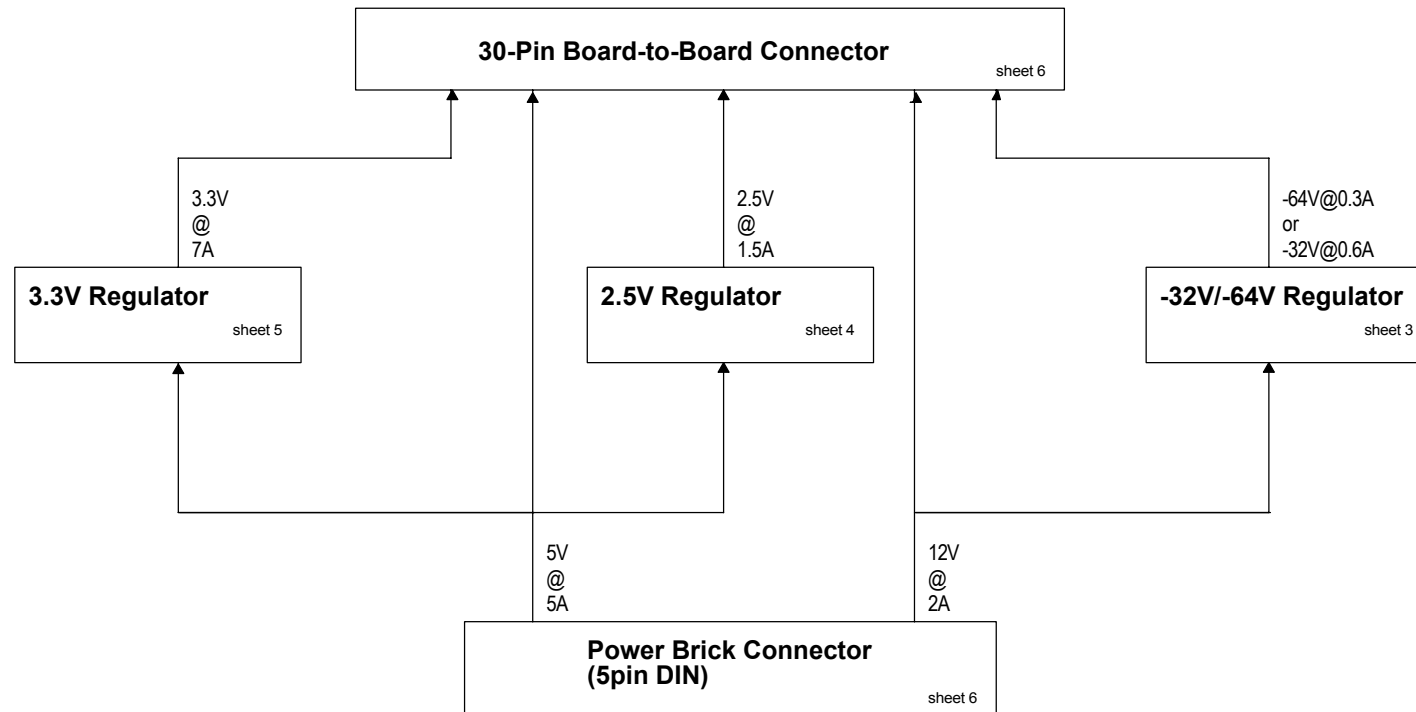



POWER REGULATOR CARD

for BIXMB425AD Network Processor Base Card



THIS SCHEMATIC IS PROVIDED 'AS IS' WITH NO WARRANTIES WHATSOEVER, INCLUDING ANY WARRANTY OF MERCHANTABILITY, NONINFRINGEMENT, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY WARRANTY OTHERWISE ARISING OUT OF ANY PROPOSAL, SPECIFICATION OR SAMPLE. Intel disclaims all liability, including liability for infringement of any proprietary rights, relating to use of information in this specification. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted herein.

Intel Corp 2200 Mission College Blvd Santa Clara, CA 95052			
Title BIXD120 POWER REGULATOR CARD			
Size B	Page Title Title Page / Block Diagram	Rev 1.0	
Date: Thursday, June 12, 2003	Sheet 1 of 6		

SCHEMATIC ANNOTATIONS

VOLTAGE RAILS

+12V	Generated by power brick.
+5V	Generated by power brick.
+3V3	Derived from the +5V rail.
+2V5	Derived from the +5V rail.
-64V	Derived from the +12V rail.
-32V	Derived from the +12V rail.

