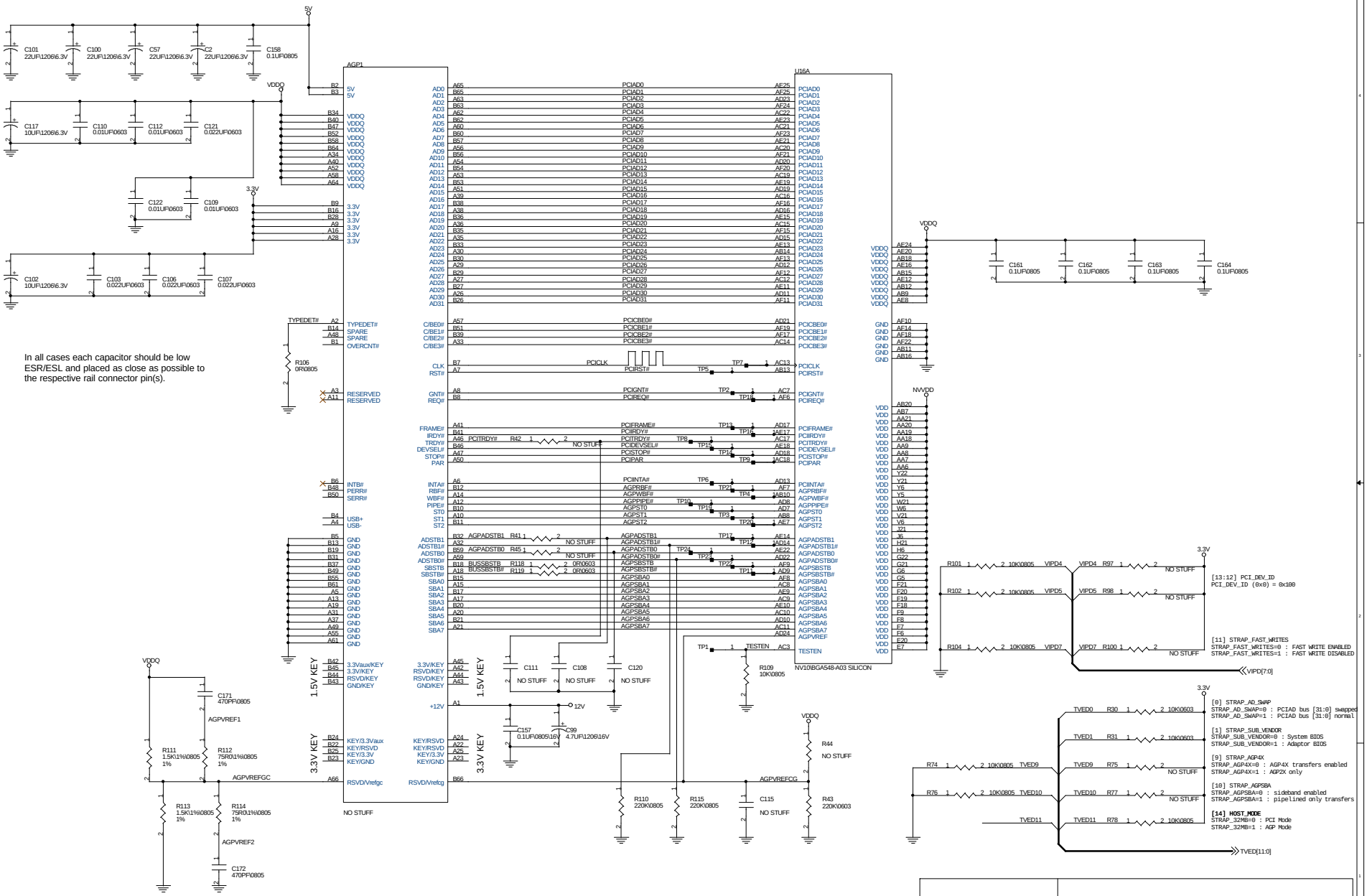
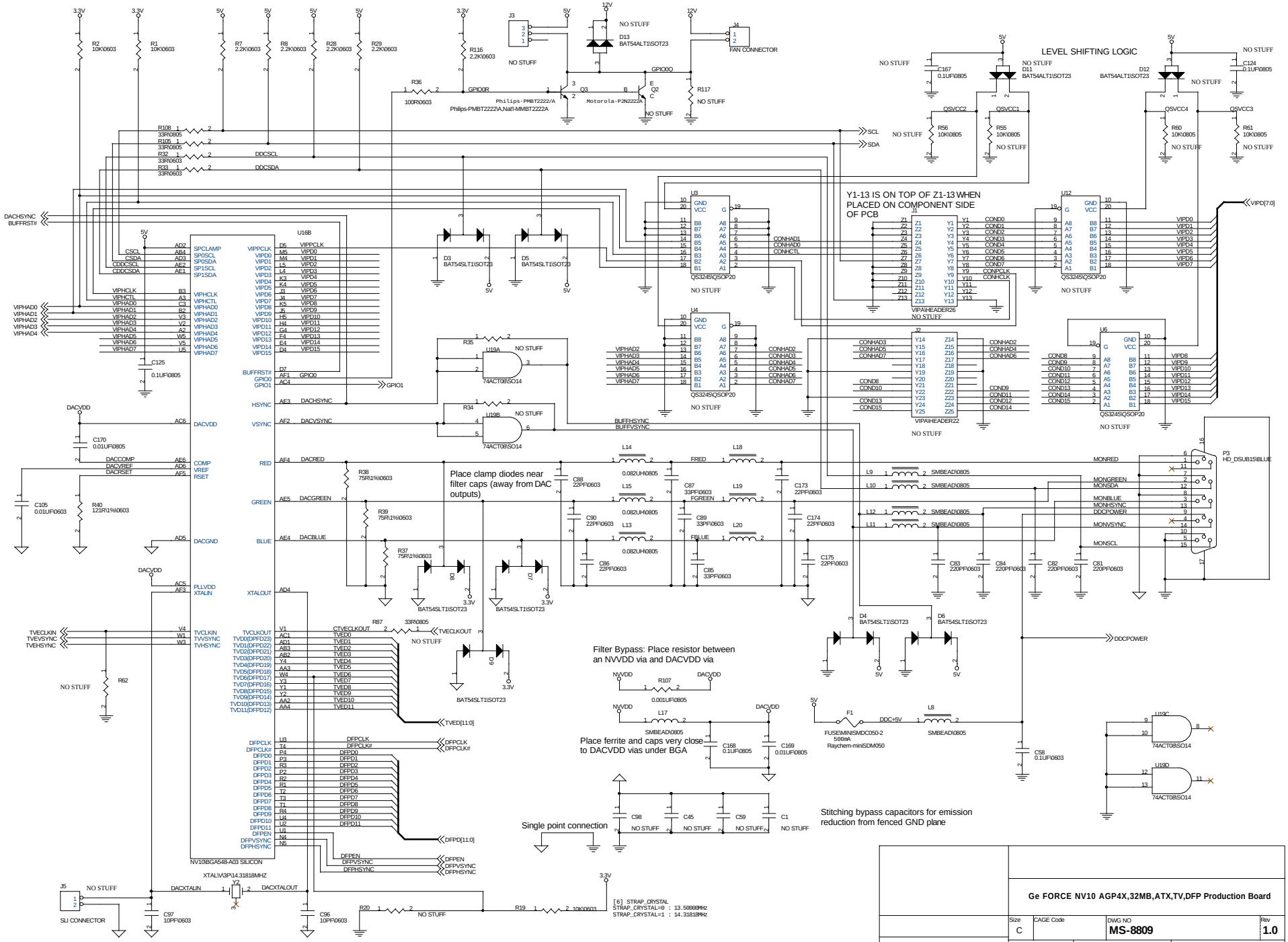
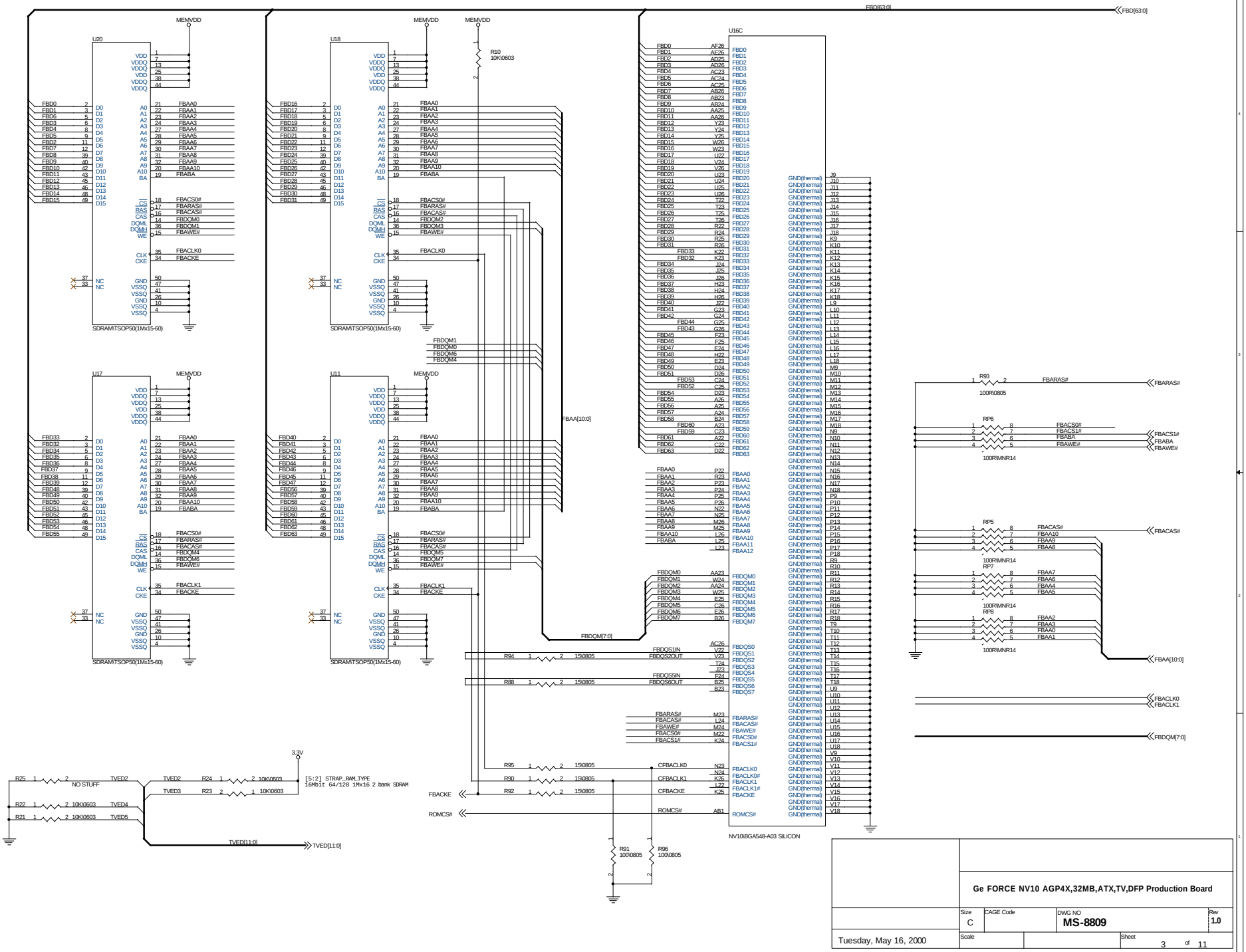
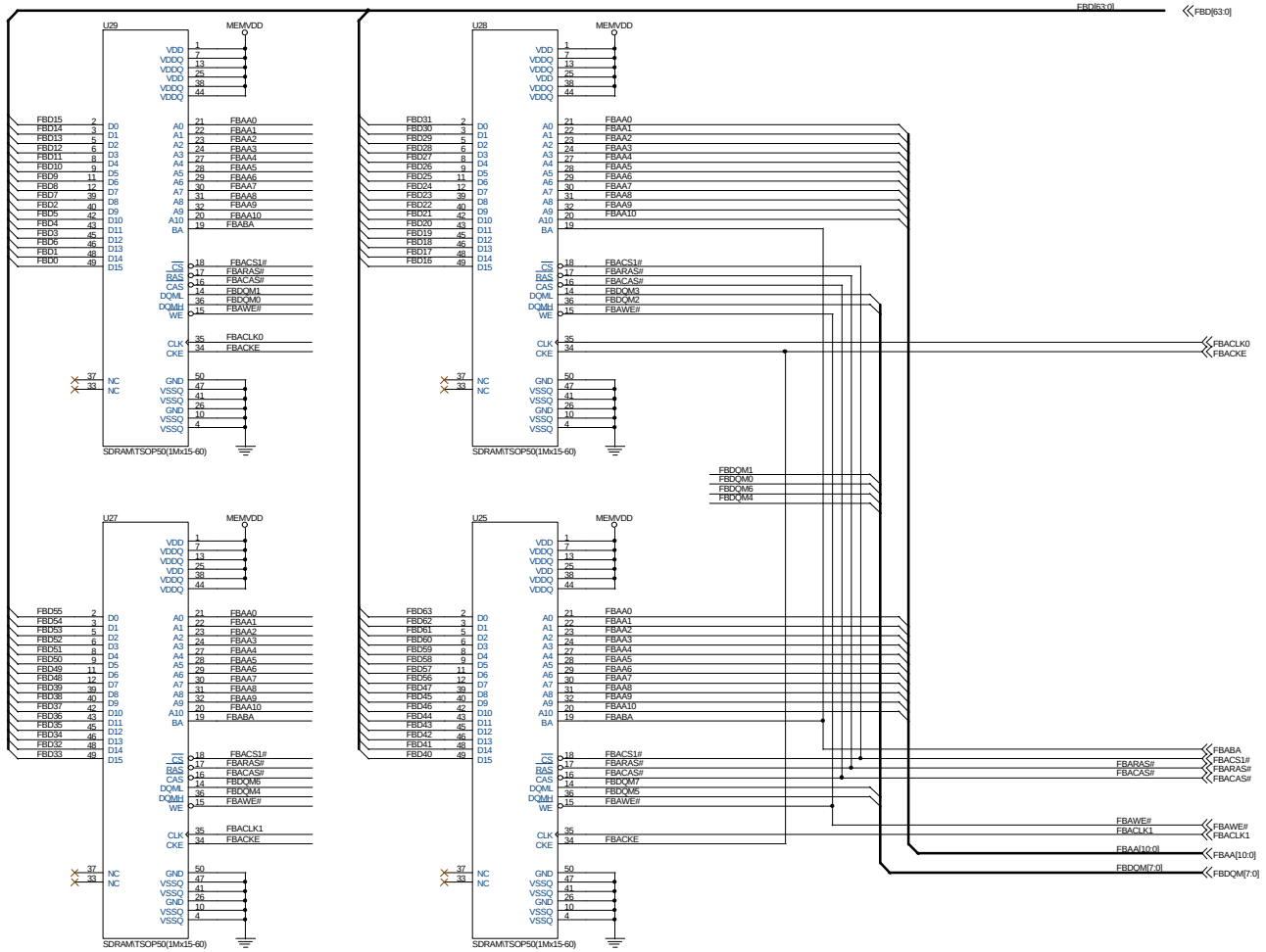


	Ge FORCE NV10 AGP4X,32MB,ATX,TV,DFP Production Board			
