

**** FILL WITH NON-CONDUCTIVE EPOXY AND PLATE WITH COPPER (VIA-IN-PAD)

DRILL CHART: TOP TO BOTTOM

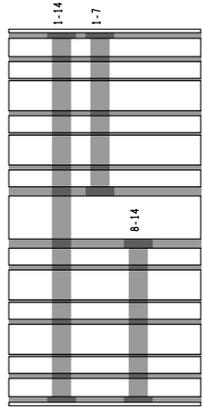
ALL UNITS ARE IN MILS			
FIGURE	FINISHED SIZE	PLATED	QTY
⊙	11.0	PLATED	2493
⊙	33.0	PLATED	2
⊙	35.0	PLATED	14
⊙	35.0	PLATED	1
⊙	35.0	PLATED	8
⊙	38.0	PLATED	32
⊙	40.0	PLATED	14
⊙	40.2	PLATED	3
⊙	51.2	PLATED	3
I	65.0	PLATED	6
⊙	210.0	PLATED	2
122	122.0	NON-PLATED	2
125	125.0	NON-PLATED	6
128	128.0	NON-PLATED	2
4mm	157.5	NON-PLATED	1

DRILL CHART: TOP TO L7_PWR1

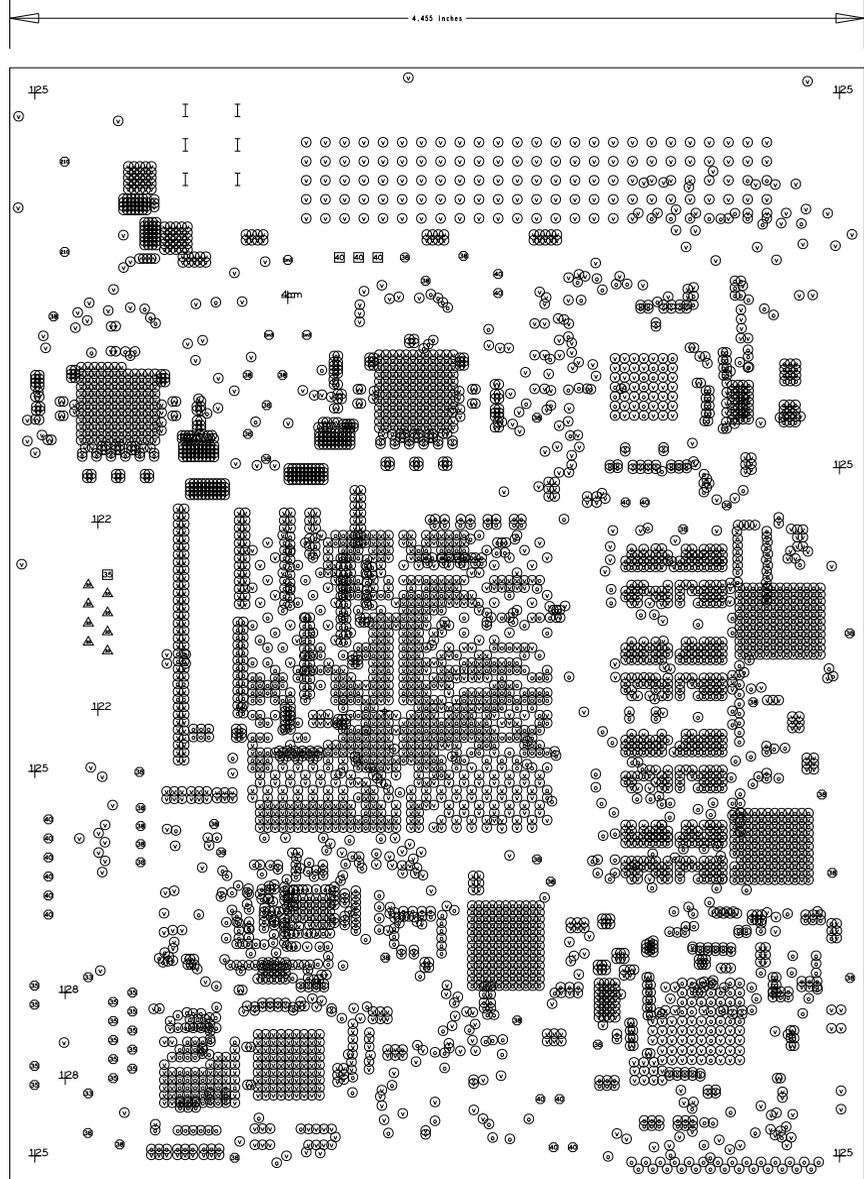
ALL UNITS ARE IN MILS			
FIGURE	FINISHED SIZE	PLATED	QTY
⊙	8.0	PLATED	738

DRILL CHART: L8_PWR2 TO BOTTOM

ALL UNITS ARE IN MILS			
FIGURE	FINISHED SIZE	PLATED	QTY
⊙	8.0	PLATED	1221



- # SURFACE - AIR 0 MIL
- # DIELECTRIC - SOLDERMASK 0.8 MIL
- L1 TOP CONDUCTOR - COPPER 1.37 MIL
- # DIELECTRIC - FR4 4.32 MIL
- L2 L2 GND1 PLANE - COPPER 1.2 MIL
- # DIELECTRIC - FR-4 4 MIL
- L3 L3 SIG1 CONDUCTOR - COPPER 0.6 MIL
- # DIELECTRIC - FR-4 7.16 MIL
- L4 L4 GND2 PLANE - COPPER 1.2 MIL
- # DIELECTRIC - FR-4 4 MIL
- L5 L5 SIG2 CONDUCTOR - COPPER 0.6 MIL
- # DIELECTRIC - FR-4 7.16 MIL
- L6 L6 GND3 PLANE - COPPER 1.2 MIL
- # DIELECTRIC - FR-4 4 MIL
- L7 L7_PWR1 PLANE - COPPER 2.2 MIL
- # DIELECTRIC - FR-4 10.24 MIL
- L8 L8_PWR2 PLANE - COPPER 2.2 MIL
- # DIELECTRIC - FR-4 4 MIL
- L9 L9 GND4 PLANE - COPPER 1.2 MIL
- # DIELECTRIC - FR-4 7.16 MIL
- L10 L10 SIG3 CONDUCTOR - COPPER 0.6 MIL
- # DIELECTRIC - FR-4 4 MIL
- L11 L11 GND5 PLANE - COPPER 1.2 MIL
- # DIELECTRIC - FR-4 7.16 MIL
- L12 L12 SIG4 CONDUCTOR - COPPER 0.6 MIL
- # DIELECTRIC - FR-4 4 MIL
- L13 L13 GND6 PLANE - COPPER 1.2 MIL
- # DIELECTRIC - FR-4 4.32 MIL
- L14 BOTTOM CONDUCTOR - COPPER 1.37 MIL
- # DIELECTRIC - SOLDERMASK 0.8 MIL
- # SURFACE - AIR 0 MIL



FABRICATE PCB PER IPC-6012 CLASS 2
ACCEPTANCE OF FINISHED PRINTED BOARDS SHALL BE IN ACCORDANCE WITH IPC-600
LAYER COUNT: 14 LAYERS
BOARD DIMENSIONS: 5.845 INCHES X 4.455 INCHES
