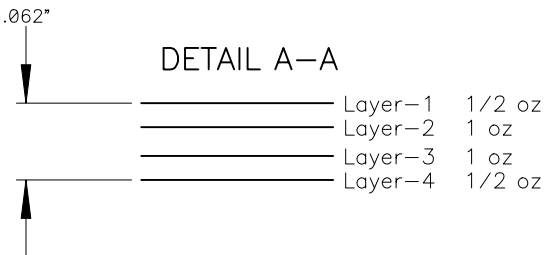


NOTES: unless otherwise specified

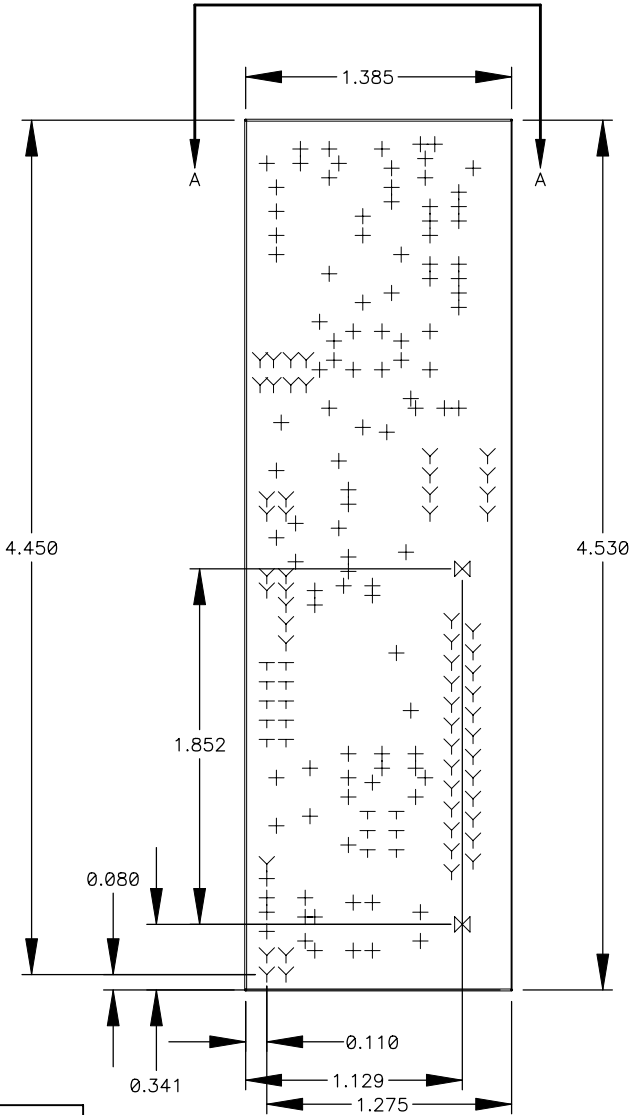
- 1.0 Fabricate circuit board to conform to IPC-6010.  
Applicable documents  
The following items are required:  
PATTERN FILM / GERBER DATA DWG # TRNT-EL-04-3009  
DETAIL DRAWING DWG # TRNT-EL-04-1009 THIS DOCUMENT
- 1.1 Artwork may not be modified except for process control.
- 2.0 BASE MATERIAL
- 2.1 Laminate base material shall be natural color, FR370 or equivalent.  
See Detail A-A for layer to layer specification and overall thickness.
- 2.2 B-Stage shall be selected at vendors discretion to meet over all board thickness and end item requirements.
- 3.0 COPPER PLATING
- 3.1 Copper plating shall have a minimum purity of 99.5 percent and a minimum thickness of .001 inch. This also applies to the plating in the holes.
- 4.0 SOLDERMASK
- 4.1 Apply LPI Green soldermask over bare copper according to the soldermask pattern file per IPC-SM-840.
- 5.0 FINISH
- 5.1 EXPOSED COPPER SHALL BE Ni/Au -- IMMERSION GOLD 3-5u INCH (0.00003-0.00005) OVER ELECTROLESS NICKEL 100-200u INCH (0.00001-0.00002) THICK IAW IPC-2221 AND IPC-4552 (ENIG).
- 6.0 SILK SCREEN
- 6.1 Silk screen top (-1) and bottom (-4) side of board using white epoxy ink according to the -1S pattern film and the -4S pattern film.  
Ink shall not cover any exposed metal.
- 7.0 DIMENSIONS
- 7.1 All dimensions are in inches.
- 7.2 Unless otherwise specified all hole sizes apply after plating.  
Hole sizes are shown in the drill schedule.
- 8.0 TOLERANCES
- 8.1 Hole size tolerance +-.003 after plating unless otherwise specified.
- 8.2 Conductor widths and spacing shall be within 20% of the artwork originals.
- 8.3 Layer to layer registration shall be .007 inches of true position
- 8.4 Board dimensions shall meet the requirements of the board drawing.
- 8.5 Warp and twist shall not exceed that defined in IPC-A-600.
- 9.0 APPEARANCE
- 9.1 All inside and outside corners shall have a maximum radius of .065
- 9.2 Remove all burrs and smooth sharp edges to .010 max.

Drill Table			
Hole Dia (inch)	Symbol	Quantity	Plated
0.018	+	105	Yes
0.037	Y	57	Yes
0.041	+	16	Yes
0.124	⊗	2	No



Modified Date: Wed Nov 18, 2009  
Print Date: Wed Nov 18, 2009

REVISIONS					
ZONE	LTR	REVISIONS	ECR	DATE	BY APRV



Array of 4 on a tabbed panel

APPROVED FOR  
CONSTRUCTION  
11-18-09 DMS

VENDOR NOTE: NOTIFY US OF ANY CONFLICTING REQUIREMENTS OR IF BOARDS CANNOT BE MANUFACTURED TO MEET THE ABOVE REQUIREMENTS, DUE TO VENDORS PROCESS AND/OR TECHNIQUES OR BECAUSE PHOTO TOOLS AND/OR SPECIFICATIONS ARE INADEQUATE.

TOLERANCES UNLESS OTHERWISE NOTED .XX ± .03 ANGULAR .XXX ± .010 ± .5°		 THIRD ANGLE PROJECTION		NATIONAL OPTICAL ASTRONOMY OBSERVATORIES OPERATED BY THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY UNDER COOPERATIVE AGREEMENT WITH NATIONAL SCIENCE FOUNDATION			
DO NOT SCALE DRAWING		NAME DETAIL		USED ON TORRENT		REF	
NEXT ASSEMBLY TRNT-EL-04-0009		TRANSITION UTILITY BOARD		DWG SIZE B		REV OD	
SCHEMATIC TRNT-EL-04-2009							
SCALE: FULL	DESIGNED BY mhunter pmoore	DATE 03nov09	CHECKED BY	DATE	DWG NO TRNT-EL-04-1009		
DWG PRODUCED USING PCAD2006	DRAWN BY Dee Stover	DATE 03NOV09	APPROVED BY	DATE	RELEASED	SHEET 1 OF 1	