

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.
 Tc - MUST BE GREATER THAN OR EQUAL TO 330 DEGREES CELSIUS.

4. COPPER FOIL WEIGHT - SEE STACKUP DETAIL 'A'

5. CHARACTERISTIC IMPEDANCE - NONE

6. MINIMUM CONDUCTIVE WIDTH/SPACING TO BE .010"/.004"

7. PLATING FINISH - BOTH SIDES ENIG (ELECTROLESS NICKEL IMMERSION GOLD):
 .0580-.232 MICRON (2-8 MICROINCH) OF GOLD OVER
 2.540-6.350 MICRON (100-250 MICROINCH) OF NICKEL.

⚠ ALL THROUGH HOLE VIAS MAY BE PLATED SHUT.

9. SOLDERMASK - GREEN COLOR (TAYO OR EQUIVALENT), 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% IPCD356.

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. TWO SOLDER SAMPLES TO BE PROVIDED.

⚠ BASIC GRID INCREMENT AT 1:1 IS .0001.

⚠ 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 (LF)

19. THE PWB WILL BE MARKED AS LEAD FREE PROCESS COMPATIBLE BY USE OF AN INK STAMP (LFP)

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.

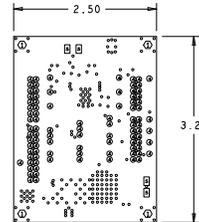
21. FINISHED PCB MUST BE PANELIZED FOR ASSEMBLY ACCORDING TO CONTRACT MANUFACTURERS REQUIREMENTS.
 THE ADDITION OF .25" RAILS AND .125" NON-PLATED TOOLING HOLES ARE AT THE DISCRETION OF CONTRACT MANUFACTURER. PANELIZATION MUST BE APPROVED BY CONTRACT MANUFACTURER.

22. COPPER WEIGHT 1 OZ OUTER LAYERS, 0.5 OZ INTERNAL LAYERS

23. MALE HEADERS J1, J2, J3, AND J4 SHOULD BE MOUNTED ON THE BOTTOM LAYER

| REVISIONS | | | | |
|-----------|-----|------------------|----------|----------|
| ZONE | REV | DESCRIPTION | DATE | APPROVED |
| | X1 | ORIGINAL RELEASE | 01-14-15 | MD |
| | A | FINAL RELEASE | 04-14-15 | MD |

| DRILL CHART: TOP to BOTTOM | | | | |
|----------------------------|-------|------------|--------|-----|
| ALL UNITS ARE IN MILS | | | | |
| FIGURE | SIZE | TOLERANCE | PLATED | QTY |
| * | 10.0 | +0.0/-10.0 | PLATED | 201 |
| ⊙ | 40.0 | +3.0/-3.0 | PLATED | 93 |
| ⊞ | 51.0 | +3.0/-3.0 | PLATED | 4 |
| ⊚ | 116.0 | +3.15/-0.0 | PLATED | 4 |



.062' +/- 10%

PRIMARY DATUM
 GRID ORIGIN

| FINISHED Cu WEIGHT | | | |
|--------------------|---------|----------------|---------|
| | LAYER 1 | COMPONENT SIDE | 1.0 oz. |
| | LAYER 2 | GROUND PLANE | 0.5 oz. |
| | LAYER 3 | GROUND PLANE | 0.5 oz. |
| | LAYER 4 | GROUND PLANE | 1.0 oz. |

DETAIL A
 LAYER STACKUP
 SCALE: NONE

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PART NO. 170-28653 | | FREESCALE | |
| <input type="checkbox"/> PART (PUBLIC INFORMATION) <input checked="" type="checkbox"/> PART (FREESCALE INTERNAL USE ONLY) <input type="checkbox"/> PART (FREESCALE CONFIDENTIAL PROPRIETARY) | | THIS DOCUMENT CONTAINS INFORMATION PROPRIETARY TO FREESCALE AND SHALL NOT BE USED FOR ENGINEERING DESIGN PURPOSES OR MANUFACTURE, IN WHOLE OR IN PART WITHOUT THE CONSENT OF FREESCALE. | |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES AND SURFACES J1, J2, J3, J4 J1, J2, J3, J4 <input checked="" type="checkbox"/> ALL MACHINED SURFACES BREAK ALL SHARP EDGES AND CORNERS. HIDE DIMS. UNDERLINE DIMS. NOT TO SCALE. THIRD ANGLE ORTHOGRAPHIC PROJECTION IS USED. | | APPROVALS DRAWN: MARIKE DAVIS 04-14-15 CHECKED: MARIKE DAVIS 04-14-15 DESIGN ENGINEER: MARIKE DAVIS 04-14-15 | DATE: 04-14-15 TITLE: PRINTED WIRING BOARD FRDM-3x931x-EVB SIZE: CAD FILE NAME: LAY-28653 DWG. NO.: FAB-28653 SCALE: 1/1 DO NOT SCALE DRAWING SHEET 1 OF 1 |