

ET Leadframe Adapters - Interconnect Options

Option 1: FlexFrame Interconnect

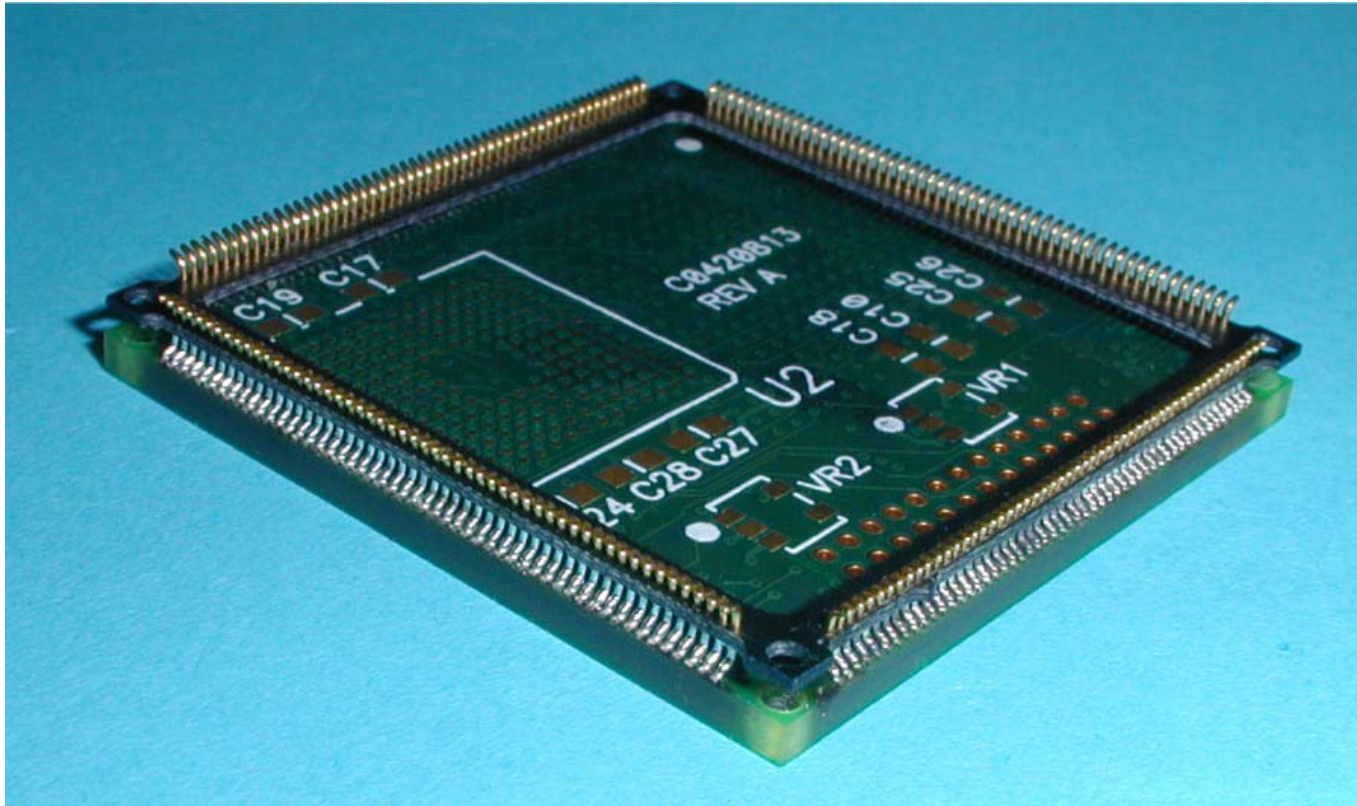
- ET manufactures a custom FR4 pin carrier. Gold plated pins are pressed into the carrier and bent into a 'C' shape. The resulting FlexFrame is soldered to pads on the bottom of the adapter PCB. This is typically done with high-temp solder to prevent the solder joints from going to a liquidous temperature when the adapter is soldered to the motherboard.
- The resulting adapter looks very familiar to process engineers, and works well for fine pitch and larger body size applications.
- The Flexframe also frees up the bottom side of the adapter to fit more components in the same x-y dimension.

Option 2: Board to Board Interconnect

- ET designs the interposer with a mirror-image of the pads on the existing board. The pads are built up with solder.
- Many customers have initially been concerned that there is not a compliant lead with this interconnect option. However, since both the adapter board and the motherboard are FR4, there is virtually no CTE mismatch. This means that after a process has been developed to create a good solder joints, this type of adapter has good reliability.
- The larger the pitch of the leads, the easier it is to develop a process that does not create solder opens or shorts. Co-planarity issues should be considered for larger-body parts.
- Our board to board technology has been approved for production use by IBM, Cisco, and Silicon Graphics.
- This is the lowest cost option.



