 Mil
W2	9.8 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
CEr	3.5
Imp	38.9 Ω

(Model-14)



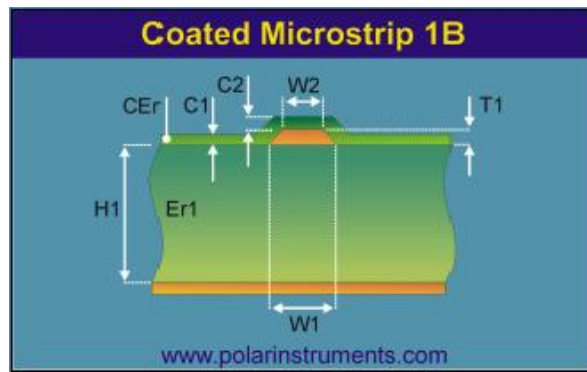
H1	3.91 Mil
Er1	3.38
W1	11.2 Mil
W2	9.8 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
CEr	3.5
Imp	38.9 Ω

(Model-15)



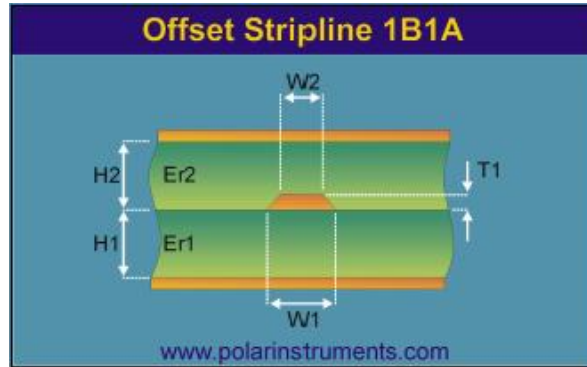
H1	3.91 Mil
Er1	3.38
W1	7 Mil
W2	5.6 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
CEr	3.5
Imp	50.09 Ω

(Model-16)



H1	3.91 Mil
Er1	3.38
W1	7 Mil
W2	5.6 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
CEr	3.5
Imp	50.09 Ω

(Model-17)



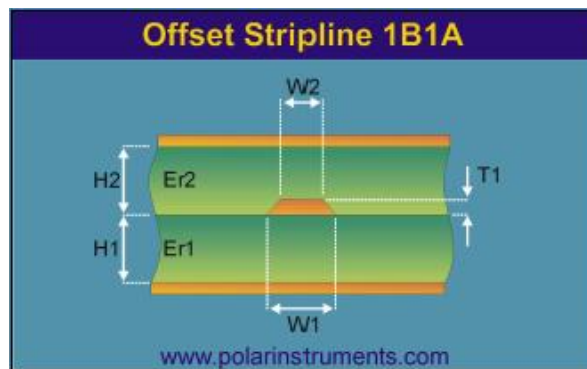
H1	7.87 Mil
Er1	3.83
H2	6.08 Mil
Er2	3.6
W1	6.3 Mil
W2	5.9 Mil
T1	0.6 Mil
Imp	49.66 Ω

(Model-18)



H1	7.87 Mil
Er1	3.83
H2	5.11 Mil
Er2	3.49
W1	5.5 Mil
W2	5.1 Mil
T1	0.6 Mil
Imp	50.15 Ω

(Model-19)



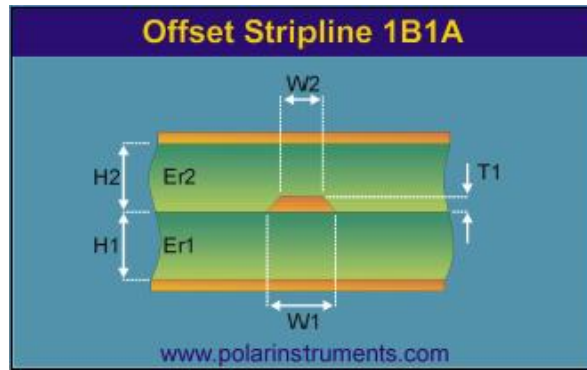
H1	3.94 Mil
Er1	3.86
H2	5.06 Mil
Er2	3.49
W1	3.9 Mil
W2	3.5 Mil
T1	0.6 Mil
Imp	49.97 Ω