	Size: C	CAGE Code:	DWG NO: MS-8809	Rev: 1.0
Tuesday, May 16, 2000	Scale:		Sheet: 1 of 11	


LEVEL SHIFTING LOGIC
Y1-13 IS ON TOP OF Z1-13 WHEN PLACED ON COMPONENT SIDE OF PCB
Place clamp diodes near filter caps (away from DAC outputs)
Filter Bypass: Place resistor between an NVVDD via and DACVDD via
Place ferrite and caps very close to DACVDD vias under BGA
Single point connection
Stitching bypass capacitors for emission reduction from fenced GND plane
NV10BGA548-A03 SILICON
XTALIV3P\14.31818MHZ
SLI CONNECTOR
FAN CONNECTOR
Philips-PMBT2222/A
Philips-PMBT2222A,Natl-MMBT2222A
Motorola-P2N2222A
FUSE\MINISMDC050-2 500mA Raychem-miniSDM050
[6] STRAP_CRYSTAL
STRAP_CRYSTAL=0 : 13.50000MHz
STRAP_CRYSTAL=1 : 14.31818MHz
Ge FORCE NV10 AGP4X,32MB,ATX,TV,DFP Production Board
MS-8809
1.0
Tuesday, May 16, 2000
2 of 11



	Ge FORCE NV10 AGP4X,32MB,ATX,TV,DFP Production Board		