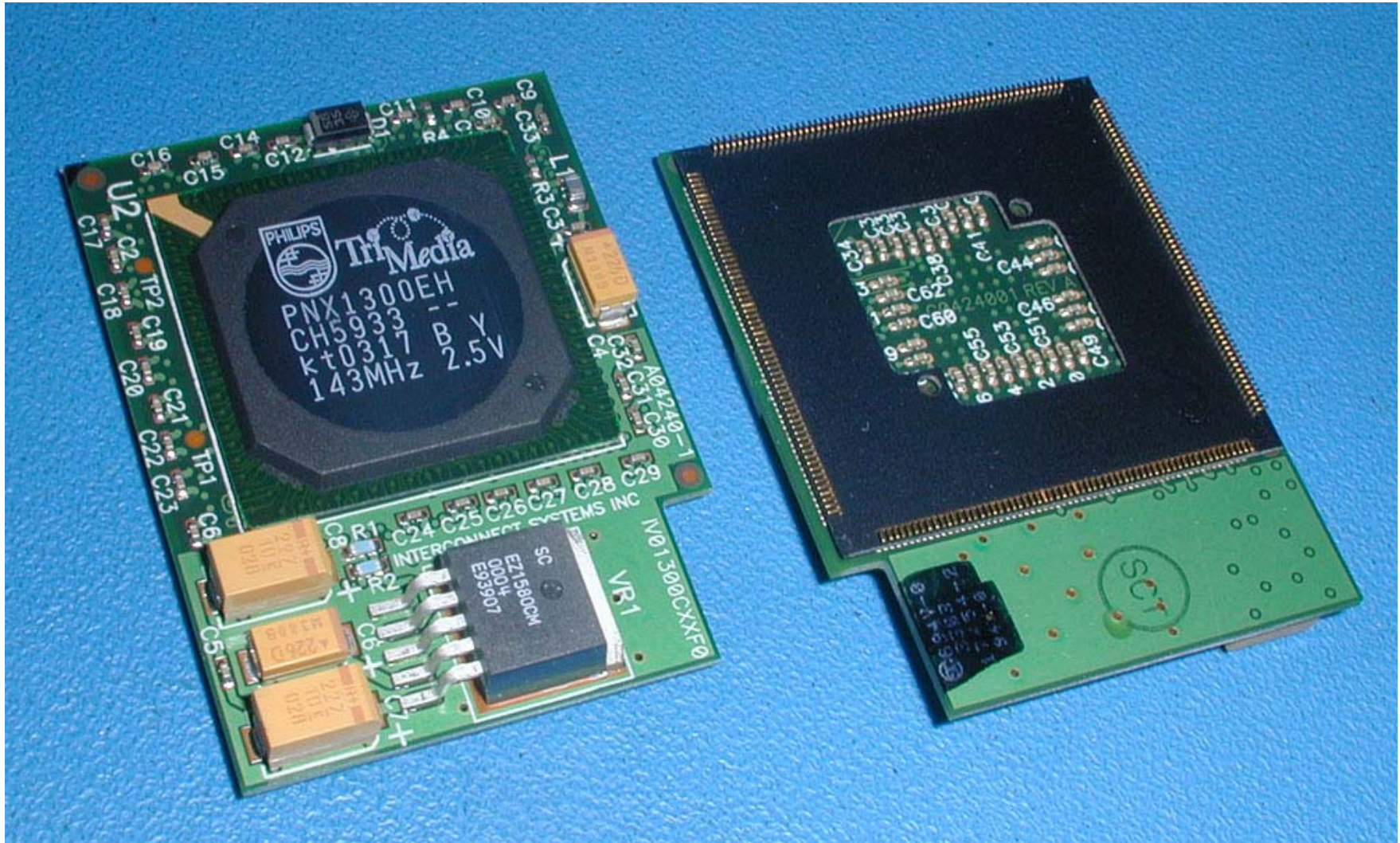
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FlexFrame Interconnect