(Model-20)



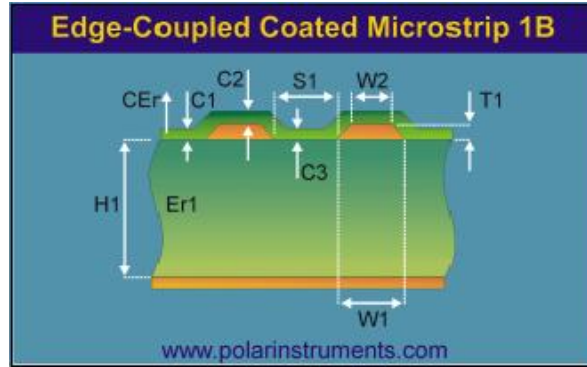
H1	7.87 Mil
Er1	3.83
H2	5.06 Mil
Er2	3.49
W1	5.5 Mil
W2	5.1 Mil
T1	0.6 Mil
Imp	49.94 Ω

(Model-21)



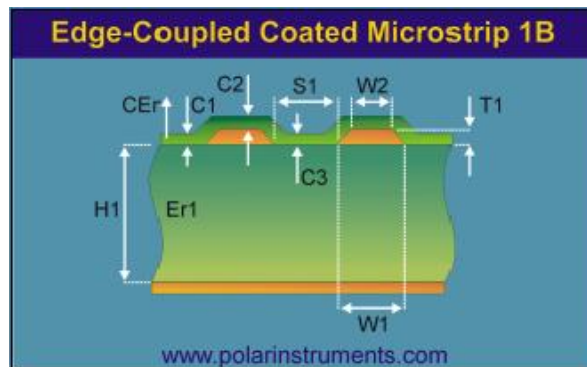
H1	7.87 Mil
Er1	3.83
H2	6.06 Mil
Er2	3.6
W1	6.3 Mil
W2	5.9 Mil
T1	0.6 Mil
Imp	49.6 Ω

(Model-22)



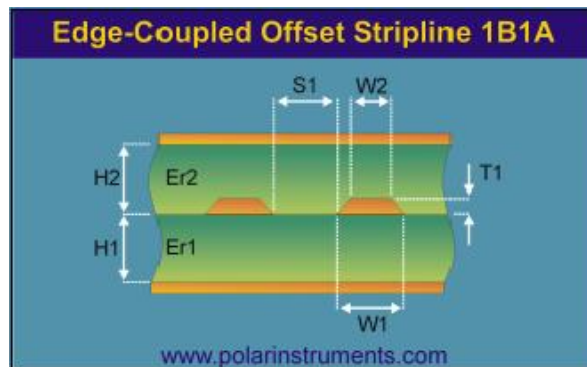
H1	3.91 Mil
Er1	3.38
W1	8.2 Mil
W2	6.8 Mil
S1	4.8 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
C3	1.5 Mil
CEr	3.5
Imp	76.09 Ω

(Model-23)



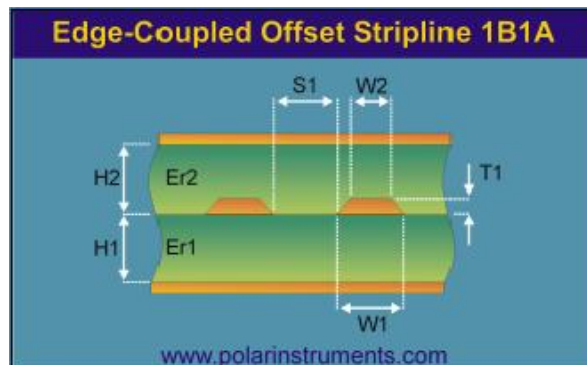
H1	3.91 Mil
Er1	3.38
W1	8.2 Mil
W2	6.8 Mil
S1	4.8 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
C3	1.5 Mil
CEr	3.5
Imp	76.09 Ω

