Layer Configurations

PCB LAYER CONFIGURATION STACK-UPS

Rev A

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	02A	02B	02C
Layer 1	(Top)	(Top)	(GND)
Layer 2	(Bottom)	(GND)	(Bottom)

	04A	04B	04C	04D	04E	04F
Layer 1	(Top)	(Top)	(PWR)	(GND)	(GND)	(Top)
Layer 2	(GND)	(PWR)	(Signal)	(Signal)	(Sig/Pwr)	(Signal)
Layer 3	(PWR)	(GND)	(Signal)	(Signal)	(Sig/Pwr)	(Signal)
Layer 4	(Bottom)	(Bottom)	(GND)	(PWR)	(GND)	(Bottom)

	06A	06B	06C	06D	06E	06F	06G	06H	06J	06K	06L
Layer 1	(Top)	(Top)	(Top)	(Top)	(GND)	(GND)	(Top)	(Top)	(Top)	(Top)	(Top)
Layer 2	(GND)	(PWR)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)	(GND)	(PWR)	(PWR)	(Signal)
Layer 3	(Signal)	(Signal)	(GND)	(PWR)	(GND)	(PWR)	(Signal)	(PWR)	(GND)	(Signal)	(Signal)
Layer 4	(Signal)	(Signal)	(PWR)	(GND)	(PWR)	(GND)	(PWR)	(Signal)	(Signal)	(GND)	(Signal)
Layer 5	(PWR)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)	(GND)	(PWR)	(PWR)	(Signal)
Layer 6	(Bottom)	(Bottom)	(Bottom)	(Bottom)	(GND)	(GND)	(Bottom)	(Bottom)	(Bottom)	(Bottom)	(Bottom)

	08A	08B	08C	08D	08E	08F	08G	08H	08J	08K	08L
Layer 1	(Top)	(Top)	(Top)	(Top)	(GND)	(GND)	(PWR)	(GND)	(Top)	(Top)	(Top)
Layer 2	(Signal)	(Signal)	(GND)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)	(GND)	(GND)
Layer 3	(GND)	(PWR)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)	(PWR)	(Sig/Pwr)	(PWR)	(PWR)
Layer 4	(Signal)	(Signal)	(GND)	(PWR)	(GND)	(PWR)	(Signal)	(Signal)	(GND)	(Signal)	(Signal)
Layer 5	(Signal)	(Signal)	(PWR)	(GND)	(PWR)	(GND)	(Signal)	(Signal)	(Sig/Pwr)	(Signal)	(Signal)
Layer 6	(PWR)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)	(PWR)	(GND)	(GND)	(PWR)	(GND)
Layer 7	(Signal)	(Signal)	(GND)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)	(Sig/Pwr)	(GND)	(PWR)
Layer 8	(Bottom)	(Bottom)	(Bottom)	(Bottom)	(GND)	(GND)	(GND)	(PWR)	(Bottom)	(Bottom)	(Bottom)

	10A	10B	10C	10D	10E	10F	10G	10H	10J	10K
Layer 1	(Top)	(Top)	(Top)	(Top)	(Top)	(Top)	(GND)	(GND)	(GND)	(GND)
Layer 2	(GND)	(GND)	(GND)	(PWR)	(GND)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)
Layer 3	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)	(PWR)
Layer 4	(Signal)	(Signal)	(Signal)	(Signal)	(PWR)	(PWR)	(GND)	(PWR)	(PWR)	(GND)
Layer 5	(PWR)	(GND)	(PWR)	(GND)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)
Layer 6	(GND)	(PWR)	(GND)	(PWR)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)
Layer 7	(Signal)	(Signal)	(Signal)	(Signal)	(PWR)	(PWR)	(PWR)	(GND)	(GND)	(GND)
Layer 8	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(PWR)	(PWR)
Layer 9	(GND)	(GND)	(PWR)	(GND)	(GND)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)
Layer 10	(Bottom)	(Bottom)	(Bottom)	(Bottom)	(Bottom)	(Bottom)	(GND)	(GND)	(GND)	(GND)

	12A	12B	12C	12D	12E	12F	12G	12H	12J	12K	12L
Layer 1	(Top)	(Top)	(Top)	(Top)	(Top)	(Top)	(Top)	(Top)	(GND)	(Top)	(GND)
Layer 2	(GND)	(PWR)	(GND)	(GND)	(GND)	(GND)	(GND)	(PWR)	(Signal)	(GND)	(PWR)
Layer 3	(PWR)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)
Layer 4	(Signal)	(Signal)	(PWR)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)	(PWR)	(Signal)	(Signal)
Layer 5	(Signal)	(Signal)	(Signal)	(Signal)	(PWR)	(GND)	(PWR)	(GND)	(GND)	(PWR)	(GND)
Layer 6	(GND)	(PWR)	(GND)	(PWR)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)	(Signal)
Layer 7	(PWR)	(GND)	(PWR)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)
Layer 8	(Signal)	(Signal)	(Signal)	(Signal)	(GND)	(PWR)	(GND)	(PWR)	(PWR)	(Signal)	(GND)
Layer 9	(Signal)	(Signal)	(PWR)	(PWR)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)	(GND)	(Signal)
Layer 10	(GND)	(PWR)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)	(Signal)
Layer 11	(PWR)	(GND)	(GND)	(GND)	(GND)	(GND)	(PWR)	(GND)	(Signal)	(Signal)	(GND)
Layer 12	(Bottom)	(Bottom)	(Bottom)	(Bottom)	(Bottom)	(Bottom)	(Bottom)	(Bottom)	(GND)	(GND)	(PWR)

Note:

This document is used for the naming convention of the PowerPCB Start Files, PowerPCB CAM Files, PowerPCB 2D-Line “Below Board Text” items and AutoCAD Lay-up Details.

