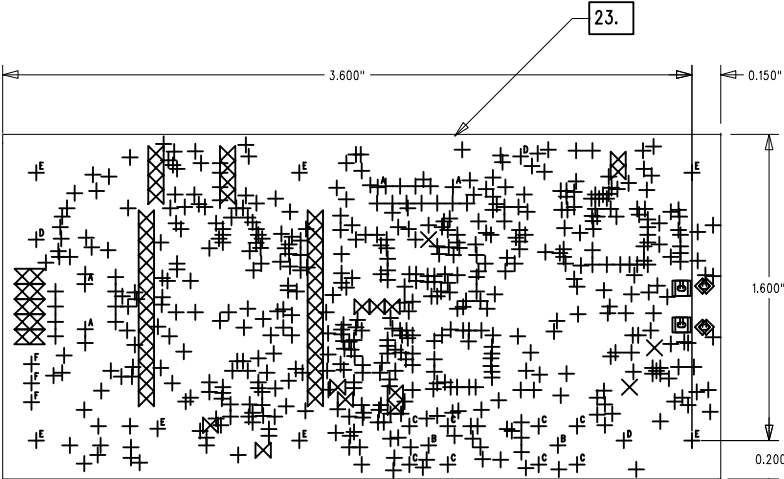
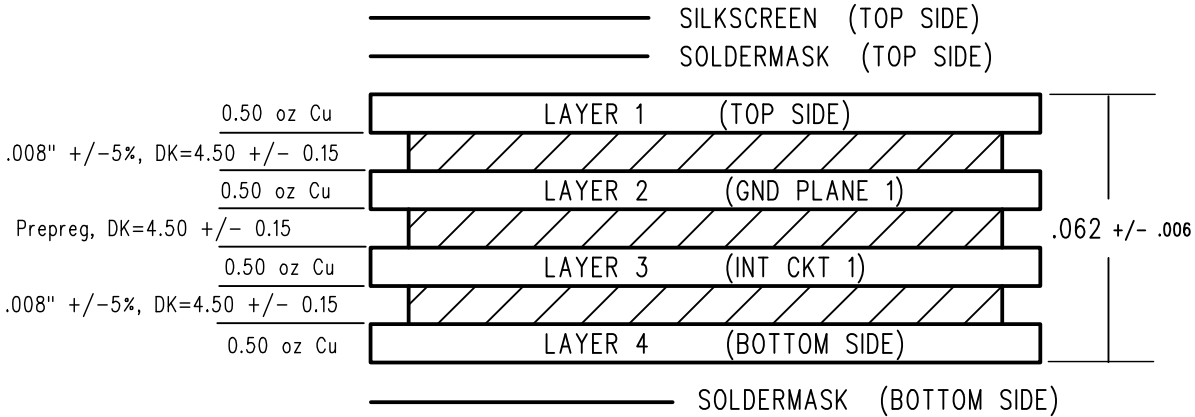


23. MANUFACTURER TO ADD COUNTRY OF ORIGIN IN SILKSCREEN (FAR SIDE).
22. INTERPRET DIMENSIONS PER ANSI-Y14.5.
21. CERTIFICATE OF COMPLIANCE TO BE PROVIDED ON ALL SHIPMENTS.
20. EACH LOT MUST INCLUDE ONE SOLDER SAMPLE AND ONE CORE SAMPLE.
19. TEAR DROPPING OF TRACE TO PAD JUNCTION ON ANY LAYER IS PERMITTED PROVIDING MINIMUM METAL-TO-METAL SPACING IS NOT COMPROMISED.
18. THIEVING NOT PERMITTED ON THIS DESIGN.
17. REMOVAL OF INNER SIGNAL LAYER NON-FUNCTIONAL PADS IS PERMITTED.
16. HOLE SIZE: HOLE SIZES GIVEN ARE "FINISHED" HOLE SIZE.
15. ELECTRICAL TEST: FINISHED PCB SHALL BE SUBJECT TO 100% CONTINUITY AND ELECTRICAL ISOLATION (SHORTS AND OPENS) TESTING. TEST FIXTURES TO BE GENERATED FROM PROVIDED IPC-D-356A FORMATTED NET LIST, CROSS-REFERENCED TO GERBER-EXTRACTED NET LIST DATA. THE BOARD MUST BE MARKED WITH A PERMANENT INK STAMP TO INDICATE PASSING THE ELECTRICAL TEST.
14. TRACE IMPEDANCE:

OUTER LAYERS: DIFFERENTIAL PAIR: 0.012" TRACES TO BE 50 OHMS +/- 10%.
13. PCB STACKUP: THE LAYERS SPECIFIED ON THE CROSS-SECTION FIGURE ARE FOR REFERENCE ONLY. IMPEDANCE IS THE CONTROLLING PARAMETER FOR THE STACKUP. USE DUST NETWORKS STACKUP DRAWING IF PROVIDED.
12. PCB TRACES: NOMINAL CONDUCTOR WIDTHS ON FINISHED PCB TO BE WITHIN +/-15% OR 0.001 WHICHEVER IS LESS OF ARTWORK AS DEFINED ON GERBER DATA AND SUPPLIED APERTURE WIDTH.
11. SILKSCREEN: SILKSCREEN LEGEND OVER SOLDER MASK, TOP SIDE. MATERIAL TO BE WHITE ELECTRICALLY NONCONDUCTIVE INK, NO INK TO APPEAR ON COMPONENT PADS, FIDUCIALS, ELECTRICALLY EXPOSED VIAS OR MOUNTING HOLES. MINIMUM TEXT HEIGHT TO BE 0.040 WITH 0.004 STROKE WIDTH. OVERLAP ONTO TENTED HOLES IS ALLOWED. USE ROHS-COMPLIANT MATERIAL.
10. MARKINGS: DATE CODE AND UL RECOGNIZED VENDOR MARK TO BE ETCHED ON SECONDARY (SOLDER) SIDE OF PCB. TOPSIDE SILKSCREEN LEGEND "DOM: WW-YY" SHOULD HAVE THE "WW-YY" CHANGED TO THE ACTUAL WEEK # (WW) AND YEAR (YY) THAT THE FAB WAS MANUFACTURED (SAME DATE CODE ETCHED ON SECONDARY SIDE).
9. WARP AND TWIST: NOT TO EXCEED 0.010" / INCH.
8. TOLERANCES: ALL TOLERANCES ARE NONCUMULATIVE. HOLE TO EDGE TOLERANCE SHALL NOT VARY MORE THAN +/-0.010 INCHES. TRACE LINE WIDTH TO BE +/-0.001".
7. SOLDER MASK: ROHS COMPLIANT, LPI SOLDER MASK PER IPC-SM-840C, OVER BARE COPPER (SMOBC) BOTH SIDES. REGISTRATION TO BE WITHIN +/-0.002 OF THE ASSOCIATED CIRCUIT LAYER, WITH NO MASK APPEARING ON PADS. PRESENCE OF SOLDER MASK RESIDUE SCRATCHES, AND/OR CONTAMINATION WHICH IMPAIR CONTACT PERFORMANCE ARE CONSIDERED MAJOR DEFECTS, AND CAUSE FOR LOT REJECTION. COLOR: GREEN.
6. ANNULAR RING: 0.002 DIA MIN FOR EXTERNAL LAYERS, 0.001 DIA MIN FOR INTERNAL LAYERS.
5. FINISH: GOLD IMMERSION, 2-5 MICRO INCHES (ROHS COMPLIANT).
4. PLATING: 0.50 OZ COPPER ON 2 OUTER LAYERS, 0.50 OZ COPPER ON 2 INNER LAYERS. SEE STACKUP DRAWING.
3. THICKNESS: 0.062 +/- .006 (FINISHED).
2. MATERIAL: NATURAL EPOXY/GLASS LAMINATES IS410 OR EQUIVALENT ROHS-COMPLIANT MATERIAL. GLASS TRANSITION TEMPERATURE MUST MEET OR EXCEED THAT REQUIRED FOR LEAD-FREE PROCESSING. MATERIAL SHALL BE UL94V-0 FLAMMABILITY RATED. DIELECTRIC CONSTANT TO BE 4.5 +/-5%.
1. FABRICATION: FABRICATION AND ACCEPTANCE TO MEET THE REQUIREMENTS OF IPC-A-600 AND IPC/ANSI-MLL950-C CLASS 2, AOL .25 GENERAL INSPECTION LEVEL II. ACCEPTANCE STAMP NO LARGER THAN 0.25 INCH IS TO BE LOCATED ON THE SOLDER SIDE USING CONTRASTING (WHITE PREFERRED) NONCONDUCTIVE PERMANENT INK.

R E V I S I O N S				
ECO	REV	DESCRIPTION	DATE	APPROVED
1110	1	INITIAL RELEASE	3/5/12	
1139	2	RE-SPIN, MINOR FIXES	6/13/12	
1198	3	CHANGES TO VSUPPLY	1/29/13	

LAYUP DETAIL - 4 LAYER



RPD ENGINEERING, GRASS VALLEY, CA 95945		530-271-0804	
COMPANY: DUST NETWORKS	DATE: 6/13/12	P/N: 600-0186	
TITLE: GERBERS, PROGRAMMER, ETERNA			
LAYER:	DRILL DRAWING	A/W: 610-0186	REV: 3

SIZE	QTY	SYM	PLATED	TOL
0.01	532	+	YES	+/-0.003
0.015	3	×	YES	+/-0.003
0.02559 x 0.04134	2	□	YES	+/-0.003
0.02756 x 0.04724	2	◇	YES	+/-0.003
0.032	10	⊗	YES	+/-0.003
0.035	45	⊠	YES	+/-0.003
0.03937	4	⊡	NO	+/-0.003
0.05906	2	⊢	YES	+/-0.003
0.06299	8	⊣	YES	+/-0.003
0.063	3	⊤	YES	+/-0.003
0.1	7	⊥	YES	+/-0.003
0.04	3	⊦	YES	+/-0.003

THIS DOCUMENT CONTAINS INFORMATION CONSIDERED PROPRIETARY, AND SHALL NOT BE REPRODUCED WHOLLY OR IN PART, NOR DISCLOSED TO OTHERS WITHOUT SPECIFIC PRIOR WRITTEN PERMISSION FROM DUST NETWORKS.

DUST NETWORKS CONFIDENTIAL

		UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES: TOLERANCES ARE: FRACTIONS: DECIMALS: .XX ± .01 ANGLES: 0° 30" .XXX ± .005	APPROVALS	DATE	DUST NETWORKS			
			DRAWN BY: R.P.D.	3-05 -12				
			CHECKED		TITLE: PCB FAB, PROGRAMMER, ETERNA			
			ENGRG					
SEE ARENA		MATERIAL - SEE NOTES	ISSUED		B	FSCM NO.	DWG NO.	REV.
NEXT ASSY	USED ON		FINISH - SEE NOTES	CONTRACT NO.			615-0186	3
APPLICATION		DO NOT SCALE DRAWING			SCALE: NONE			SHEET 1 OF 1

THE FAB SHALL BE ROHS-COMPLIANT.

NOTE: THE FAB SHALL BE BUILT TO THE SPECIFICATIONS LISTED HERE