(Model-24)



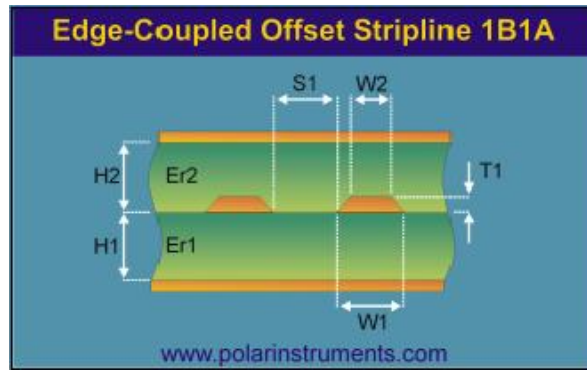
H1	7.87 Mil
Er1	3.83
H2	6.08 Mil
Er2	3.6
W1	8 Mil
W2	7.6 Mil
S1	4.5 Mil
T1	0.6 Mil
Imp	75.9 Ω

(Model-25)



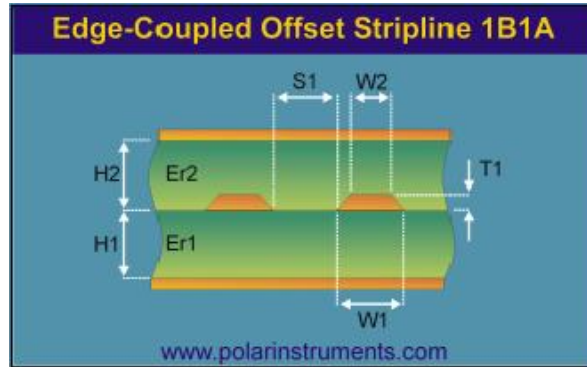
H1	7.87 Mil
Er1	3.83
H2	5.11 Mil
Er2	3.49
W1	7.6 Mil
W2	7.2 Mil
S1	4.9 Mil
T1	0.6 Mil
Imp	75.67 Ω

(Model-26)



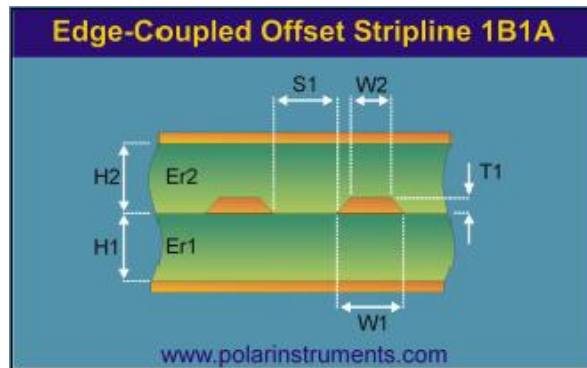
H1	3.94 Mil
Er1	3.86
H2	5.06 Mil
Er2	3.49
W1	5.9 Mil
W2	5.5 Mil
S1	5.2 Mil
T1	0.6 Mil
Imp	75.79 Ω

(Model-27)



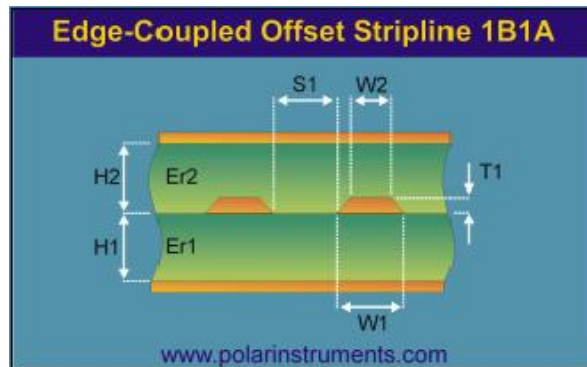
H1	7.87 Mil
Er1	3.83
H2	5.06 Mil
Er2	3.49
W1	7.5 Mil
W2	7.1 Mil
S1	5 Mil
T1	0.6 Mil
Imp	76.17 Ω

(Model-28)