MATERIAL REQUIREMENTS: FR-4, PER IPC-4101/98 /99 /101 /126
A. NOMINAL MATERIAL: ISOLA 370HR
FINISH: ALL EXPOSED CONDUCTIVE SURFACES SHALL BE ENIG PER IPC4552
A. 2-5 MICRONCHES IMMERSION GOLD OVER 120-240 MICRONCHES ELECTROLESS NICKEL

USE BLUE SOLDERMASK
REMOVE SILKSCREEN FROM COMPONENT PADS / SOLDERMASK CLIPPING IS ACCEPTABLE
COPPER MAY EXTEND TO EDGE OF PCB ON TOP AND BOTTOM LAYERS
PULL BACK COPPER FROM EDGE OF PCB ON INTERNAL LAYERS

LAYER 'FINISHED' COPPER WEIGHTS:
A. LAYER 3, 5, 10, 12 = 0.5 OZ COPPER
B. LAYER 1, 2, 4, 6, 9, 11, 13, 14 = 1.0 OZ COPPER
C. LAYER 7, 8 = 2.0 OZ COPPER

MINIMUM DIELECTRIC THICKNESS BETWEEN LAYERS = 3.9 MIL
FINISHED BOARD THICKNESS INCLUDING SOLDERMASK = 89.87 MIL +/- 10%

MINIMUM TRACE IS 3.5 MIL, MINIMUM SPACE IS 4.0 MIL

CONTROLLED IMPEDANCE ON SIGNAL LAYERS:
LAYERS 1, 14
A. 50 OHM SINGLE-ENDED = 6.5 MIL TRACE
B. 100 OHM DIFFERENTIAL = 5.5 MIL TRACE / 5.0 MIL SPACE
LAYER 3
A. 90 OHM DIFFERENTIAL = 4.8 MIL TRACE / 6.0 mil SPACE
LAYERS 10, 12
A. 100 OHM DIFFERENTIAL = 4.5 MIL TRACE / 5.0 mil SPACE
LAYERS 3, 5, 10, 12
A. 36 OHM SINGLE-ENDED = 9.6 MIL TRACE
B. 39 OHM SINGLE-ENDED = 8.4 MIL TRACE
C. 50 OHM SINGLE-ENDED = 4.6 MIL TRACE
D. 76 OHM DIFFERENTIAL = 6.8 MIL TRACE / 6.0 mil SPACE
+/- 10% TOLERANCE ON ALL NOMINAL IMPEDANCE VALUES

VIAS:
A. VIA-IN-PAD ON TOP AND BOTTOM LAYERS
B. BLIND VIA FROM LAYER 1 TO LAYER 7, FILL & PLATE ALL 8-MIL BLIND-VIAS USING NON-CONDUCTIVE EPOXY
C. BLIND VIA FROM LAYER 8 TO LAYER 14, FILL & PLATE ALL 8-MIL BLIND-VIAS USING NON-CONDUCTIVE EPOXY
D. THROUGH VIA FROM LAYER 1 TO LAYER 14, FILL & PLATE ALL 11-MIL THROUGH-VIAS USING NON-CONDUCTIVE EPOXY

ELECTRICAL TESTING AND VERIFICATION:
A. FINISHED BOARDS SHALL BE 100% ELECTRICALLY TESTED USING RESISTIVE CONTINUITY AND RESISTIVE ISOLATION TESTING

DELIVERABLE ITEMS REQUIRED:
A. ONE ADDITIONAL BOARD TO BE USED AS SOLDER SAMPLE
B. CONTROLLED IMPEDANCE MEASUREMENT REPORT