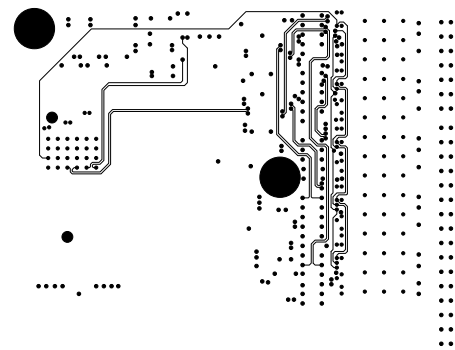
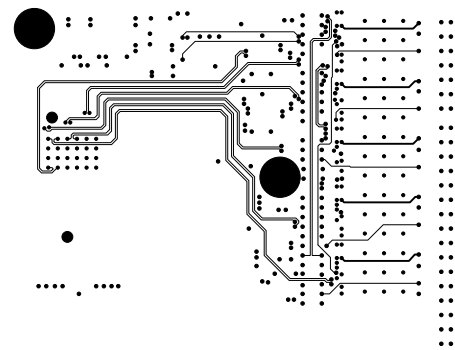


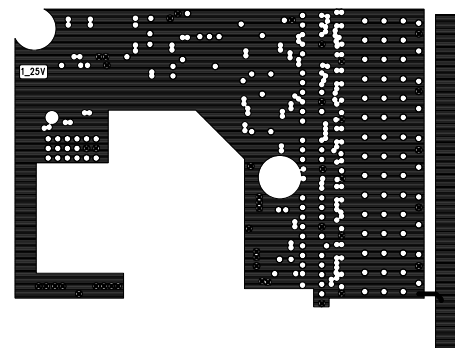
		TOP. SIDE	LAYER 1
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA		HEAVY PHOTON TRACKER HYBRID	
21 OCT 2013			
ENGR: R. HERBST DSNGR: T. PHAN		PC-249-901-03-C03	SHT 5 OF 15



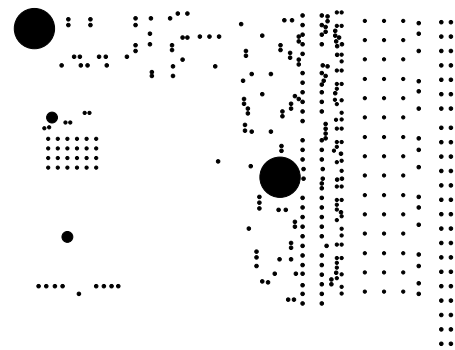
		SIG INNER 1	LAYER 4
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA		HEAVY PHOTON TRACKER HYBRID	
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		SIG INNER 2	LAYER 5
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA		HEAVY PHOTON TRACKER HYBRID	
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		V1_25V PLANE	LAYER 6
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA		HEAVY PHOTON TRACKER HYBRID	
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ENGR: R. HERBST DSNGR: T. PHAN	PC-249-901-03-C03	SHT 10 OF 15	

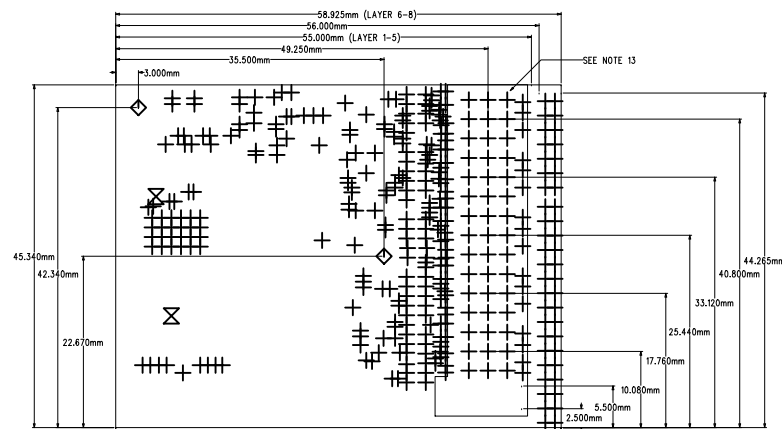
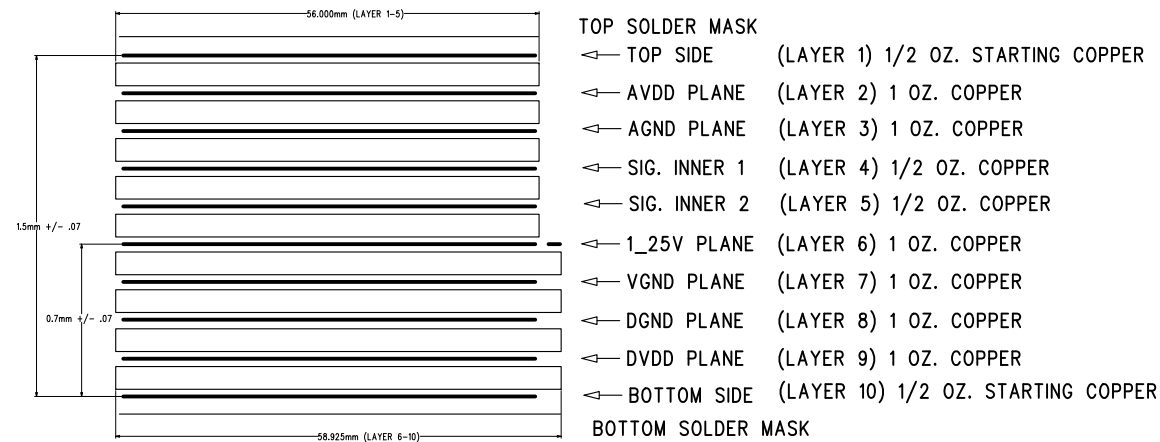