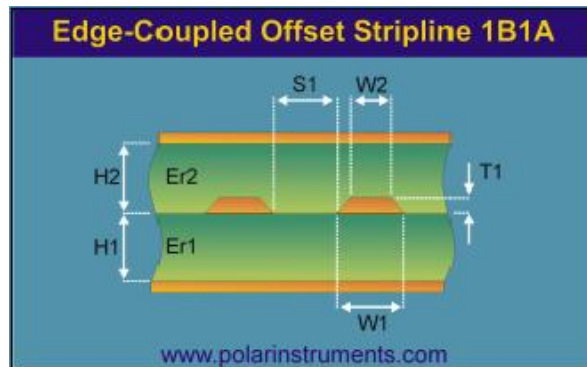
H1	7.87 Mil
Er1	3.83
H2	6.06 Mil
Er2	3.6
W1	8 Mil
W2	7.6 Mil
S1	4.5 Mil
T1	0.6 Mil
Imp	75.83 Ω

(Model-29)



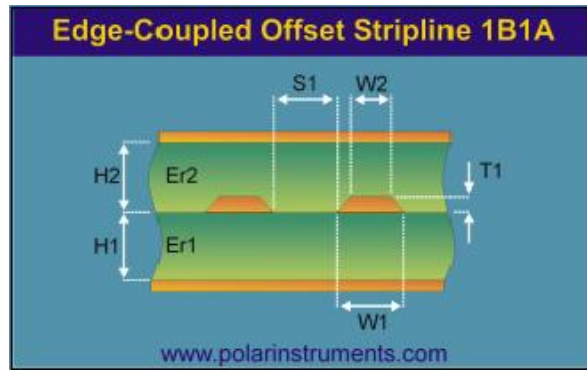
H1	7.87 Mil
Er1	3.83
H2	6.06 Mil
Er2	3.6
W1	6.2 Mil
W2	5.8 Mil
S1	4.5 Mil
T1	0.6 Mil
Imp	85.36 Ω

(Model-30)



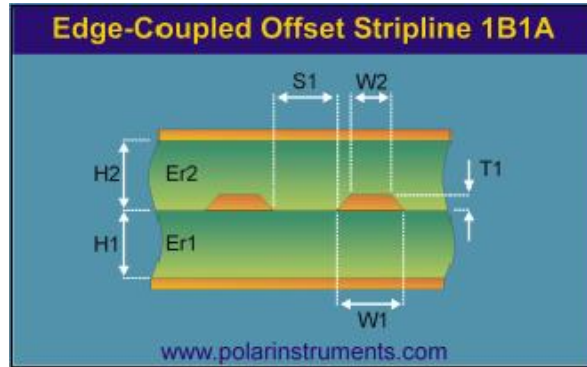
H1	7.87 Mil
Er1	3.83
H2	5.06 Mil
Er2	3.49
W1	5.9 Mil
W2	5.5 Mil
S1	4.8 Mil
T1	0.6 Mil
Imp	85.1 Ω

(Model-31)



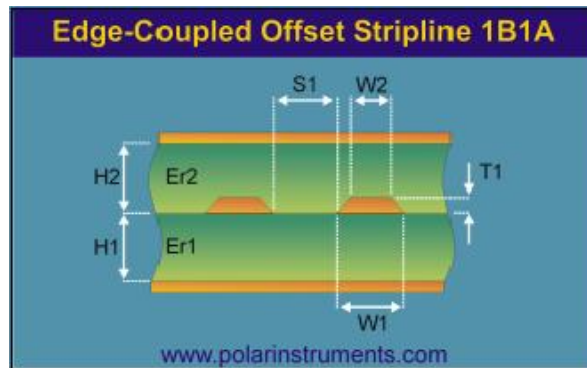
H1	3.94 Mil
Er1	3.86
H2	5.06 Mil
Er2	3.49
W1	4.9 Mil
W2	4.5 Mil
S1	5.8 Mil
T1	0.6 Mil
Imp	84.65 Ω

(Model-32)



