

Date: Wed Nov 28 00:11:13 2018
Customer Name: MISTRAL SOLUTIONS PVT LTD
Customer P/N: J7 SOM
Customer Rev:
Customer Mat: I-SPEED
Plant: Wuxi
Cat/Tool Num: RFS_0296



SANMINA

Lay #	Thick (in)	Picture	Type Dk Df	Description	Drill Picture
0.0006/0.0013			4.5 0.019	Soldermask	
1	0.0018		F / S	0.333oz w/plating	
	0.0044		2.94 0.0058	fill	
2	0.0013		P	1oz	
	0.0040		3.34 0.0060	core	
3	0.0013		S	1oz	
	0.0042		3.20 0.0059	fill	
4	0.0013		P	1oz	
	0.0040		3.34 0.0060	core	
5	0.0013		S	1oz	
	0.0042		3.20 0.0059	fill	
6	0.0013		P	1oz	
	0.0040		3.34 0.0060	core	
7	0.0013		S	1oz	
	0.0042		3.20 0.0059	fill	
8	0.0013		P	1oz	
	0.0040		3.34 0.0060	core	
9	0.0013		P	1oz	
	0.0042		3.20 0.0059	fill	
10	0.0013		S	1oz	
	0.0040		3.34 0.0060	core	
11	0.0013		P	1oz	
	0.0042		3.20 0.0059	fill	
12	0.0013		S	1oz	
	0.0040		3.34 0.0060	core	
13	0.0013		P	1oz	
	0.0042		3.20 0.0059	fill	
14	0.0013		S	1oz	
	0.0040		3.34 0.0060	core	
15	0.0013		P	1oz	
	0.0044		2.94 0.0058	fill	
16	0.0018		F / S	0.333oz w/plating	
0.0006/0.0013			4.5 0.019	Soldermask	
0.0840	Total thickness (in) Over mask on plated copper				
0.0800	After lamination thickness (in)				
0.0819	Over laminate thickness (in) (with soldermask)				
0.0834	Customer Requirement (in)				
+/-0.0083	Customer Tolerance (in)				

Notes and Recommendations:

- 1. Assume copper rate 80% for power ground layer, 30% for single layer
 - 2. Can not meet 66ohms single ended & 132ohms diff ended, suggest ignore these impedance requirement
- Trace widths measured at base of trace
All dimensions in inches (unless otherwise noted)

Products built using these specified nominal dimensions will have variation in physical and electrical results based on acceptable manufacturing materials and process tolerance.
This data is intended to provide one possible solution to meet a particular set of impedance and thickness requirements.
If any of these values are attached to fabrication prints, they should be marked as 'reference'.



Impedance Constraint Information (I)

