

REV	DESCRIPTION	DATE	APPROVED

DWG NO	SHEET	REV
140-0310111-01	B	1

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REVISIONS

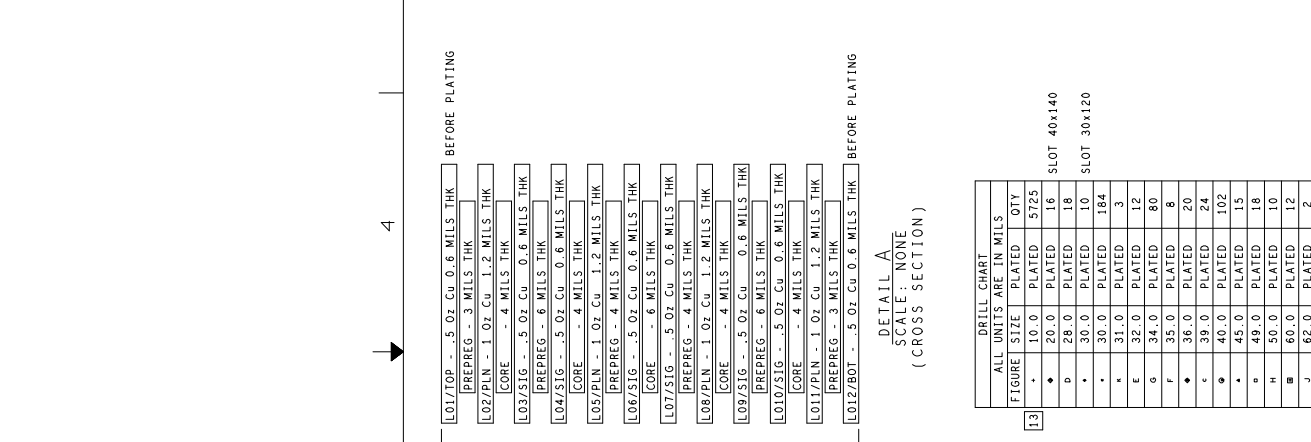
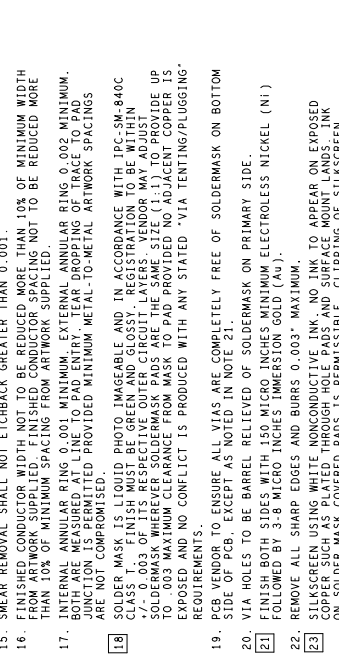
NOTES UNLESS OTHERWISE SPECIFIED:

- PCB VENDOR MUST NOTIFY RESPONSIBLE ALTERA PCB CONTACT OF ANY DISCREPANCIES FOUND BETWEEN FABRICATION DATA AND FABRICATION DRAWING NOTES.
- THIS DRAWING IS VIEWED FROM THE PRIMARY OR TOP SIDE OF THE PCB.
- FABRICATION OF THIS PCB SHALL BE IN CONFORMANCE WITH THE FOLLOWING SPECIFICATIONS: IPC-6011 CLASS 2 (GENERIC).
- FABRICATION OF THIS PCB TO BE ACCEPTABLE TO IPC-A-600 CLASS 2 (LATEST REVISION).
- ALL DIMENSIONAL LIMITS APPLY AFTER PLATING OR PROCESSING.
- TOLERANCES OF DATUM HOLE TO: BOARD EDGE LOCATIONS +/- 0.010, DRILLED HOLE LOCATIONS +/- 0.003, V-SCORE LOCATIONS +/- 0.010
- BASE MATERIAL: FR4 GLASS EPOXY, MIN. Tg OF 170 DEGREES C.
- FLAME CLASS: UL 94V-0 & MUST MEET REQUIREMENTS OF UL796.
- MANUFACTURER MUST BE UL RECOGNIZED TO PRODUCE THIS PRODUCT SUCH THAT IT MEETS 170 DEGREES CELSIUS MAXIMUM OPERATING TEMPERATURE (MOT).
- THE FOLLOWING MUST BE MARKED OR ETCHED ON SECONDARY SIDE OF PCB IN AREA OF DATE CODE:
 - UL RECOGNIZED VENDOR ID, UL TYPE DESIGNATION AND/OR MARKINGS WHICH REFLECT THE SPECIFIED FLAME CLASS AND MAXIMUM OPERATING TEMPERATURE
 - PCB RATINGS TO ENSURE ALL UNCONNECTED (NON-FUNCTIONAL) INTERNAL SIGNAL LAYER PADS AND VIAS ARE REMOVED
- HOLE/SLOT PLATING: 0.001 MIN AVERAGE / 0.0008 ABSOLUTE MIN. PLATING. HOLE/SLOT DIAMETERS ARE SPECIFIED AFTER PLATING (SEE HOLE SCHEDULE).
- THESE HOLES MAY BE PLATED SHUT OR SOLDER FILLED.
- AFTER REVIEWING FABRICATION DATA, PCB VENDOR MUST DISCUSS WHETHER COPPER THIEVING IS NECESSARY WITH THE RESPONSIBLE ALTERA PCB CONTACT. WHEN DETERMINED NECESSARY, A SPACING OF 100 MILLS FROM ANY OTHER COPPER FEATURE ON THE BOARD MUST BE MAINTAINED.
- SHEAR REMOVAL SHALL NOT ETCHBACK GREATER THAN 0.001.
- FINISHED CONDUCTOR WIDTH NOT TO BE REDUCED MORE THAN 10% OF MINIMUM WIDTH AND CONDUCTOR SPACING NOT TO BE REDUCED MORE THAN 10% OF MINIMUM SPACING FROM ARTWORK SUPPLIED.
- INTERNAL ANNUAL RING 0.001 MINIMUM, EXTERNAL ANNUAL RING 0.002 MINIMUM. BOTH ARE MEASURED AT LINE TO PAD ENTRY. TEAR DROPPING OF TRACE TO PAD JUNCTIONS COMPRISED PROVIDED MINIMUM METAL-TO-METAL ARTWORK SPACINGS
- SOLDER MASK IS LIQUID PHOTO IMAGABLE AND IN ACCORDANCE WITH IPC-SM-840C CLASS 1. FINISH MUST BE GREEN AND GLOSSY. REGISTRATION TO BE WITHIN +/- 0.003 OF ITS RESPECTIVE OUTER CIRCUIT LAYERS. VENDOR MAY ADJUST SOLDER MASK WHERE NECESSARY TO PROVIDE THE MINIMUM SOLDER MASK TO PROPERLY EXPOSED AND NO CONFLICT IS PRODUCED WITH ANY STATED "VIA TENTING/PLUGGING" REQUIREMENTS.
- PCB VENDOR TO ENSURE ALL VIAS ARE COMPLETELY FREE OF SOLDERMASK ON BOTTOM SIDE OF PCB, EXCEPT AS NOTED IN NOTE 21.
- VIA HOLES TO BE BARREL RELIEVED OF SOLDERMASK ON PRIMARY SIDE.
- FINISH BOTH SIDES WITH 150 MICRO INCHES MINIMUM ELECTROLESS NICKEL (Ni) FOLLOWED BY 3-8 MICRO INCHES IMMERSION GOLD (Au).
- REMOVE ALL SHARP EDGES AND BURRS 0.003" MAXIMUM.
- SILKSCREEN USING WHITE NONCONDUCTIVE INK. NO INK TO APPEAR ON EXPOSED COPPER SUCH AS PLATED THROUGH HOLE PADS AND SURFACE MOUNT LANDS. INK 0.008 MAX FROM PAD TO PAD. FROM PAD TO PAD IS PERMITTED.
- BOW & TWIST SHALL BE DETERMINED BY PHYSICAL MEASUREMENT AND PERCENTAGE CALCULATION IN ACCORDANCE WITH IPC-TM-650, METHOD 2.4.22. BOW AND TWIST MAY NOT EXCEED 0.7%
- 100% CONTINUITY AND ISOLATION ELECTRICAL TESTING PER CURRENT IPC TEST REFERENCE (IPC 3500) ON VERTICAL PANELS. ALL TEST DATA MUST BE CROSS-REFERENCED TO THE BOARD FILE ON VERTICAL PANELS. ALL TEST DATA MUST BE NEUTRAL FILE OR NETLIST PROVIDED.
- CONTROLLED IMPEDANCE TRACES ARE AS FOLLOWS:
 - TOLERANCE (ALL LINES) +/- 10%
 - SINGLE ENDED TRACES TO BE 50 OHMS
 - DIFFERENTIAL TRACES TO BE 100 OHMS
- PCB VENDOR TO PROVIDE ONE TEST COUPON AND ONE CROSS SECTION PER LOT WITH SHIPMENT.
- PCB VENDOR TO PROVIDE 2 SOLDER SAMPLES WITH FIRST SHIPMENT.
- DETAILS AND SPECIFICATIONS ARE AT MANUFACTURER'S OPTION. HOWEVER, FINAL APPROVAL MUST BE OBTAINED.

