

Cust: <b>TEXAS INSTRUMENTS/NATIONAL SEMICONDUCTOR C/</b>				Total Layers: <b>10</b>			
Part #: <b>SV600847</b>	Rev <b>E1</b>	Finished Thickness: <b>0.0620 +/- 0.0062</b>			Finished Over: <b>Metal or Tips</b>		
		Lam Thickness: <b>0.0578 +/- 0.0031</b>			Material Type: <b>Rogers 4350</b>		

Impedance Requirements:		Orig Line	Fin. Line	Ref Pln	2nd Ref Pln	Targeted Desired Impedance	Impedance Tolerance	Actual Calculated Impedance	Diff Line Centers	Diff Line Space	Original Coplanar Spacing	Finished Coplanar Spacing
L#	Impedance Type											
1	SE-Coated Microstrip	.00800	.00610	2		50.00 $\Omega$	+/- 10%	54.34 $\Omega$				
1	DIF-Coated Microstrip Edg Cpld	.00800	.00610	2		100.00 $\Omega$	+/- 10%	99.92 $\Omega$	.01600	.00990		
3	DIF-Stripline Edg Cpld	.00400	.00400	2	4	100.00 $\Omega$	+/- 10%	99.64 $\Omega$	.00800	.00400		
6	DIF-Stripline Edg Cpld	.00400	.00400	7	5	100.00 $\Omega$	+/- 10%	99.64 $\Omega$	.00800	.00400		
8	DIF-Stripline Edg Cpld	.00400	.00420	7	9	100.00 $\Omega$	+/- 10%	100.54 $\Omega$	.00800	.00380		
10	SE-Coated Microstrip	.00800	.00610	9		50.00 $\Omega$	+/- 10%	54.34 $\Omega$				
10	DIF-Coated Microstrip Edg Cpld	.00800	.00610	9		100.00 $\Omega$	+/- 10%	99.92 $\Omega$	.01600	.00990		

**Controlled Impedance Notes:**

Lamination Stackup:			Thickness and Tolerances:		Base Material Rqmts:	
L#/Type	Description:		Cu+:	Laminate/PrePreg:	Type:	Description:
1 Mix	Core 0.0040 H/1		.00060	.0040		Rogers 4350
2 Pln	Pre-Preg ( 2 x 106 )		.00120	.0067 +/- 0.0007		Isola 370HR
	Pre-Preg ( 1 x 1080 )					
3 Mix	Core 0.0060 H/1		.00060	.0060		Isola 370HR
4 Pln	Pre-Preg ( 2 x 106 )		.00120	.0041 +/- 0.0004		Isola 370HR
5 Pln	Core 0.0060 1/H		.00120	.0060		Isola 370HR
6 Mix	Pre-Preg ( 1 x 1080 )		.00060	.0067 +/- 0.0007		Isola 370HR
	Pre-Preg ( 2 x 106 )					
7 Pln	Core 0.0040 1/H		.00120	.0040		Rogers 4350
8 Sig	Pre-Preg ( 2 x 450F )		.00060	.0073 +/- 0.0007		Rogers 4350
9 Pln	Core 0.0040 1/H		.00120	.0040		Rogers 4350
10 Mix			.00060			

**Target Post-Lam Thickness: 0.0578 +/- 0.0031**

Copper Oz Legend: H=1/2oz T=3/8oz Q=1/4oz E=1/8oz S=1/16oz

**Stackup Notes:**
**PLEASE RETURN APPROVED STACK-UP TO DDI WITH DATA SET PRIOR TO MANUFACTURING**

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\* The Controlled Impedance Stackup and tables were calculated utilizing ApsimRLGC from Applied Simulation Technology  
 \* Impedance value tolerances shall be +/- 10% or customer required tolerance.

Designed Artwork Spacing Requirements: (Based On Starting Copper Weight)

External Layers:

- \* 1/4 oz. Copper = .003 Min.
- \* 3/8 oz. Copper = .0035 Min.
- \* 1/2 oz. Copper = .004 Min.
- \* 1 oz. Copper = .005 Min.
- \* 2 oz. Copper = .007 Min.

Internal Layers:

- \* 3/8 oz. Copper = .00325 Min.
- \* 1/2 oz. Copper = .0035 Min.
- \* 1 oz. Copper = .004 Min.
- \* 2 oz. Copper = .006 Min.

Note: Min. spacing outside of the parameters above will require DDI's engineering approval.

Finished Copper Thickness On External Layers:

Conductor thickness calculated in RLGC includes base copper and additional copper plating (*assuming hole plating requirement is .001 min.*) - Finished surface conductor thickness is as follows:

- \* 1/4 oz. Base Copper + Copper Plating = .0016
- \* 3/8 oz. Base Copper + Copper Plating = .0017
- \* 1/2 oz. Base Copper + Copper Plating = .0019
- \* 1 oz. Base Copper + Copper Plating = .0024
- \* 2 oz. Base Copper + Copper Plating = .0036

Note: Soldermask thickness over the conductor calculated on RLGC is .8 mils.

\* If written authorization is required, please sign below and Fax back to (408) 719-4175

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_