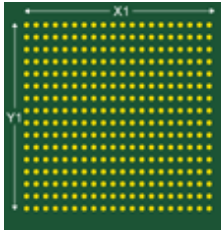



HDI Stackup Planner — Detailed Report for HSP-1 89471 Option B

Sierra Circuits, Inc.

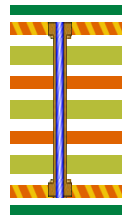
www.protoexpress.com/hdi**Customer Input**

Part Number/ Rev : **amINO/ 1.0**
PCB Size in X : 0.51 inches X 0.59 inches
Outer Layer : Signal
BGA Pitch : 0.65 mm
Total Number of Pins : 49
BGA Pins Pattern : X1 = 7 Pins Y1 = 7 Pins

Material : 0.59
PCB Thickness : 0.031 inches
Number of Signal Pins : 36

MicroVias depicted by 

SOLDER MASK
 L-1 **TOP SIGNAL**
DIELECTRIC
 L-2 **PLANE**
DIELECTRIC
 L-3 **PLANE**
DIELECTRIC
 L-4 **BOTTOM SIGNAL**
SOLDER MASK

**Total Thickness****Finished Copper Weight**

1 Oz

1 Oz

1 Oz

1 Oz

0.0316
(inches)
Finished Thickness (inches)

0.0005

0.0014

0.0035

0.0014

0.0180

0.0014

0.0035

0.0014

0.0005

Customer Saved Impedance Results

Layer	Impedance Model	Impedance (ohms)	Trace Width (mils)	Space (mils)
Layer 1	Soldermask Coated Microstrip Single-ended	51.7	5	--
Layer 1	Soldermask Coated Microstrip Differential Pair	90.03	5	6

Stackup Details

Number of Layers	Number of Signal Layers	Number of Sequential Laminations	Number of Plane Layers	Maximum Number of Laser Drills	Mechanical Drills
4	2	0	2	0	1

BGA Fan out Recommendations

BGA Area Trace Geometry

	Trace/Space within BGA area	Maximum number of Traces between adjacent BGA pads/vias
Top Layer	5 mils	0
Inner Layers	4.5 mils	1
Bottom Layer	4.5 mils	1

BGA Area Detail

MicroVia Pad Diameter	: 12 mils	MicroVia Pad Diameter	: 12 mils
MicroVia Drill Diameter	: 6 mils	MicroVia Drill Diameter	: 6 mils
Mechanical MicroVia Pad Diameter	: 14 mils	Mechanical MicroVia Pad Diameter	: 16 mils
Mechanical MicroVia Drill Diameter	: 8 mils	Mechanical MicroVia Drill Diameter	: 8 mils

Outside of BGA Area

Via Set Information

This stack up supports the following via set
L1-L4