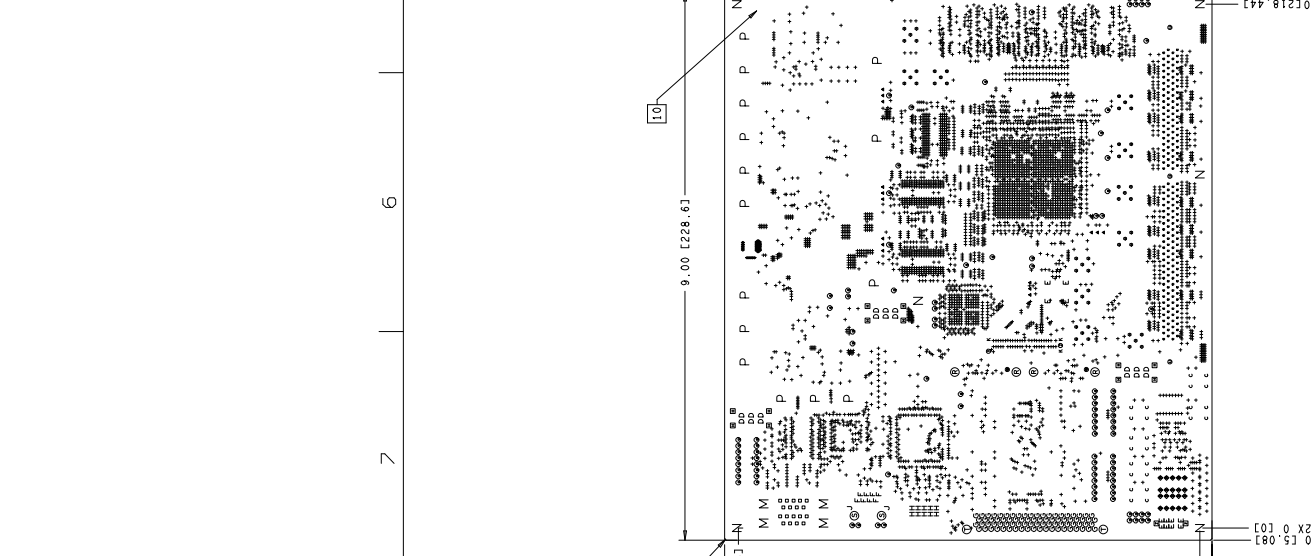
FIGURE	SIZE	PLATED	QTY
13	10.0	PLATED	5725
	20.0	PLATED	16
	28.0	PLATED	18
	30.0	PLATED	10
	31.0	PLATED	3
	32.0	PLATED	12
	34.0	PLATED	80
	35.0	PLATED	8
	36.0	PLATED	20
	39.0	PLATED	24
	40.0	PLATED	102
	45.0	PLATED	15
	49.0	PLATED	18
	50.0	PLATED	10
	60.0	PLATED	12
	62.0	PLATED	2
	67.0	PLATED	55
	120.0	PLATED	4
	125.0	PLATED	6
	170.0	PLATED	15
	28.0	NON-PLATED	1
	33.0	NON-PLATED	1
	60.0	NON-PLATED	2
	67.0	NON-PLATED	2
	94.0	NON-PLATED	3
	106.0	NON-PLATED	2
	126.0	NON-PLATED	2
	138.0	NON-PLATED	4

L01/TOP - 5 Oz. Cu. 0.6 MILS THK	BEFORE PLATING
PREPREG - 3 MILS THK	
L02/PIN - 1.0z Cu. 1.2 MILS THK	
CORE - 4 MILS THK	
PREPREG - 6 MILS THK	
L04/SIG - 5 Oz. Cu. 0.6 MILS THK	
CORE - 4 MILS THK	
L05/PLN - 1.0z Cu. 1.2 MILS THK	
PREPREG - 4 MILS THK	
L06/SIG - 5 Oz. Cu. 0.6 MILS THK	
CORE - 6 MILS THK	
PREPREG - 4 MILS THK	
L08/PIN - 1.0z Cu. 1.2 MILS THK	
CORE - 4 MILS THK	
PREPREG - 6 MILS THK	
L09/SIG - 5 Oz. Cu. 0.6 MILS THK	
CORE - 4 MILS THK	
L10/SIG - 5 Oz. Cu. 0.6 MILS THK	
CORE - 4 MILS THK	
L11/PLN - 1.0z Cu. 1.2 MILS THK	
PREPREG - 3 MILS THK	
L12/BOT - 5 Oz. Cu. 0.6 MILS THK	BEFORE PLATING

SCALE: NONE
DETAIL A
(CROSS SECTION)



DASH NEXT ASSY	USED ON	FINISH



MATERIAL	REV	DATE
SPEC	7	P. Serrito Apr. 27, 2004
	3	SKIN ENGR
	18	21
	23	

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES IN ACCORDANCE WITH ANSI Y14.5. DRILL TOLERANCES ARE PER ISO#87

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ITEM	DESCRIPTION	QTY

PCB FABRICATION
STRATIX MEMORY BOARD 1

SIZE/CAGE CODE/DWG NO.
D/N/A 140-0310111-01 B

CONTRACT NO. XXXXXXXX SCALE: 1/1 SHEET 1 OF 1