Imp #	Impedance Type	Affect (1)	Lun (2)	Cust L/W	Line Width (1)	Line Width (2)	CenterToCenter (1)	CenterToCenter (2)	Ref Plane Top	Ref Plane Bot	Targ ohms	Tol ohms	Predicted ohms@20GHz
1	EC MS	1	None	0.015	0.015	0.015	0.023		None	2	66	6.6	66.35
2	EC MS	1	None	0.009	0.009	0.009	0.014		None	2	80	8	79.73
3	EC MS	1	None	0.0078	0.0078	0.0078	0.0128		None	2	85	8.5	84.82
4	EC MS	1	None	0.007	0.007	0.007	0.012		None	2	90	9	88.66
5	EC MS	1	None	0.005	0.005	0.005	0.01		None	2	100	10	100.34
6	EC MS	1	None	0.003	0.003	0.003	0.011		None	2	132	13.2	132.00
7	Surf MS	1	None	0.018	0.018				None	2	33	3.3	32.79
8	Surf MS	1	None	0.013	0.013				None	2	40	4	40.22
9	Surf MS	1	None	0.009	0.009				None	2	50	5	49.32
10	Surf MS	1	None	0.0048	0.0048				None	2	66	6.6	65.38
11	EC SL	3	None	0.0075	0.0075	0.0075	0.0125		4	2	66	6.6	64.96
12	EC SL	3	None	0.005	0.005	0.005	0.01		4	2	80	8	80.34
13	EC SL	3	None	0.0045	0.0045	0.0045	0.0095		4	2	85	8.5	84.36
14	EC SL	3	None	0.0038	0.0038	0.0038	0.0088		4	2	90	9	90.79
15	EC SL	3	None	0.003	0.003	0.003	0.008		4	2	100	10	99.65
16	EC SL	3	None	0.003	0.003	0.003	0.018		4	2	132	13.2	109.79
17	Stripline	3	None	0.008	0.008				4	2	33	4	33.33
18	Stripline	3	None	0.006	0.006				4	2	40	4	39.52
19	Stripline	3	None	0.0038	0.0038				4	2	50	5	49.78
20	Stripline	3	None	0.003	0.003				4	2	66	6.6	55.07
21	EC SL	5	None	0.0075	0.0075	0.0075	0.0125		6	4	66	6.6	64.96
22	EC SL	5	None	0.005	0.005	0.005	0.01		6	4	80	8	80.34
23	EC SL	5	None	0.0045	0.0045	0.0045	0.0095		6	4	85	8.5	84.36
24	EC SL	5	None	0.0038	0.0038	0.0038	0.0088		6	4	90	9	90.79
25	EC SL	5	None	0.003	0.003	0.003	0.008		6	4	100	10	99.65
26	EC SL	5	None	0.003	0.003	0.003	0.018		6	4	132	13.2	109.79
27	Stripline	5	None	0.008	0.008				6	4	33	3.3	33.33
28	Stripline	5	None	0.006	0.006				6	4	40	4	39.52
29	Stripline	5	None	0.0038	0.0038				6	4	50	5	49.78
30	Stripline	5	None	0.003	0.003				6	4	66	6.6	55.07
31	EC SL	7	None	0.0075	0.0075	0.0075	0.0125		8	6	66	6.6	64.96
32	EC SL	7	None	0.005	0.005	0.005	0.01		8	6	80	8	80.34
33	EC SL	7	None	0.0045	0.0045	0.0045	0.0095		8	6	85	8.5	84.36
34	EC SL	7	None	0.0038	0.0038	0.0038	0.0088		8	6	90	9	90.79
35	EC SL	7	None	0.003	0.003	0.003	0.008		8	6	100	10	99.65
36	EC SL	7	None	0.003	0.003	0.003	0.018		8	6	132	13.2	109.79
37	Stripline	7	None	0.008	0.008				8	6	33	3.3	33.33
38	Stripline	7	None	0.006	0.006				8	6	40	4	39.52
39	Stripline	7	None	0.0038	0.0038				8	6	50	5	49.78
40	Stripline	7	None	0.003	0.003				8	6	66	6.6	55.07
41	EC SL	10	None	0.0075	0.0075	0.0075	0.0125		9	11	66	6.6	64.96
42	EC SL	10	None	0.005	0.005	0.005	0.01		9	11	80	8	80.34
43	EC SL	10	None	0.0045	0.0045	0.0045	0.0095		9	11	85	8.5	84.36
44	EC SL	10	None	0.0038	0.0038	0.0038	0.0088		9	11	90	9	90.79
45	EC SL	10	None	0.003	0.003	0.003	0.008		9	11	100	10	99.65
46	EC SL	10	None	0.003	0.003	0.003	0.018		9	11	132	13.2	109.79
47	Stripline	10	None	0.008	0.008				9	11	33	3.3	33.33
48	Stripline	10	None	0.006	0.006				9	11	40	4	39.52
49	Stripline	10	None	0.0038	0.0038				9	11	50	5	49.78
50	Stripline	10	None	0.003	0.003				9	11	66	6.6	55.07
51	EC SL	12	None	0.0075	0.0075	0.0075	0.0125		11	13	66	6.6	64.96
52	EC SL	12	None	0.005	0.005	0.005	0.01		11	13	80	8	80.34
53	EC SL	12	None	0.0045	0.0045	0.0045	0.0095		11	13	85	8.5	84.36
54	EC SL	12	None	0.0038	0.0038	0.0038	0.0088		11	13	90	9	90.79
55	EC SL	12	None	0.003	0.003	0.003	0.008		11	13	100	10	99.65
56	EC SL	12	None	0.003	0.003	0.003	0.018		11	13	132	13.2	109.79
57	Stripline	12	None	0.008	0.008				11	13	33	3.3	33.33
58	Stripline	12	None	0.006	0.006				11	13	40	4	39.52
59	Stripline	12	None	0.0038	0.0038				11	13	50	5	49.78
60	Stripline	12	None	0.003	0.003				11	13	66	6.6	55.07
61	EC SL	14	None	0.0075	0.0075	0.0075	0.0125		13	15	66	6.6	64.96
62	EC SL	14	None	0.005	0.005	0.005	0.01		13	15	80	8	80.34
63	EC SL	14	None	0.0045	0.0045	0.0045	0.0095		13	15	85	8.5	84.36
64	EC SL	14	None	0.0038	0.0038	0.0038	0.0088		13	15	90	9	90.79
65	EC SL	14	None	0.003	0.003	0.003	0.008		13	15	100	10	99.65
66	EC SL	14	None	0.003	0.003	0.003	0.018		13	15	132	13.2	109.79
67	Stripline	14	None	0.008	0.008				13	15	33	3.3	33.33
68	Stripline	14	None	0.006	0.006				13	15	40	4	39.52
69	Stripline	14	None	0.0038	0.0038				13	15	50	5	49.78
70	Stripline	14	None	0.003	0.003				13	15	66	6.6	55.07
71	EC MS	16	None	0.015	0.015	0.015	0.023		None	15	66	6.6	66.35
72	EC MS	16	None	0.009	0.009	0.009	0.014		None	15	80	8	79.73
73	EC MS	16	None	0.0078	0.0078	0.0078	0.0128		None	15	85	8.5	84.82
74	EC MS	16	None	0.007	0.007	0.007	0.012		None	15	90	9	88.66
75	EC MS	16	None	0.005	0.005	0.005	0.01		None	15	100	10	100.34
76	EC MS	16	None	0.003	0.003	0.003	0.011		None	15	132	13.2	132.00
77	Surf MS	16	None	0.018	0.018				None	15	33	3.3	32.79
78	Surf MS	16	None	0.013	0.013				None	15	40	4	40.22
79	Surf MS	16	None	0.009	0.009				None	15	50	5	49.32
80	Surf MS	16	None	0.0048	0.0048				None	15	66	6.6	65.38

Trace widths measured at base of trace
All dimensions in inches (unless otherwise noted)

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This data is intended to provide one possible solution to meet a particular set of impedance and thickness requirements.
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