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	14A	14B	14C	14D	14E	14F	14G
Layer 1	(Top)	(Top)	(GND)	(PWR)	(Top)	(Top)	(Top)
Layer 2	(GND)	(PWR)	(Signal)	(Signal)	(GND)	(PWR)	(GND)
Layer 3	(Signal)	(Signal)	(PWR)	(GND)	(Signal)	(Signal)	(PWR)
Layer 4	(Signal)	(Signal)	(GND)	(PWR)	(Signal)	(GND)	(Signal)
Layer 5	(PWR)	(GND)	(Signal)	(Signal)	(GND)	(Signal)	(Signal)
Layer 6	(GND)	(PWR)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)
Layer 7	(Signal)	(Signal)	(PWR)	(GND)	(PWR)	(PWR)	(Signal)
Layer 8	(Signal)	(Signal)	(GND)	(PWR)	(GND)	(GND)	(Signal)
Layer 9	(PWR)	(GND)	(Signal)	(Signal)	(Signal)	(Signal)	(GND)
Layer 10	(GND)	(PWR)	(Signal)	(Signal)	(PWR)	(Signal)	(Signal)
Layer 11	(Signal)	(Signal)	(PWR)	(GND)	(Signal)	(PWR)	(Signal)
Layer 12	(Signal)	(Signal)	(GND)	(PWR)	(Signal)	(Signal)	(PWR)
Layer 13	(PWR)	(GND)	(Signal)	(Signal)	(GND)	(GND)	(GND)
Layer 14	(Bottom)	(Bottom)	(PWR)	(GND)	(Bottom)	(Bottom)	(Bottom)

	16A	16B	16C	16D
Layer 1	(Top)	(Top)	(GND)	(PWR)
Layer 2	(GND)	(PWR)	(Signal)	(Signal)
Layer 3	(PWR)	(GND)	(PWR)	(GND)
Layer 4	(Signal)	(Signal)	(Signal)	(Signal)
Layer 5	(Signal)	(Signal)	(Signal)	(Signal)
Layer 6	(GND)	(PWR)	(GND)	(PWR)
Layer 7	(PWR)	(GND)	(PWR)	(GND)
Layer 8	(Signal)	(Signal)	(Signal)	(Signal)
Layer 9	(Signal)	(Signal)	(Signal)	(Signal)
Layer 10	(GND)	(PWR)	(GND)	(PWR)
Layer 11	(PWR)	(GND)	(PWR)	(GND)
Layer 12	(Signal)	(Signal)	(Signal)	(Signal)
Layer 13	(Signal)	(Signal)	(Signal)	(Signal)
Layer 14	(GND)	(PWR)	(GND)	(PWR)
Layer 15	(PWR)	(GND)	(Signal)	(Signal)
Layer 16	(Bottom)	(Bottom)	(PWR)	(GND)

Notes:

1. Stack-ups with GND & PWR on outer layers are primarily meant for fanout and short trace runs only. For HDI purposes, the second layer is a signal layer to run traces from fine pitch BGA's. In this HDI application, the manufacturer would use laser drills to perform a control depth drilling process to access layer 2.

2. Balance of laminate thickness between layers from the centerline of the PCB structure is required for all stack-ups in order to minimize or eliminate warpage. You must determine laminate type and thickness prior to the start of CAD layout.

3. It is imperative that analysis of the stack-up be done with the manufacturer to determine copper weights, prepreg and core thickness before CAD layout to insure controlled impedance.

4. 1.6mm FR4 material can be used for Stack-ups 2 – 16 Layers. 1.8mm FR4 is used for the 10 - 20 Layer, 2.3mm FR4 is used for the 10 - 32 Layer stack-ups.

5. Common PC Board thickness' are:
   A. 0.8mm (.031")
   B. 1.0mm (.040")
   C. 1.6mm (.062")
   D. 1.8mm (.070")
   E. 2.3mm (.090")
   F. 3.2mm (.125")

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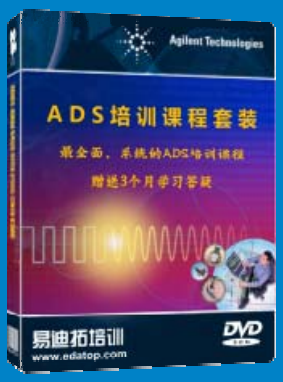

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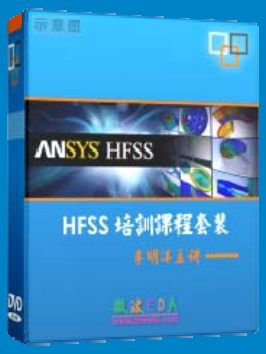

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