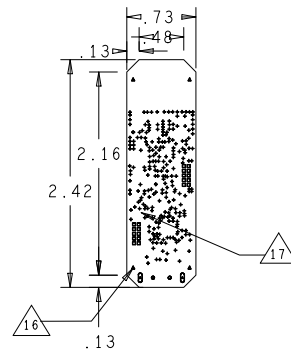


NOTES (UNLESS OTHERWISE SPECIFIED):

1. THIS DRAWING SPECIFIES THE REQUIREMENTS FOR A PRINTED WIRING BOARD IN ACCORDANCE WITH SPECIFICATION IPC-A-600 CLASS 2 (LATEST REVISION).
2. THE PWB MUST BE LEAD FREE ASSEMBLY PROCESS COMPATIBLE AND MUST BE ABLE TO HANDLE A MINIMUM OF 5 CYCLES AT 260 DEGREES CELSIUS FOR 10 SECONDS.
3. BASE MATERIAL - LAMINATE AND PREPREG SHALL MEET IPC-4101B-26, 83 or 98
Tg - MUST BE GREATER THAN OR EQUAL TO 150 DEGREES CELSIUS.
Td - MUST BE GREATER THAN OR EQUAL TO 330 DEGREES CELSIUS.
Er - MUST BE FROM 4.2 TO 4.4
4. COPPER FOIL WEIGHT - SEE STACKUP DETAIL 'A'
5. CHARACTERISTIC IMPEDANCE - SEE DETAIL 'B' AND 'C'.
6. MINIMUM CONDUCTIVE WIDTH/SPACING TO BE .003"/.0035"
7. PLATING FINISH - BOTH SIDES ENIG (ELECTROLESS NICKEL IMMERSION GOLD):
.05080-.232 MICRON (2-8 MICROINCH) OF GOLD OVER
2.540-6.350 MICRON (100-250 MICROINCH) OF NICKEL.
8. ALL THROUGH HOLE VIAS MAY BE PLATED SHUT.
9. SOLDERMASK - GREEN COLOR BOTH SIDES.
MODIFICATION OF SOLDERMASK IS NOT ALLOWED WITHOUT WRITTEN PERMISSION FROM FREESCALE.
10. SILKSCREEN - WHITE EPOXY INK, BOTH SIDES. NO SILK ON PADS.
11. ELECTRICAL TEST - 100% IPC-D-356.
12. PRINTED WIRING BOARD IS TO BE INDIVIDUALLY BAGGED.
13. DRC'S MUST BE RUN ON THE GERBER BEFORE BUILDING BOARDS, UNLESS PRIOR APPROVAL IS GIVEN IN WRITING BY FREESCALE.
14. TEARDROPS MAYBE ADDED AT THE FAB HOUSE TO ALL SIGNAL LAYERS.
15. 2 SOLDER SAMPLES TO BE PROVIDED.
16. BASIC GRID INCREMENT AT 1:1 IS .0001.
17. SUPPLIER MARKINGS - ON SOLDER SIDE ONLY, WHERE SHOWN.
- MUST BE UL RECOGNIZED AND MUST HAVE AN ID THAT CONFORMS TO UL94V-0
18. THE PWB WILL BE MARKED AS LEAD FREE BY USE OF AN INK STAMP (Pb)
19. THE PWB WILL BE MARKED AS LEAD FREE PROCESS COMPATIBLE BY USE OF AN INK STAMP (260°C)
20. ALL PLATED AND NON-PLATED THROUGH HOLES ARE TO BE DRILLED AT PRIMARY DRILL STEP.
ALL HOLE LOCATION TOLERANCES ARE TO BE +/- .002 IN REFERENCE TO THE PRIMARY DATUM.
21. FINISHED PCB MUST BE PANELIZED FOR ASSEMBLY ACCORDING TO CONTRACT MANUFACTURERS REQUIREMENTS.
THE ADDITION OF RAILS AND .125" NON-PLATED TOOLING HOLES ARE AT THE DISCRETION OF CONTRACT MANUFACTURER. PANELIZATION MUST BE APPROVED BY CONTRACT MANUFACTURER.
22. INTENTIONAL SHORTS AT:
SH19 Vcc & P3V3 K22F
SH40 PTC3 & D100
SH41 PTC4 & D101
SH44 N23913269 & RESET_B_XCVR
SH45 PTA18 & D105/CLKOUT
SH46 PTA19 & D104
SH47 SWD_CLK & PTA0/SWD_CLK
23. OVERALL PCB DIELECTRIC THICKNESS ARE TARGETED (A) 10 MILS +/-10%, (B) 38 MILS +/-10% AND (C) 10 MILS +/- 10% AS SHOWN IN DETAIL 'A'. ADJUSTMENT IN SUBSTRATE B IS ALLOWED TO MEET OVERALL HEIGHT REQUIREMENT.