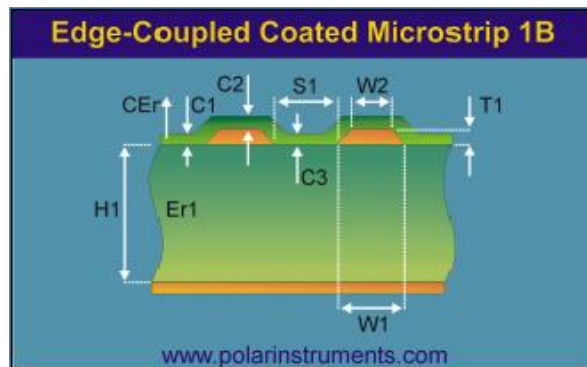
H1	7.87 Mil
Er1	3.83
H2	5.11 Mil
Er2	3.49
W1	5.9 Mil
W2	5.5 Mil
S1	4.8 Mil
T1	0.6 Mil
Imp	85.34 Ω

(Model-33)



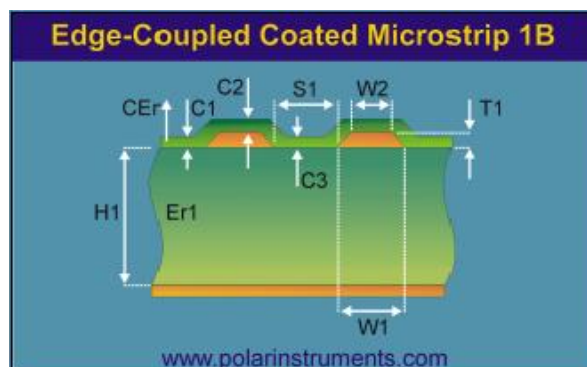
H1	7.87 Mil
Er1	3.83
H2	6.08 Mil
Er2	3.6
W1	6.2 Mil
W2	5.8 Mil
S1	4.5 Mil
T1	0.6 Mil
Imp	85.42 Ω

(Model-34)



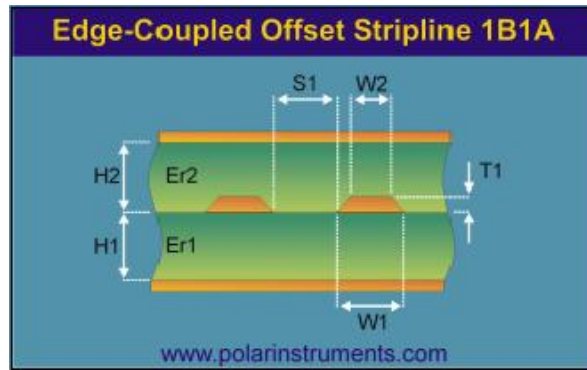
H1	3.91 Mil
Er1	3.38
W1	6.6 Mil
W2	5.2 Mil
S1	5.2 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
C3	1.5 Mil
CEr	3.5
Imp	85.18 Ω

(Model-35)



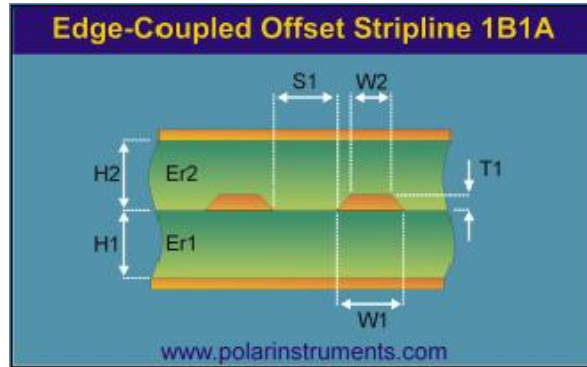
H1	3.91 Mil
Er1	3.38
W1	6.6 Mil
W2	5.2 Mil
S1	5.2 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
C3	1.5 Mil
CEr	3.5
Imp	85.18 Ω

(Model-36)