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FlexFrame Interconnect

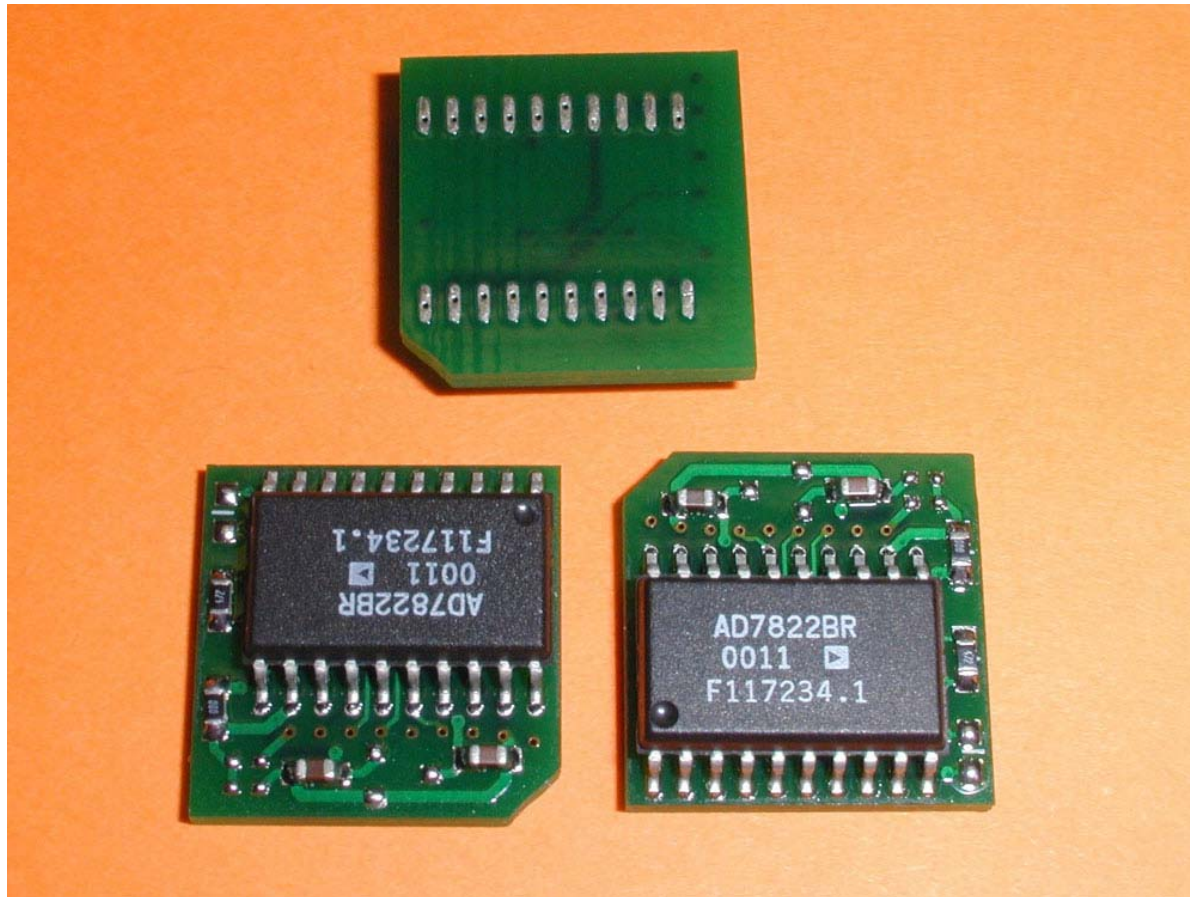


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Board to Board Interconnect

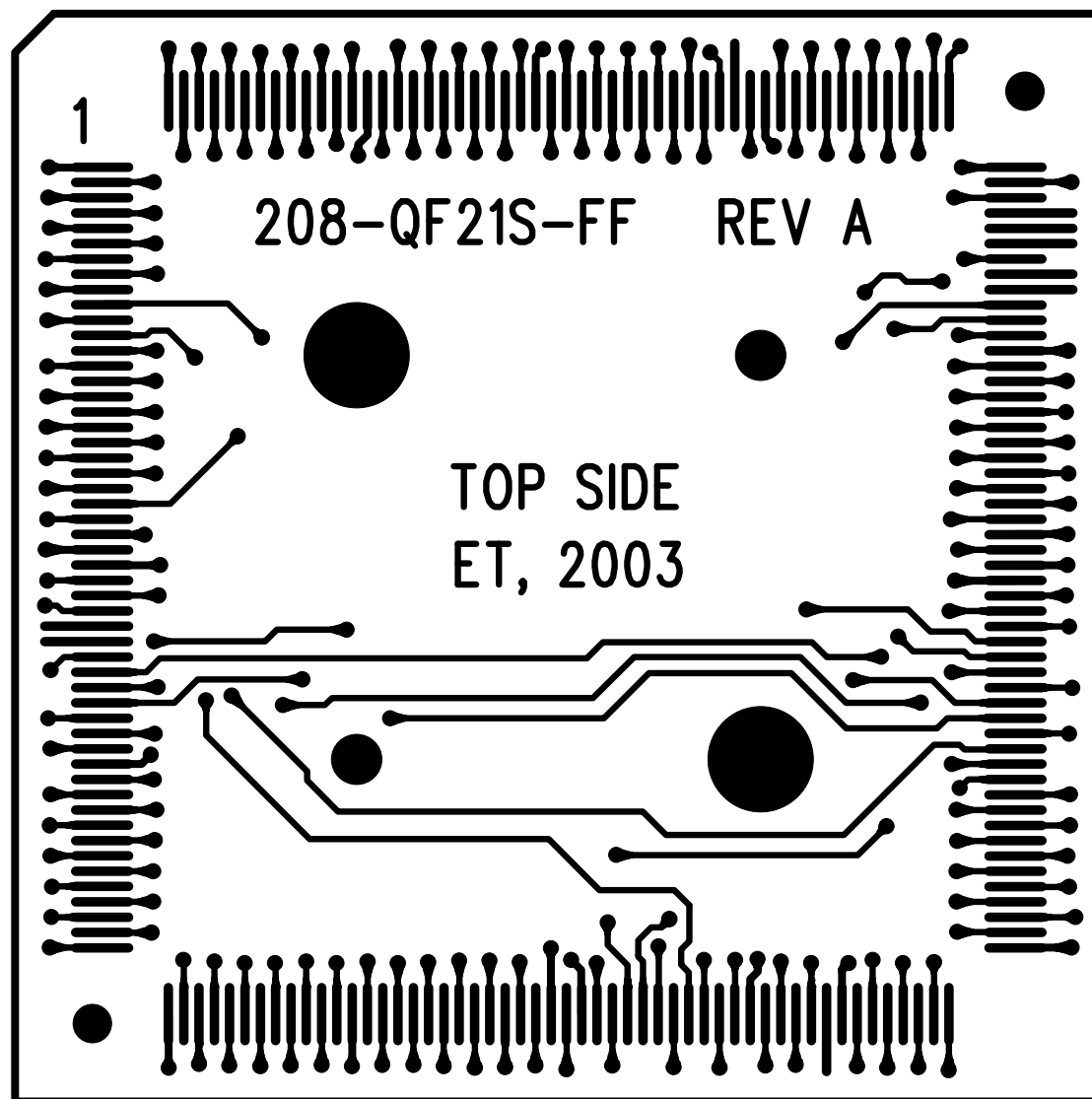
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Board to Board Interconnect