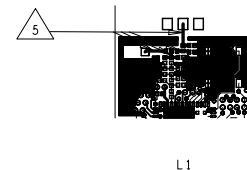
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	PRODUCTION RELEASE	06/29/15	

DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
•	8.0	+0.0/-8.0	PLATED	248
•	31.0	+2.0/-2.0	PLATED	20
•	63.0	+3.0/-3.0	PLATED	2
•	43.0	+3.0/-3.0	NON-PLATED	2
•	93.0	+3.0/-3.0	NON-PLATED	4
8	98.425x39.37	+3.0/-3.0	PLATED	2

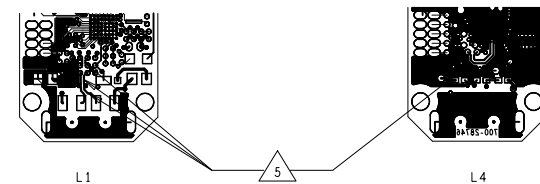


DETAIL B
SINGLE ENDED
IMPEDANCE REQUIREMENTS
IMPEDANCE 50 OHMS

PRIMARY SIDE VIEW



DETAIL C
DIFFERENTIAL PAIR
IMPEDANCE REQUIREMENTS
IMPEDANCE 90 OHMS



LAYERS	SINGLE ENDED		DIFFERENTIAL		
	Trace Width (Mils)	Impedance (Ohms)	Trace Width (Mils)	Trace Spacing "Airgap" (Mils)	Impedance (Ohms)
L1	18	50	11.5	5.50	90
L4			11.5	5.50	90

FINISHED Cu WEIGHT			
0.062" +/- 10%	Layer 1	COMPONENT SIDE	1 oz.
	Layer 2	GROUND PLANE	1 oz.
	Layer 3	SIGNAL	1 oz.
	Layer 4	SOLDER SIDE	1 oz.
DETAIL A LAYER STACKUP SCALE: NONE			

PART NO. 170-28746		FREESCALE SEMICONDUCTOR	
THIS DOCUMENT CONTAINS INFORMATION PROPRIETARY TO FREESCALE AND SHALL NOT BE USED FOR ENGINEERING DESIGN OR IN PART WITHOUT THE CONSENT OF FREESCALE.		6501 WILLIAM CANNON DRIVE WEST AUSTIN, TEXAS 78735 USA	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMALS ANGLES .XX .01 .005 .XXX .005 ✓ RMS ALL MACHINED SURFACES BREAK ALL SHARP EDGES AND CORNERS. REMOVE BURRS. UNDERLINED DIM. NOT TO SCALE. THIRD ANGLE ORTHOGRAPHIC PROJECTION IS USED.		TITLE: PRINTED WIRING BOARD USB-KW019032	
APPROVALS DRAWN AVID CHECKED A. Quiroz DESIGN ENGINEER A. Quiroz		DATE 07/09/15 03/13/15 03/13/15	
SCALE		DO NOT SCALE DRAWING	
SHEET		OF	