GROUND

GND_DIGITAL	Digital Ground Plane.
-------------	-----------------------

DESIGN NOTES

0.0 ohm resistors are placed to allow accessibility to nodes that may be of interest.	
_DNP	Do Not Populate this component if this designation is found on component's schematic.

REVISION HISTORY


Rev 0.93	* Schematics for prototype build.
----------	-----------------------------------

THIS SCHEMATIC IS PROVIDED 'AS IS" WITH NO WARRANTIES WHATSOEVER, INCLUDING ANY WARRANTY OF MERCHANTABILITY, NONINFRINGEMENT, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY WARRANTY OTHERWISE ARISING OUT OF ANY PROPOSAL, SPECIFICATION OR SAMPLE. Intel disclaims all liability, including liability for infringement of any proprietary rights, relating to use of information in this specification. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted herein.

Intel Corp

2200 Mission College Blvd

Santa Clara, CA 95052



Title

BIXD120 POWER REGULATOR CARD

Size

B

Page Title

Schematic Notes

Rev

1.0

Date:

Thursday, June 12, 2003

Sheet

2

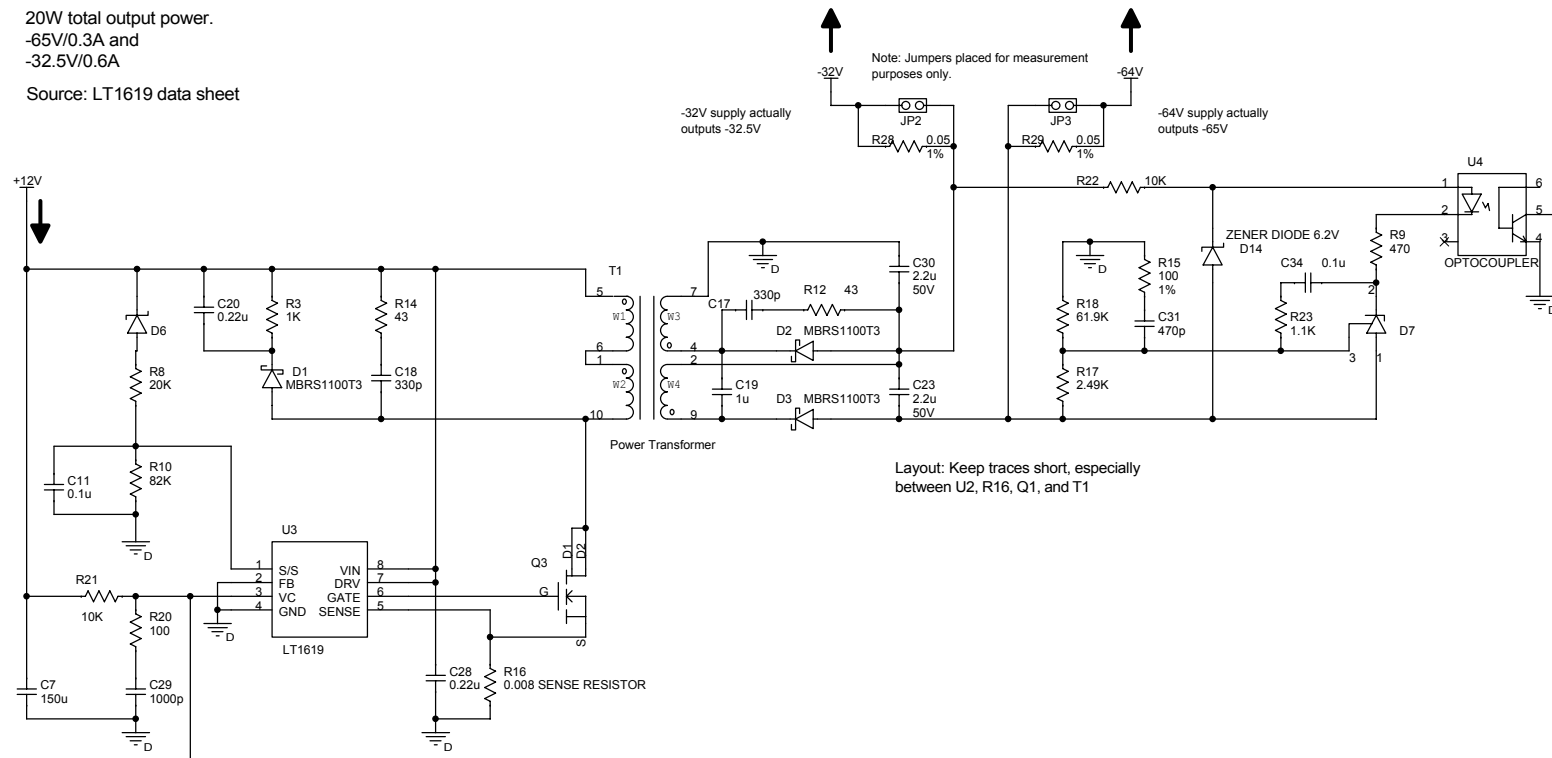
of

6


SLIC POWER SUPPLY

20W total output power.
-65V/0.3A and
-32.5V/0.6A

Source: LT1619 data sheet

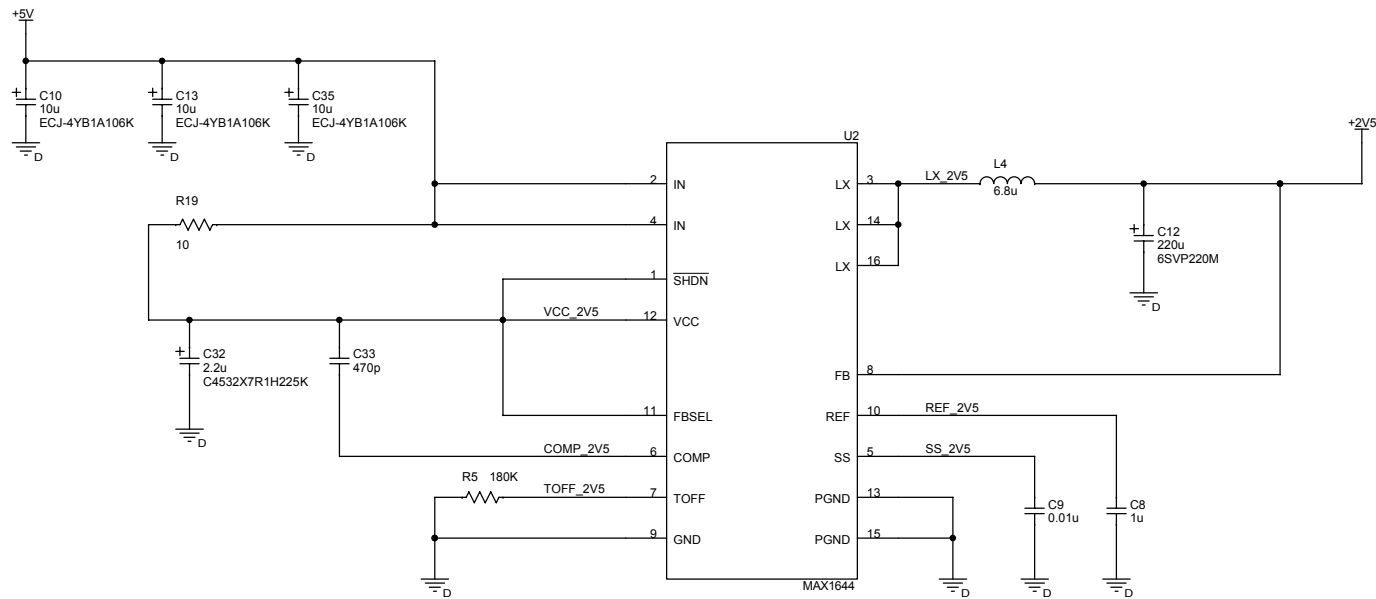


C11 1uF was originally specified to 50V rating (GRM39-X7R-104K050A). The new primary component is 25V rating (GRM39-X7R-104K025A)

Intel Corp 2200 Mission College Blvd Santa Clara, CA 95052			
Title BIXD120 POWER REGULATOR CARD			
Size B	Page Title -64V/-32V Voltage Regulator	Rev 1.0	
Date:	Thursday, June 12, 2003	Sheet	3 of 6