		BOTTOM SIDE	LAYER 10
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA		HEAVY PHOTON TRACKER HYBRID	
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**NOTES: (UNLESS OTHERWISE SPECIFIED:)**

1. FABRICATE PWB FROM GERBER DATA CONTAINED IN ZIP FILE.
2. CLASS 3 PWB PER IPC-6011 .
3. TYPE 3 PWB PER IPC-6012A WITH AMENDMENT 1 .
4. TYPE 1C ASSEMBLY PER IPC-2222.
5. MATERIAL REQUIREMENTS:
  - POLYIMIDE
  - SEE STACK-UP DETAIL FOR AREA WEIGHT PER SQUARE FOOT.
6. PINK RING IS NOT PERMITTED.
7. PLATING IN THROUGH HOLES SHALL BE 0.001 INCH MINIMUM.
8. PREPREG LAYERS SHALL BE 2 PLYS MINIMUM .
9. SOLDER MASK -BLACK PHOTO- IMAGEABLE SOLDER MASK PER IPC-SM-840C CLASS H SHALL BE APPLIED TO BOTH SIDES OF THE PWB (SMOBC).
10. FINISH - ALL EXPOSED COPPER AREAS NOT COVERED WITH SOLDER MASK SHALL BE GOLD PLATED.
11. TOLERANCES:
  - BOW AND TWIST SHALL NOT EXCEED 0.5% .
  - CONDUCTOR WIDTH AND SPACING SHALL BE WITHIN 0.001 INCH OF GERBER FILE DATA.
  - MINIMUM DIELECTRIC THICKNESS SHALL BE 0.004 INCH.
  - FINAL PWB THICKNESS SHALL BE AS SHOWN IN STACK-UP DETAIL.
  - SURFACE MOUNT PADS SHALL BE FLAT AND SHALL NOT EXTEND MORE THAN 0.003 INCH ABOVE THE PWB SURFACE.
12. PLATED THROUGH HOLES:
  - HOLE SIZES IN DRILL CHART ARE IN MILS AND SPECIFY FINISHED DIAMETERS.
  - LAYER TO LAYER REGISTRATION SHALL BE WITHIN 0.003 INCH.
  - HOLE LOCATION SHALL BE WITHIN 0.004 RADIUS OF TRUE POSITION (RTP).
  - ALL HOLES SHALL BE ON FIRST DRILL. SECOND DRILL IS NOT PERMITTED.
  - TOLERANCE FOR COMPONENT LEAD HOLES IS +/- 0.003 INCH.
  - TOLERANCE FOR VIA HOLES IS +0.002 / -0.010 INCH.
13. PLATE THIS AREA WITH SOFT GOLD FOR WIRE BOND.
14. 100 OHMS IMPEDENCE CONTROL PAIR FOR ALL SIGNAL LAYERS (4.5/5/4.5)
15. PLUG ALL VIA HOLES.
15. CROSS SECTION CUT REQUIRED FOR EACH PANEL.

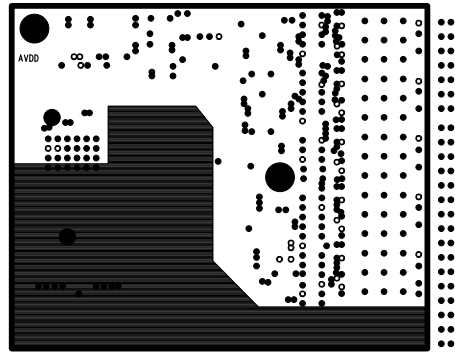
**10-LAYER STACK-UP**



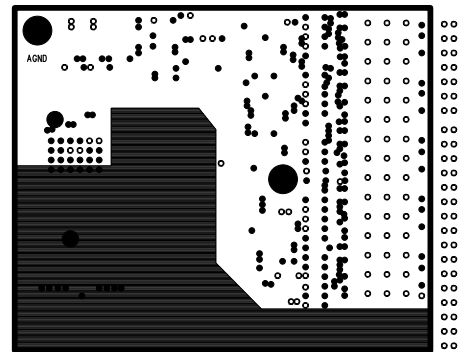
**DRILL DRAWING**

SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA 21 OCT 2013		HEAVY PHOTON TRACKER HYBRID	
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SIZE	QTY	SYM	PLATED	TOL
8	368	+	YES	SEE_NOTES
96.06	2	◇	NO	SEE_NOTES
57	2	⊗	NO	SEE_NOTES