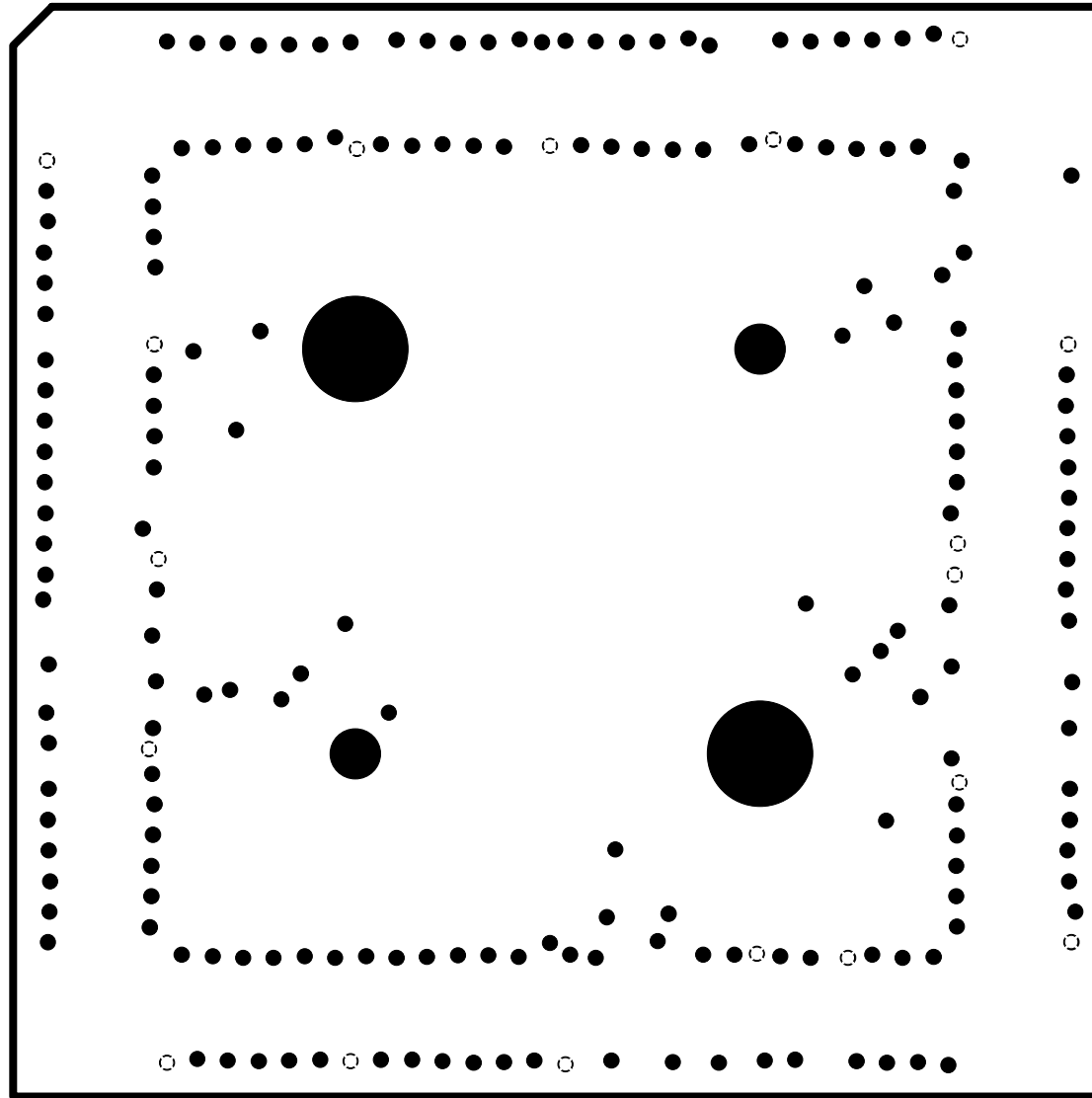


TOP LAYER



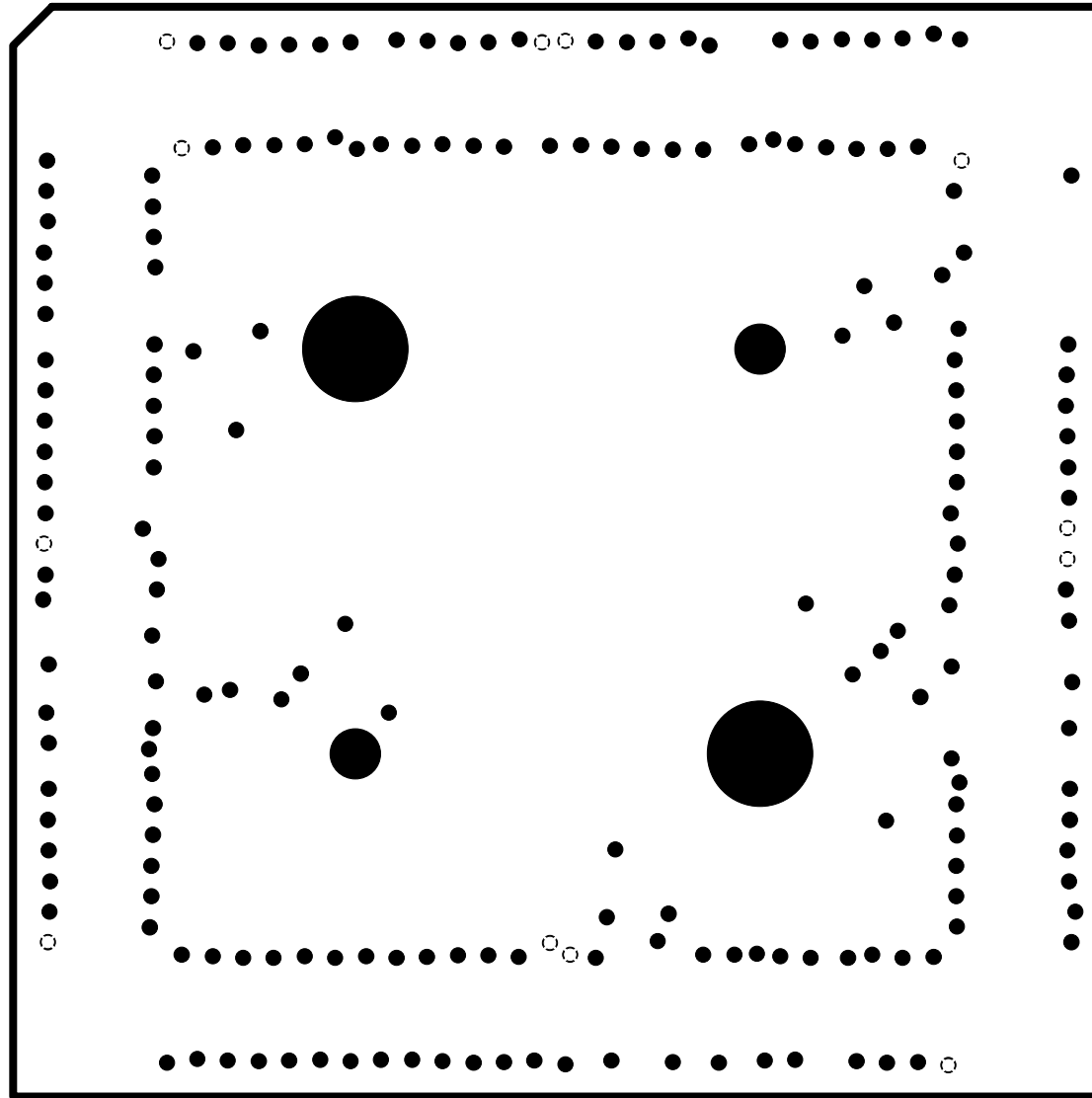


LAYER 2 GND



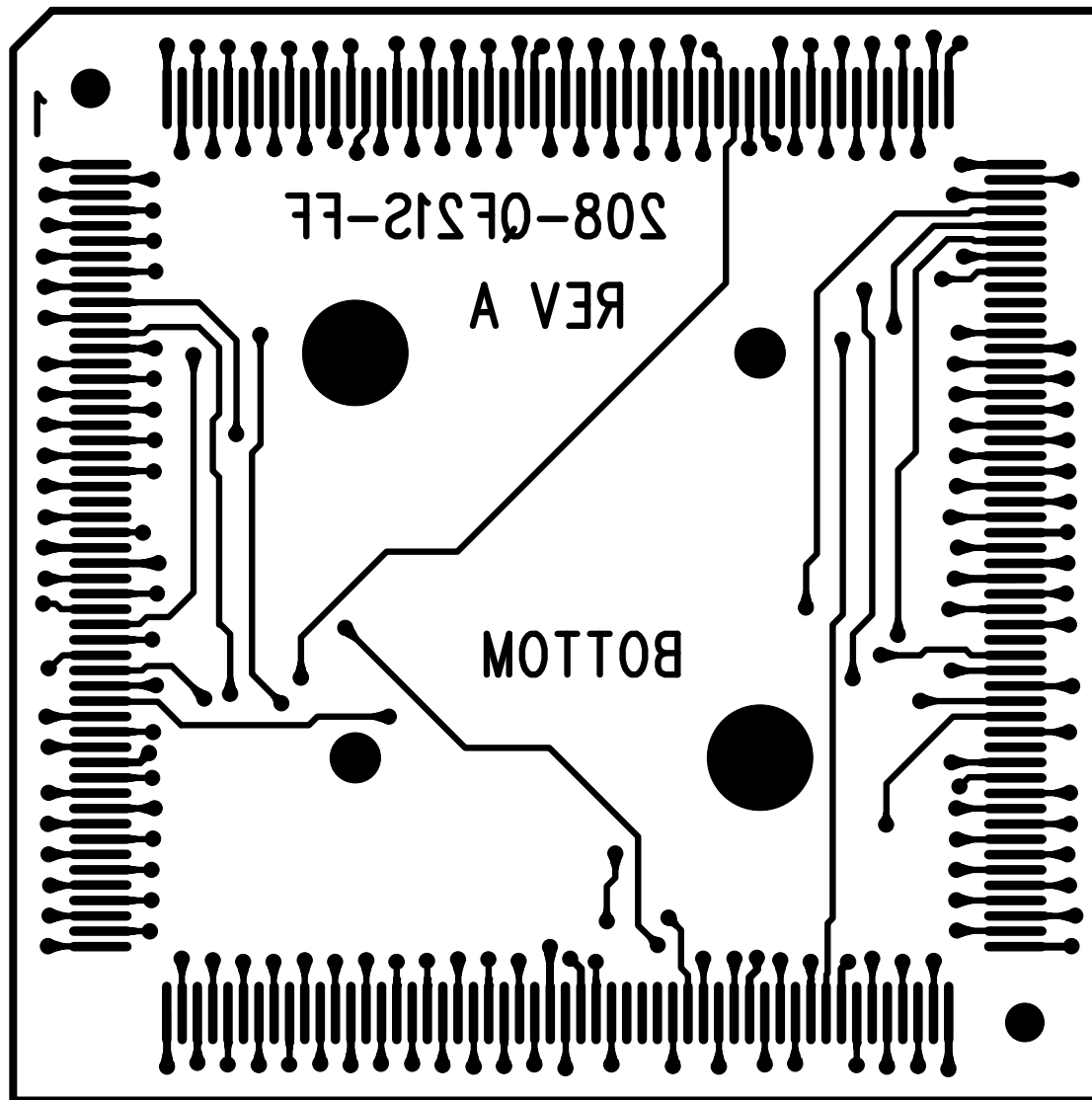


LAYER 3 VCC



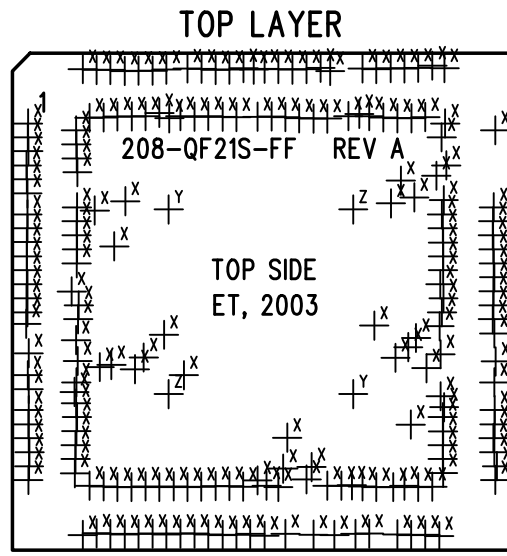


BOTTOM LAYER



6 | 5 | 4 | 3 | 2 | 1

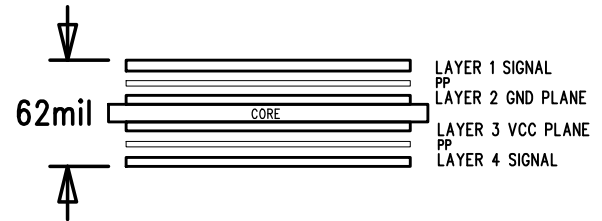
D
C
B
A



SMALLEST:
 HOLE SIZE: 10MIL
 AIR GAP: 6MIL
 TRACE WIDHT: 8MIL

REVISION RECORD			