Layout Notes

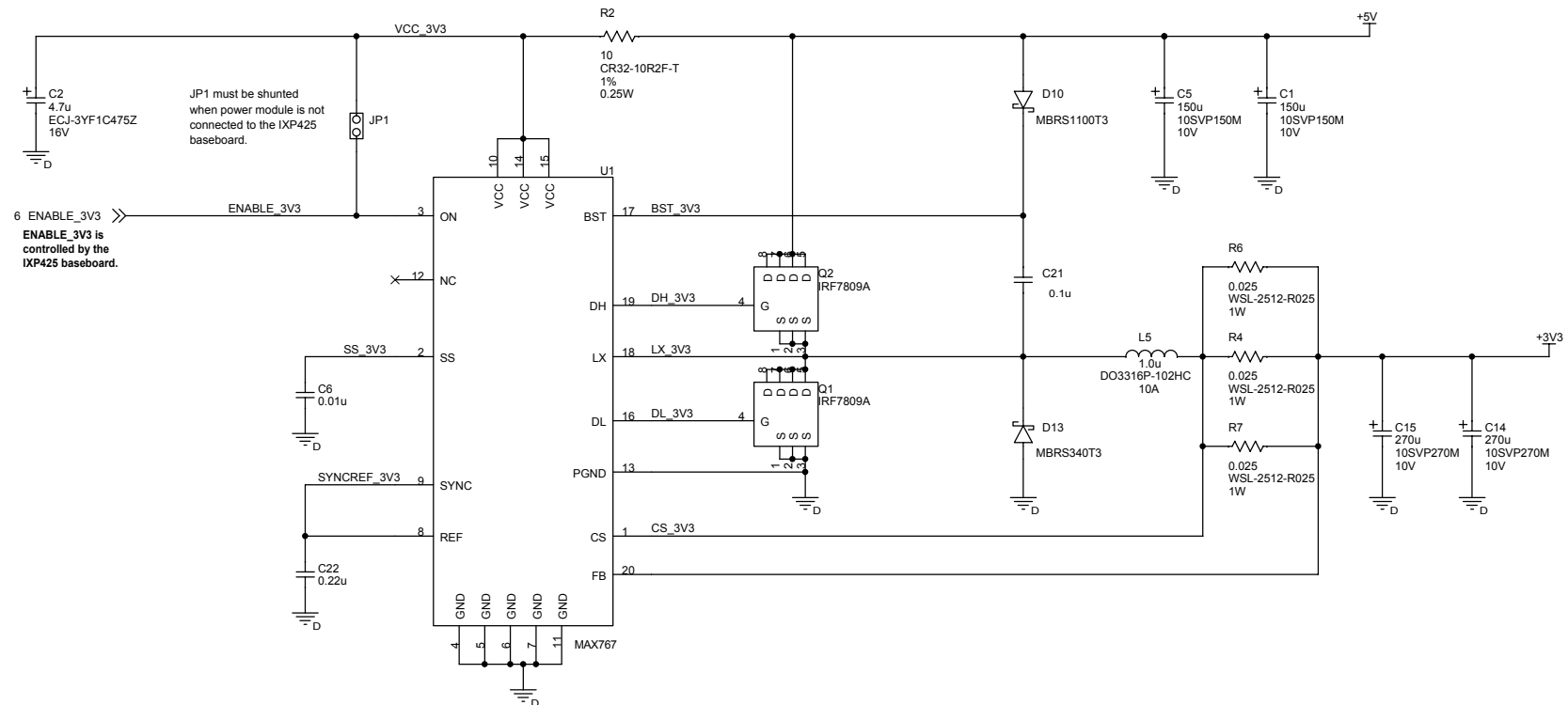
1. Connect input/output capacitors' GND and PGND together.
2. Place C13, C14, C15 less than 5mm away from IN.
3. Place L1 and C16 as close to U3 as possible
4. A GND plane is essential. Full use of 4 or more layers are recommended. Use top/bottom layer for interconnection. and inner layers for GND.



