

Job number: 96397	Material: TACHYON-100G, PCL
Part number: 09-049648 Rev. D	Impedance: Yes
Customer: ANALOG DEVICES MA	Date: 24-Jun-2020
Panel size: 16X18	Created by: LOC

Stackup Report

Report v1.40 Internal

GORILLA CIRCUITS INC.



Layer	Type	CU Weight	CU %	Material Description	Via Structure	Segment	Glass Style	Material Family	Copper Plating Thickness [mil]	Thickness after lamination [mil]
Soldermask										
I1comp	Signal	H	56	5.0 mil H/1		Core		TACHYON-100G		0.80
I2pp	Plane	1.0	59	Press thk = 6.37 mil		Prepreg	1080(72) 1080(72)	TACHYON-100G TACHYON-100G		2.30 5.00 1.20 6.37
I3mix	Mixed	H	43	3.0 mil H/1		Core		TACHYON-100G		0.60
I4pp	Plane	1.0	79	Press thk = 4.27 mil		Prepreg	106(76) 106(76)	PCL-370HR PCL-370HR		3.00 1.20 4.27
I5pp	Plane	1.0	77	Press thk = 3.25 mil		Foil Prepreg	1080HRC(71)	PCL-370HR		1.20 * 3.25
I6pp	Plane	1.0	79	3.0 mil 1/1		Core		PCL-370HR		1.20 3.00 1.20
I7mix	Mixed	1.0	77	Press thk = 3.22 mil		Prepreg	1080HRC(71)	PCL-370HR		1.20 3.22
I8pp	Plane	1.0	79	Press thk = 4.28 mil		Foil Prepreg	106(76) 106(76)	PCL-370HR PCL-370HR		1.20 * 4.28
I9pp	Plane	1.0	78	3.0 mil 1/H		Core		TACHYON-100G		1.20 3.00 0.60
I10mix	Mixed	H	40	Press thk = 6.35 mil		Prepreg	1080(72) 1080(72)	TACHYON-100G TACHYON-100G		6.35
I11pp	Plane	1.0	59	5.0 mil 1/H		Core		TACHYON-100G		1.20 5.00 2.30
I12sold	Signal	H	56							0.80
Soldermask										

* Estimated Cu Plating for reference use only.

Specification (Over mask on plated copper):	mil
Overall Board Thickness:	63.00
Tolerance:	+7.0/-7.0
Min-Max Board Thickness:	56.0-70.0

Anticipated Board Thickness:	mil
After lamination:	58.74
Over mask on plated copper::	63.74

Impedance Table

Layer	Impedance Requirement [ohms]	Tolerance [ohms]		Type	Upper Ref	Lower Ref	Designed Line Width [mil]	Plotted Line Width [mil]	Designed Spacing [mil]	Coplanar Spacing [mil]	Finished Line Width [mil]	Finished Spacing [mil]	Impedance Simulation [ohms]
		+	-										
I1comp	50	5.0	5.0	Coated microstrip SE	--	I2pp	9.50	10.25	--	--	9.50	--	50.0
I1comp	100	10.0	10.0	Coated microstrip Diff	--	I2pp	4.00	4.75	5.00	--	4.00	5.00	100.7
I3mix	50	5.0	5.0	Single-Ended	I2pp	I4pp	7.00	5.25	--	--	4.75	--	49.8
I3mix	100	10.0	10.0	Differential	I2pp	I4pp	5.25	4.75	5.00	--	4.25	6.00	99.8
I10mix	50	5.0	5.0	Single-Ended	I11pp	I9pp	7.00	5.25	--	--	4.75	--	49.8
I10mix	100	10.0	10.0	Differential	I11pp	I9pp	5.25	4.75	5.00	--	4.25	6.00	99.8
I12sold	50	5.0	5.0	Coated microstrip SE	--	I11pp	9.50	10.25	--	--	9.50	--	50.0
I12sold	100	10.0	10.0	Coated microstrip Diff	--	I11pp	4.00	4.75	5.00	--	4.00	5.00	100.7

Mat Typ	Material Description	Rsn%	PNL	1 Pnl	Notes
Foil	Foil - 1 oz - Foil		16x18	2	
Core	PCL-370HR - 3.0 mil 1/1		16x18	1	
Prepreg	PCL-370HR - 106	76%	16x18	4	
Prepreg	PCL-370HR - 1080HRC	71%	16x18	2	
Core	TACHYON-100G - 3.0 mil H/1		16x18	2	
Core	TACHYON-100G - 5.0 mil H/1		16x18	2	
Prepreg	TACHYON-100G - 1080	72%	16x18	4	

Drill Progs	Technology	Depth
drill	Mechanical	58.74
bv1-4	Mechanical	17.97
bv12-9	Mechanical	17.95

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Part number: 09-049648 Rev. D	Impedance: Yes				Report v1.40 Internal	C I R C U I T S I N C.
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Please Note:

IPC-6012 has a minimum dielectric requirement of 0.003543” and any targeted dielectric thickness of 0.0045” or less may violate this requirement.

Acceptance of this proposed stack-up will be taken as a waiver for this requirement. Note that with this exception, the minimum dielectric thickness shall be 0.000984”. If this is not acceptable please get back to us ASAP so we can make the necessary changes.

Note that the granting of this waiver does not affect the product meeting IPC-6012 Class 2 or Class 3 requirements. Also note that targeted thickness .0046” and greater shall have a minimum tolerance of +/- .001 after lamination.

DK used to calculate impedance is for internal purposes only: May differ from actual data sheet.