LTR	ECO NO:	APPROV.	DATE:
A	NEW DESIGN		10-21-03

SIZE	QTY	SYM	PLTD
10	207	X	PLTD
136	2	Y	NPLTD
65	2	Z	NPLTD



1. BASE MATERIAL **FR-4 .062" THK. 1/2 oz** COPPER MINIMUM (BEFORE PLATING) COLOR NATURAL.
2. PLATING: HOLE AND EXPOSED PLATING SURFACES SHALL BE PLATED WITH
 A) 100u INCHES OF NICKEL UNDER
 B) 15u OF INMERSION GOLD
3. SOLDER MASK BOTH SIDES, BLUE LPI MASK
4. VENDOR UL APPROVED LOGO AND DATE CODE INFORMATION TO BE MARKED
5. FABRICATION TOLERANCES .XX +/- .010 .XXX +/- .005
6. HOLE SIZES SHOWN ARE AFTER PLATING.
 HOLE TOLERANCES SHALL BE +.002/- .001
7. SILKSCREEN LEGEND PER ART-WORK WITH PERMANENT NON-CONDUCTIVE EPOXY INK, COLOR WHITE
8. BOARD MANUFACTURED IN COMPLIANCE WITH IPC-600
9. DOES NOT APPLY
10. BOARD TO BE 100% TESTED