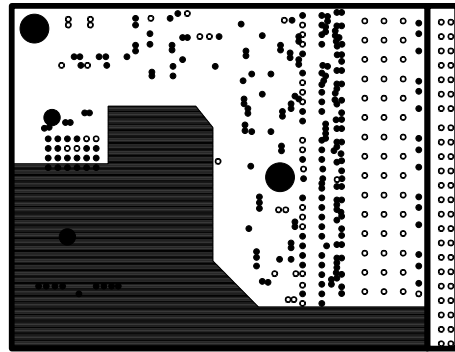


		AVDD PLANE	LAYER 2
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA		HEAVY PHOTON TRACKER HYBRID	
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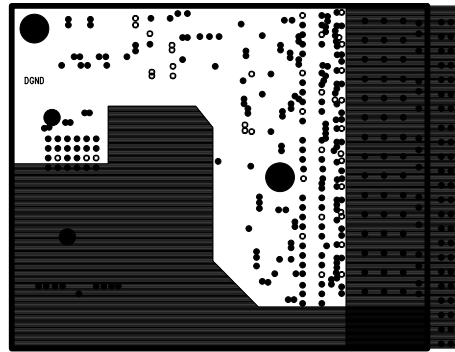


		AGND PLANE	LAYER 3
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA		HEAVY PHOTON TRACKER HYBRID	
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ENGR: R. HERBST DSNR: T. PHAN		PC-249-901-03-C03	SHT 7 OF 15

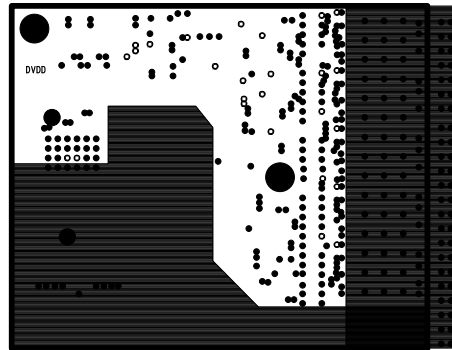




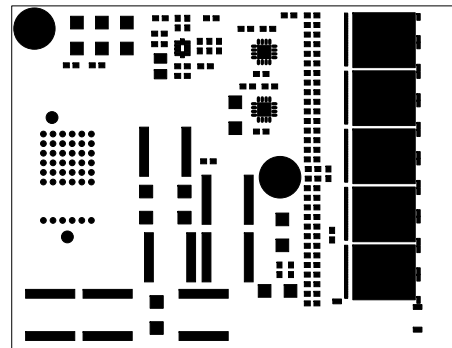
		AGND PLANE	LAYER 7
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA		HEAVY PHOTON TRACKER HYBRID	
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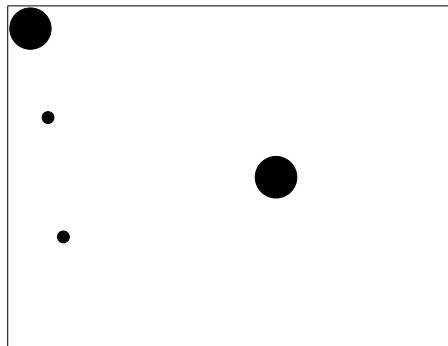
		DGND PLANE	LAYER 8
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA		HEAVY PHOTON TRACKER HYBRID	
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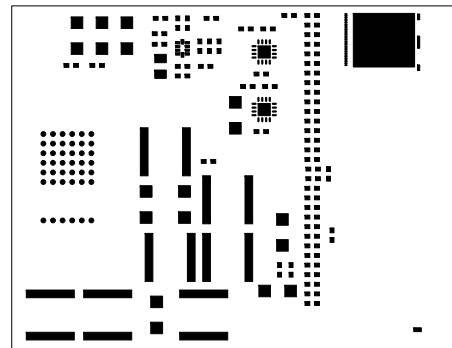
		DVDD PLANE	LAYER 9
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA		HEAVY PHOTON TRACKER HYBRID	
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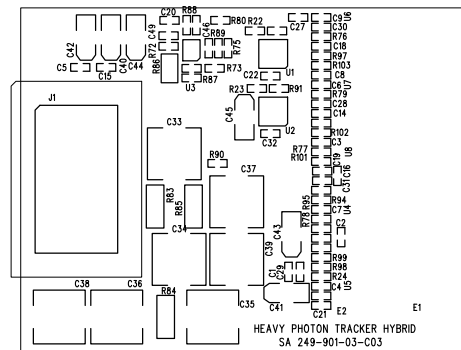
		SOLDERMASK TOP	
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA		HEAVY PHOTON TRACKER HYBRID	
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SOLDERMASK BOTTOM	
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA 21 OCT 2013	HEAVY PHOTON TRACKER HYBRID
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		PASTE MASK TOP	
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA		HEAVY PHOTON TRACKER HYBRID	
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SILKSCREEN TOP	
SLAC NATIONAL ACCELERATOR LABORATORY U.S. DEPARTMENT OF ENERGY STANFORD UNIVERSITY STANFORD, CALIFORNIA 21 OCT 2013	HEAVY PHOTON TRACKER HYBRID
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