	Size: C	CAGE Code	DWG NO: MS-8809 Rev: 1.0
Tuesday, May 16, 2000	Scale		Sheet: 3 of 11



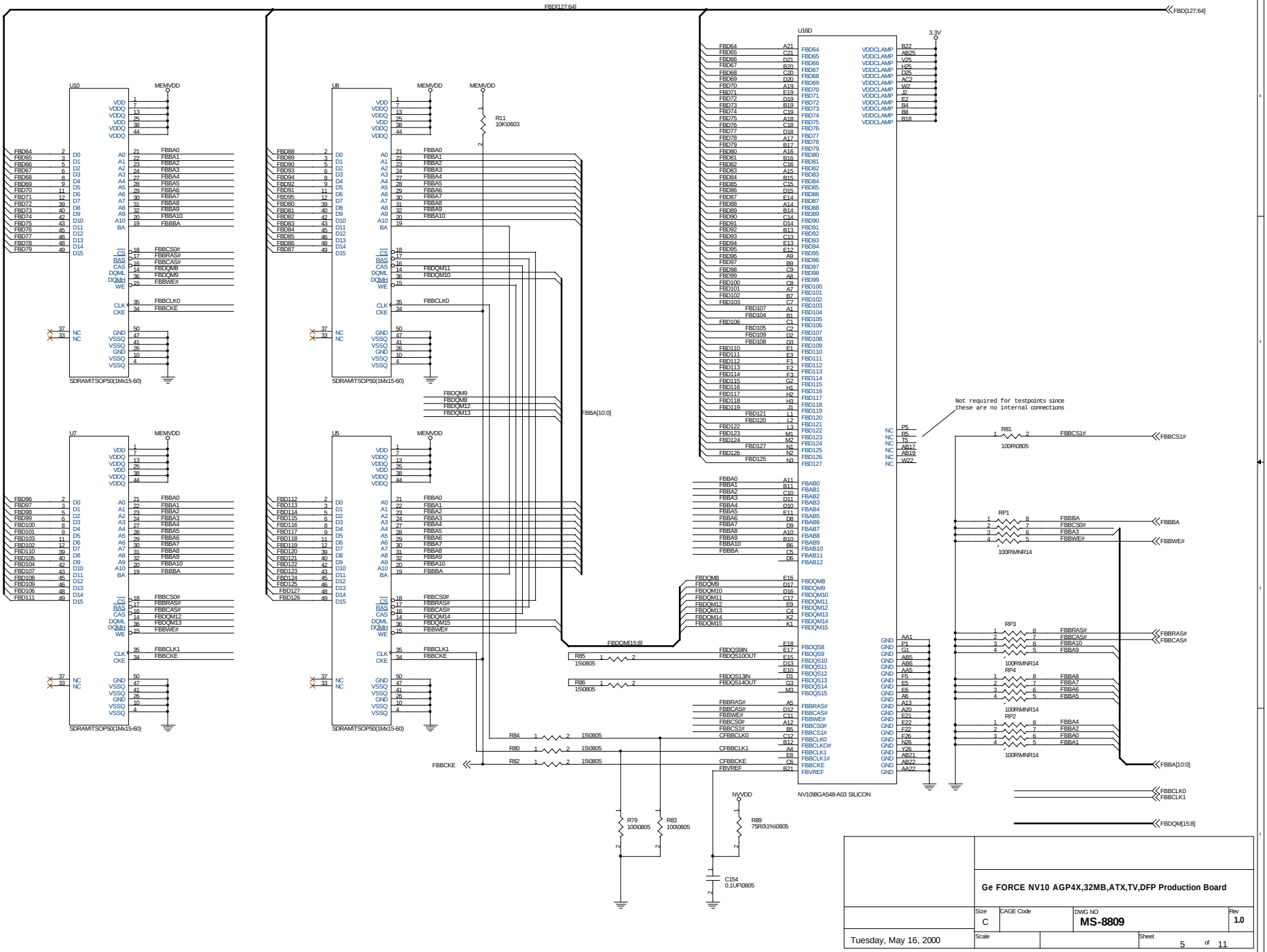
Ge FORCE NV10 AGP4X,32MB,ATX,TV,DFP Production Board

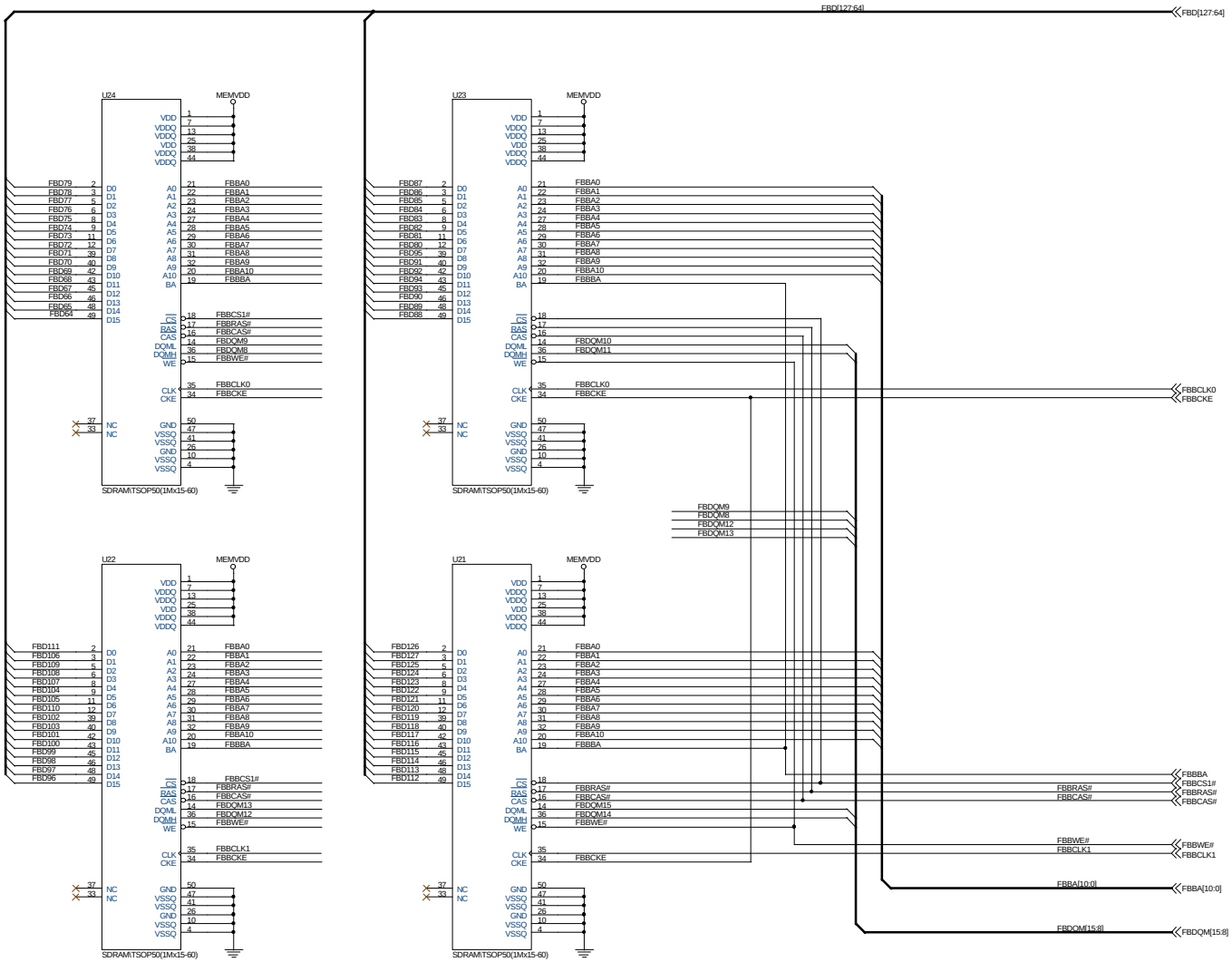