COMPANY: EMULATION TECHNOLOGY INC.
 2344 WALSH AVE BLDG F
 SANTA CLARA, CA 95051 PHONE 408-982-0660 FAX 408-982-0664

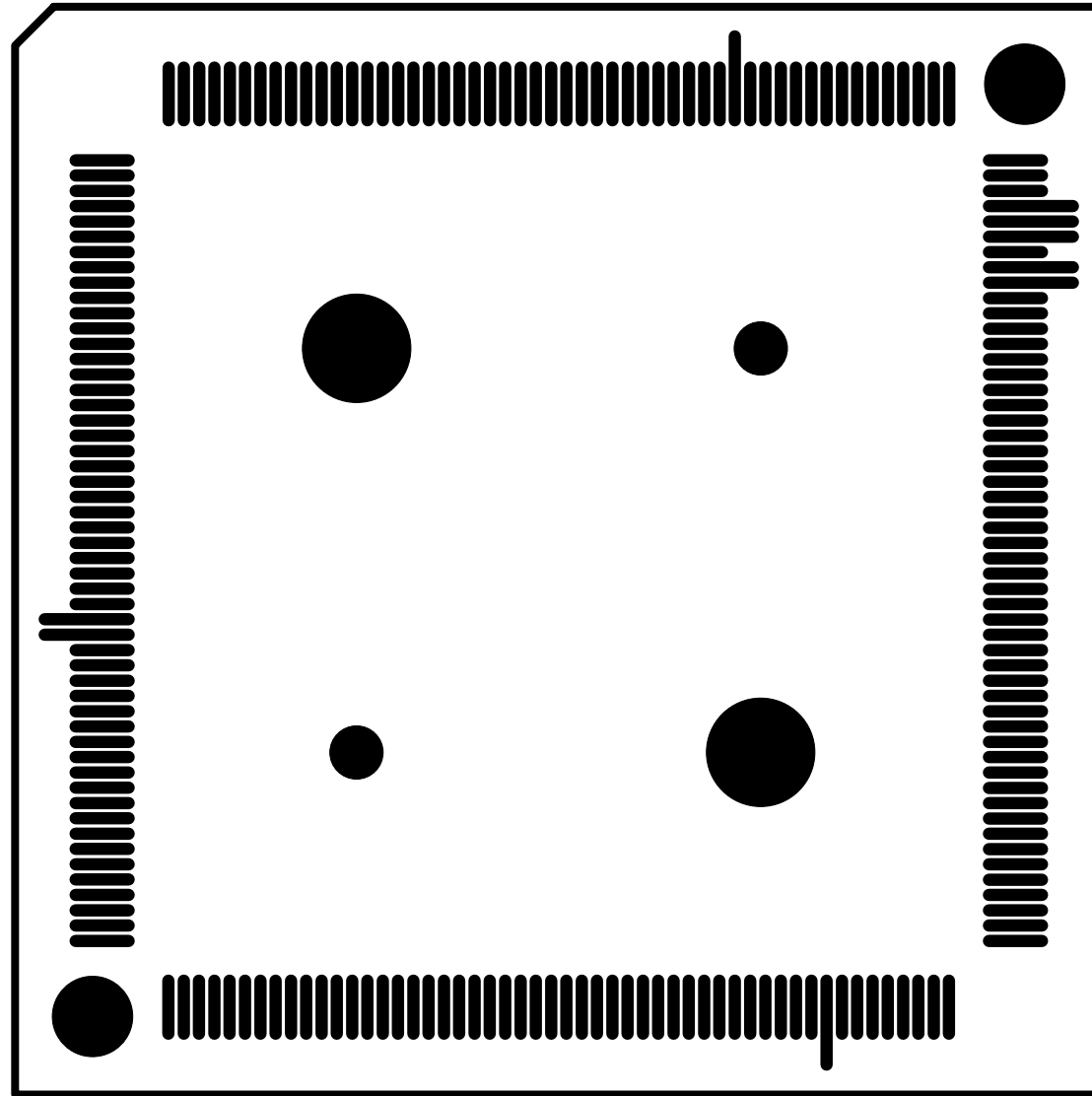
Board Part #
208-QF21S-FF

DESIGNER: MIGUEL DELGADILLO	SIZE: A	Folder # 2435	REV: A
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SCALE: 1 TO 1 SHEET: 1 OF 1

