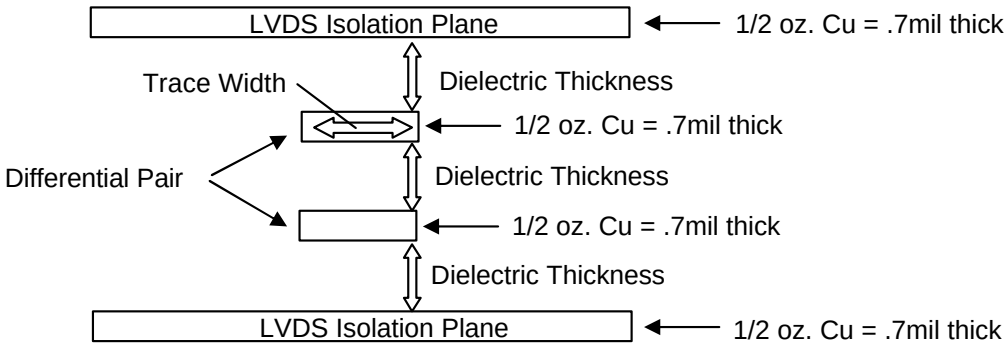
B. Hall 8/20/03

Differential Impedance vs Er, Dielectric Thickness, and Trace Width



Values in table are Zdiff (Ohms)

Values calculated using HperLynx LineSym V6.00

Er = 3.0

Dielectric Thickness	Trace Width 2.0	3.0	4.0	5.0	6.0
2.5	86.2	69.6	58.4	50.3	44.2
3.0	95.9	78.4	66.5	57.7	50.9
3.5	104.4	86.4	73.8	64.4	57.2
4.0	112.1	93.5	80.5	70.7	63.0
4.5	119.0	100.1	86.7	76.5	68.4
5.0	125.3	106.1	92.4	81.9	73.5

Er = 3.2

Dielectric Thickness	Trace Width 2.0	3.0	4.0	5.0	6.0
2.5	83.5	67.4	56.6	48.7	42.8
3.0	92.9	75.9	64.4	55.8	49.3
3.5	101.1	83.6	71.5	62.4	55.4
4.0	108.5	90.6	78.0	68.4	61.0
4.5	115.2	96.9	83.9	74.0	66.3
5.0	121.3	102.8	89.5	79.3	71.2

Er = 3.4

Dielectric Thickness	Trace Width 2.0	3.0	4.0	5.0	6.0
2.5	81.0	65.4	54.9	47.3	41.5
3.0	90.1	73.7	62.5	54.2	47.8
3.5	98.1	81.1	69.3	60.5	53.7
4.0	105.3	87.9	75.6	66.4	59.2
4.5	111.8	94.0	81.4	71.8	64.3
5.0	117.7	99.7	86.8	76.9	69.1

Er = 3.6

Dielectric Thickness	Trace Width 2.0	3.0	4.0	5.0	6.0
2.5	78.7	63.5	53.3	45.9	40.4
3.0	87.5	71.6	60.7	52.6	46.5
3.5	95.3	78.8	67.4	58.8	52.2
4.0	102.3	85.4	73.5	64.5	57.5
4.5	108.6	91.4	79.1	69.8	62.5
5.0	114.4	96.9	84.4	74.7	67.1

Er = 3.8

Dielectric Thickness	Trace Width 2.0	3.0	4.0	5.0	6.0
2.5	76.6	61.8	51.9	44.7	39.3
3.0	85.2	69.7	59.1	51.2	45.2
3.5	92.8	76.7	65.6	57.2	50.8
4.0	99.6	83.1	71.5	62.8	56.0
4.5	105.7	88.9	77.0	67.9	60.8
5.0	111.3	94.3	82.1	72.8	65.3

Er = 4.0

Dielectric Thickness	Trace Width 2.0	3.0	4.0	5.0	6.0
2.5	74.7	60.3	50.6	43.6	38.3
3.0	83.0	67.9	57.6	49.9	44.1
3.5	90.4	74.8	63.9	55.8	49.5
4.0	97.1	81.0	69.7	61.2	54.6
4.5	103.0	86.7	75.1	66.2	59.3
5.0	108.5	91.9	80.0	70.9	63.7

Er = 4.2

Dielectric Thickness	Trace Width 2.0	3.0	4.0	5.0	6.0
2.5	72.9	58.8	49.4	42.5	37.4
3.0	81.0	66.3	56.2	48.7	43.0
3.5	88.3	73.0	62.4	54.4	48.3
4.0	94.7	79.1	68.0	59.7	53.2
4.5	100.6	84.6	73.3	64.6	57.8
5.0	105.9	89.7	78.1	69.2	62.2

Er = 4.4

Dielectric Thickness	Trace Width 2.0	3.0	4.0	5.0	6.0
2.5	71.2	57.5	48.3	41.6	36.5
3.0	79.2	64.8	54.9	47.6	42.0
3.5	86.2	71.3	60.9	53.2	47.2
4.0	92.5	77.2	66.5	58.4	52.0
4.5	98.3	82.7	71.6	63.1	56.5
5.0	103.5	87.6	76.3	67.6	60.7

Er = 4.6

Dielectric Thickness	Trace Width 2.0	3.0	4.0	5.0	6.0
2.5	69.6	56.2	47.2	40.6	35.7
3.0	77.4	63.3	53.7	46.6	41.1
3.5	84.3	69.7	59.6	52.0	46.2
4.0	90.5	75.5	65.0	57.1	50.9
4.5	96.1	80.8	70.0	61.8	55.3
5.0	101.2	85.7	74.6	66.1	59.4