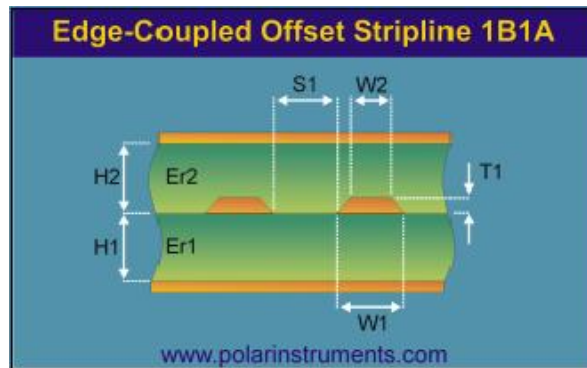
H1	7.87 Mil
Er1	3.83
H2	6.06 Mil
Er2	3.6
W1	5.5 Mil
W2	5.1 Mil
S1	4.6 Mil
T1	0.6 Mil
Imp	90.25 Ω

(Model-37)



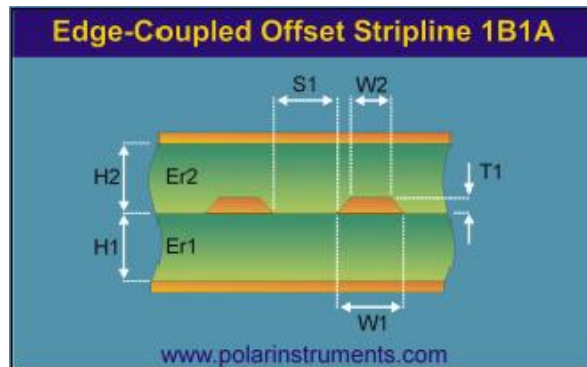
H1	7.87 Mil
Er1	3.83
H2	5.06 Mil
Er2	3.49
W1	5.2 Mil
W2	4.8 Mil
S1	4.9 Mil
T1	0.6 Mil
Imp	90.44 Ω

(Model-38)



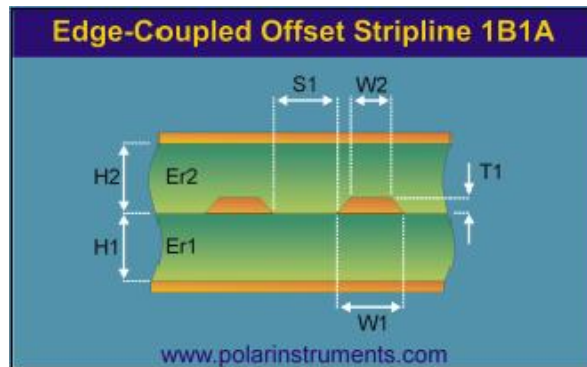
H1	3.94 Mil
Er1	3.86
H2	5.06 Mil
Er2	3.49
W1	4.3 Mil
W2	3.9 Mil
S1	5.8 Mil
T1	0.6 Mil
Imp	90.34 Ω

(Model-39)



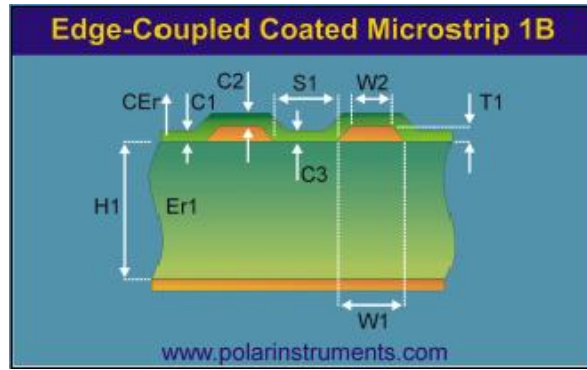
H1	7.87 Mil
Er1	3.83
H2	5.11 Mil
Er2	3.49
W1	5.3 Mil
W2	4.9 Mil
S1	4.8 Mil
T1	0.6 Mil
Imp	89.58 Ω

(Model-40)