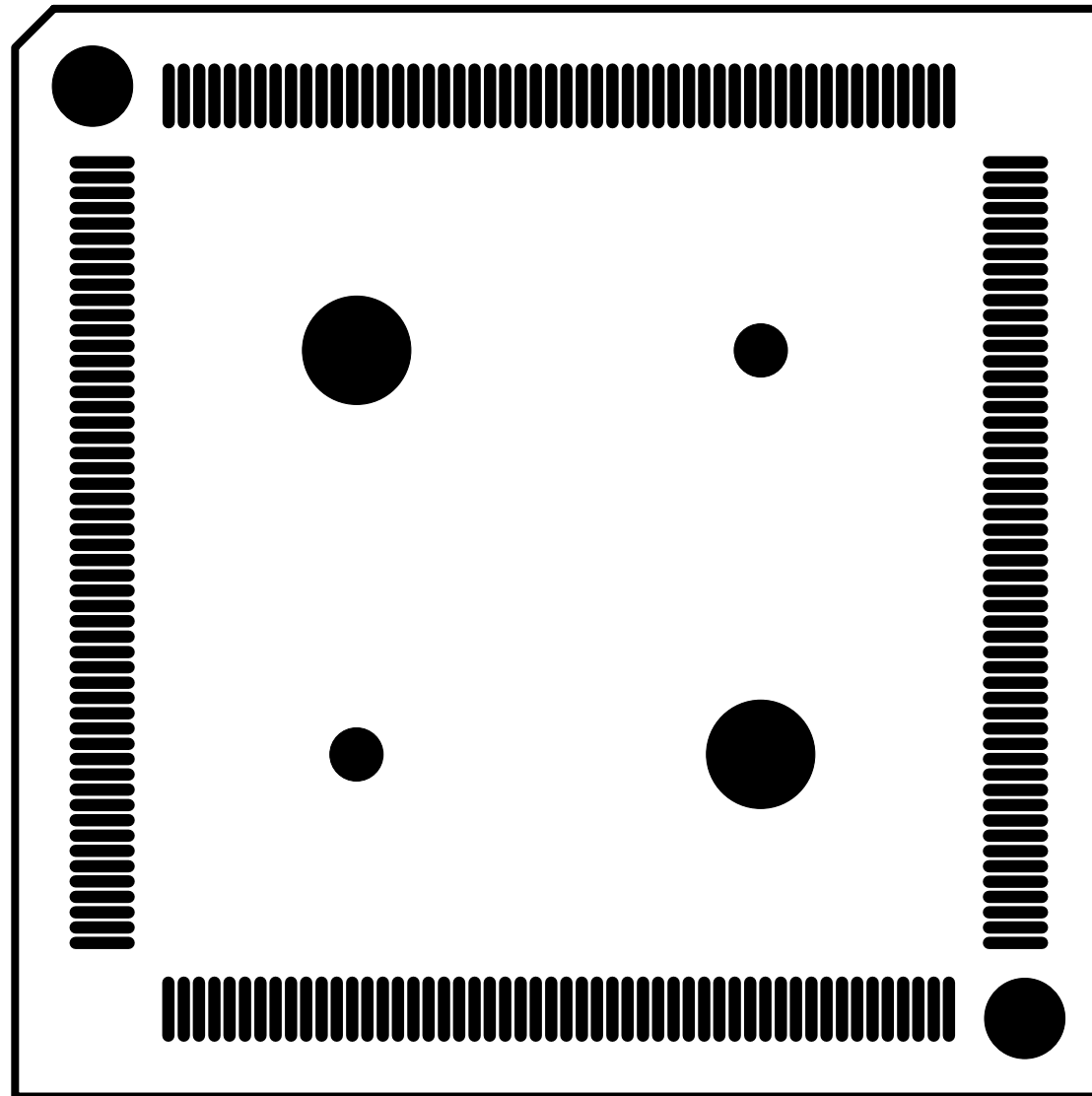


SOLDERMASK TOP



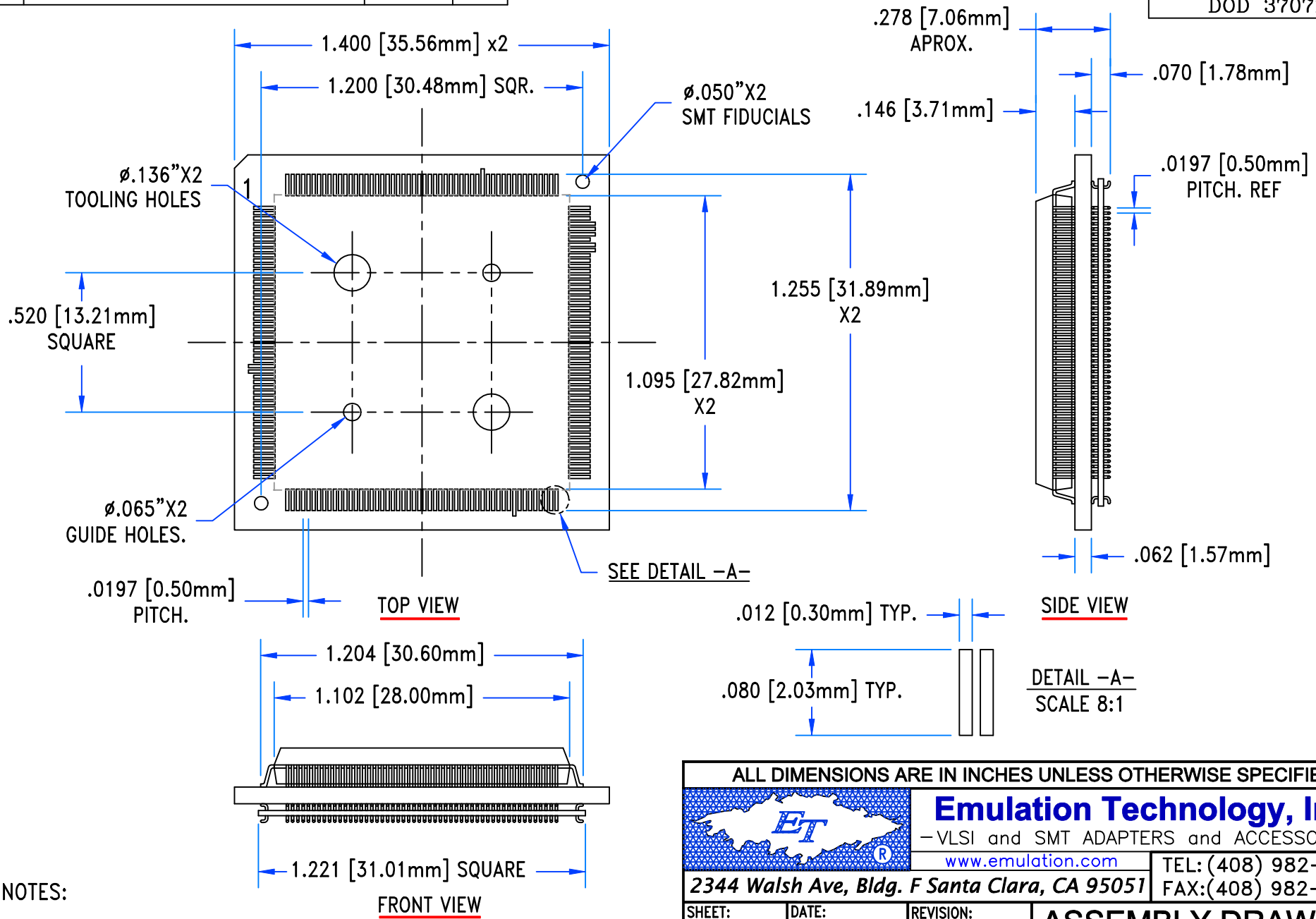


SOLDERMASK BOTTOM



REV	DESCRIPTION	DATE	INIT
A	NEW DRAWING	10-30-03	M.D.

F7071
DOD 37071



- NOTES:
1. TOP VIEW SHOWN WITHOUT DEVICE
 2. HIGH TEMP SOLDER IS USED BETWEEN THE BOARD AND FLEX FRAME
 3. FLEX FRAME PINS ARE GOLD PLATED.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

Emulation Technology, Inc.
 -VLSI and SMT ADAPTERS and ACCESSORIES-
www.emulation.com

2344 Walsh Ave, Bldg. F Santa Clara, CA 95051
 TEL: (408) 982-0660
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SHEET: 1 OF 1	DATE: 10-30-03	REVISION:	ASSEMBLY DRAWING
CHECKED: PERRY MONROE	DRAWN: MIGUEL DELGADILLO	ITEM: CR208QF21CSFFES	
SCALE 2:1			DESCRIPTION: CR-0208-QF21CS-FF-ESD