Recommended Components


Vin = 5V, Vout= 2.5V
L=6.8uH, Rtoff=180K

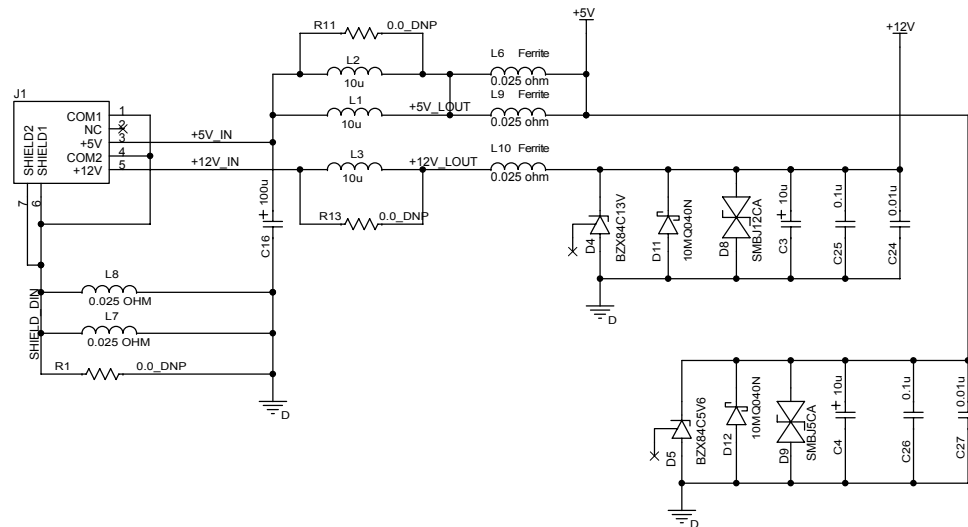
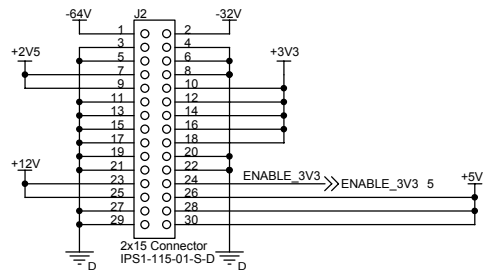
Intel Corp 2200 Mission College Blvd Santa Clara, CA 95052					
Title BIXD120 POWER REGULATOR CARD					
Size B	Page Title +2V5 Voltage Regulator				Rev 1.0
Date: Thursday, June 12, 2003		Sheet	4	of	6



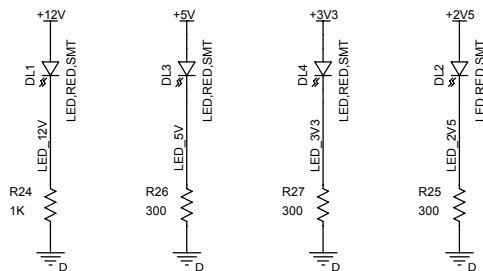
Layout Notes

1. A GND plane is essential. Full use of 4 or more layers are recommended. Use top/bottom layer for interconnection. and inner layers for GND.
2. Kelvin connect CS and FB with R4, R6, R7.
3. Place R4, R6, R7 as close to U4 as possible. No further than 10mm from U4.
4. Place Q1, Q2, L5 and D13 as close together as possible
5. C1 and C5 should be less than 10mm away from Q2 Drain.
Connecting copper must be 5mm wide
6. Connection for Q1 and Q2 gate pin must be short, <20mm long and >0.5mm wide
7. Place C22 on back side
8. Connect GND and PGND pins directly to inner GND layer

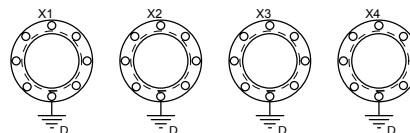
Intel Corp 2200 Mission College Blvd Santa Clara, CA 95052				
Title BIXD120 POWER REGULATOR CARD				
Size B	Page Title +3V3 Voltage Regulator			Rev 1.0
Date: Thursday, June 12, 2003	Sheet 5	of 6		



| Silkscreen at LED: | | Silkscreen at LED: | | Silkscreen at LED: | | Silkscreen at LED: |
 | +12V | | +5V | | +3V3 | | +2V5 |



MP1-MP4 are to be placed in the four corners of the board.



Intel Corp 2200 Mission College Blvd Santa Clara, CA 95052			
Title BIXD120 POWER REGULATOR CARD			
Size B	Page Title Connectors and LEDs		Rev 1.0
Date: Thursday, June 12, 2003			Sheet 6 of 6