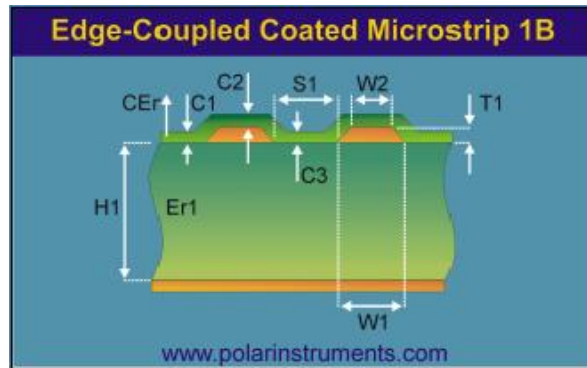
H1	7.87 Mil
Er1	3.83
H2	6.08 Mil
Er2	3.6
W1	5.5 Mil
W2	5.1 Mil
S1	4.6 Mil
T1	0.6 Mil
Imp	90.32 Ω

(Model-41)



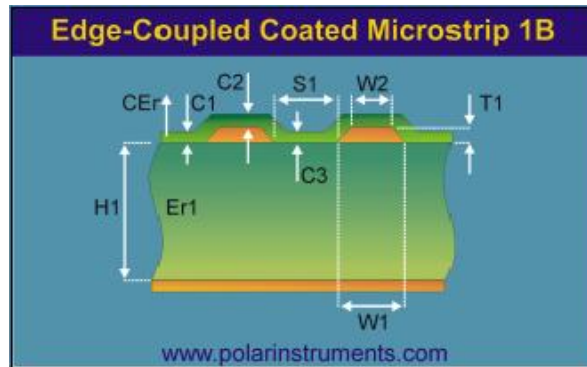
H1	3.91 Mil
Er1	3.38
W1	5.8 Mil
W2	4.4 Mil
S1	5.2 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
C3	1.5 Mil
CEr	3.5
Imp	89.84 Ω

(Model-42)



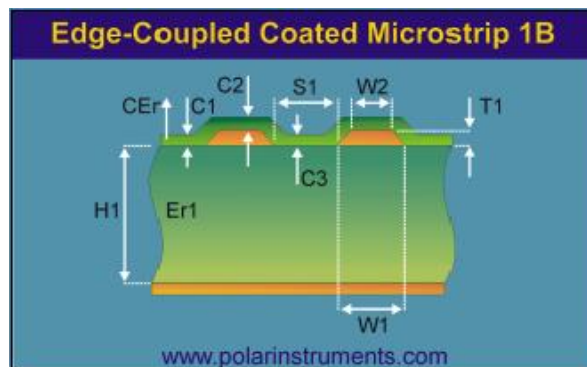
H1	3.91 Mil
Er1	3.38
W1	5.8 Mil
W2	4.4 Mil
S1	5.2 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
C3	1.5 Mil
CEr	3.5
Imp	89.84 Ω

(Model-43)



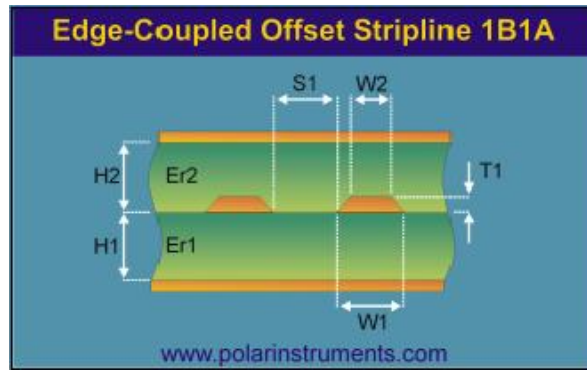
H1	3.91 Mil
Er1	3.38
W1	5.1 Mil
W2	3.7 Mil
S1	6.9 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
C3	1.5 Mil
CEr	3.5
Imp	100.2 Ω

(Model-44)



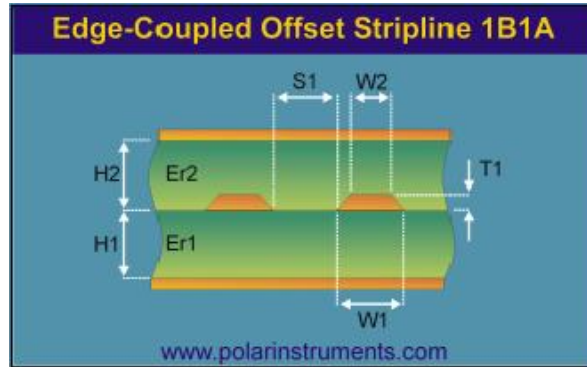
H1	3.91 Mil
Er1	3.38
W1	5.1 Mil
W2	3.7 Mil
S1	6.9 Mil
T1	2.2 Mil
C1	1.5 Mil
C2	0.6 Mil
C3	1.5 Mil
CEr	3.5
Imp	100.2 Ω

(Model-45)



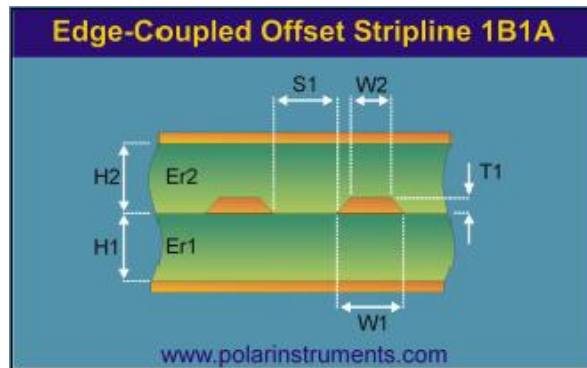
H1	7.87 Mil
Er1	3.83
H2	6.08 Mil
Er2	3.6
W1	5.8 Mil
W2	5.4 Mil
S1	11.2 Mil
T1	0.6 Mil
Imp	100.3 Ω

(Model-46)



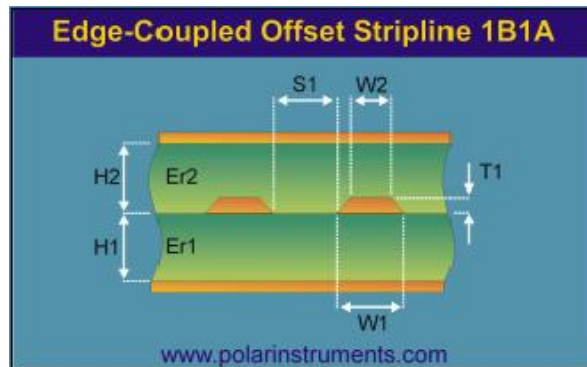
H1	7.87 Mil
Er1	3.83
H2	5.11 Mil
Er2	3.49
W1	5.3 Mil
W2	4.9 Mil
S1	11.7 Mil
T1	0.6 Mil
Imp	99.99 Ω

(Model-47)



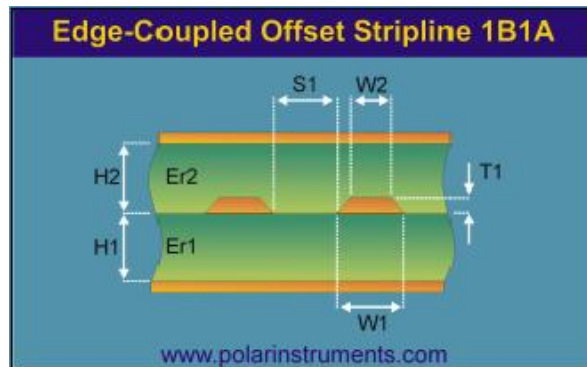
H1	3.94 Mil
Er1	3.86
H2	5.06 Mil
Er2	3.49
W1	3.55 Mil
W2	3.15 Mil
S1	6.45 Mil
T1	0.6 Mil
Imp	99.95 Ω

(Model-48)



H1	7.87 Mil
Er1	3.83
H2	5.06 Mil
Er2	3.49
W1	5.3 Mil
W2	4.9 Mil
S1	11.7 Mil
T1	0.6 Mil
Imp	99.63 Ω

(Model-49)



H1	7.87 Mil
Er1	3.83
H2	6.06 Mil
Er2	3.6
W1	5.8 Mil
W2	5.4 Mil
S1	11.2 Mil
T1	0.6 Mil
Imp	100.2 Ω