Size	CAGE Code	DWG NO	Rev
C		MS-8809	1.0

Tuesday, May 16, 2000

Scale

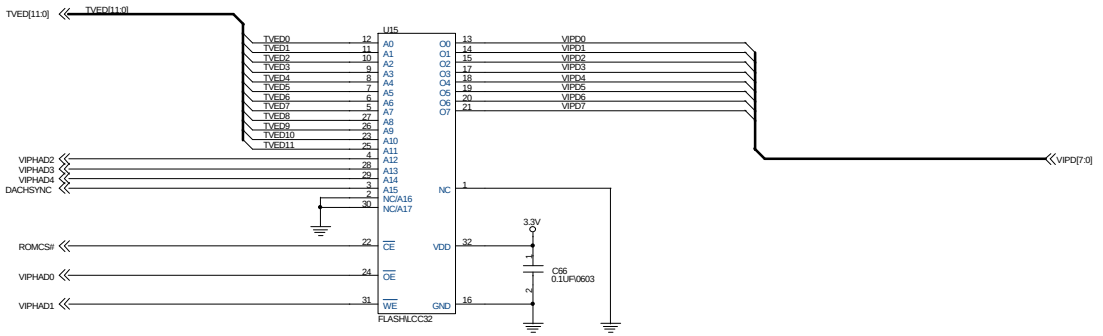
Sheet 4 of 11

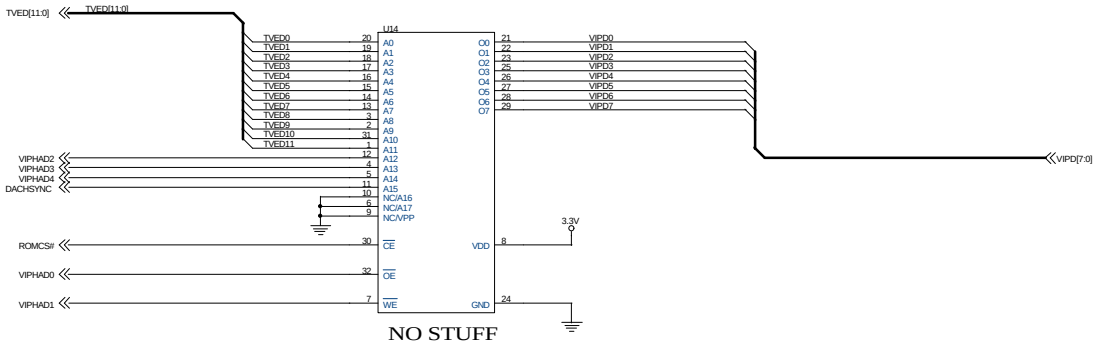

FBD[127:64]
FBD[127:64]
U10
MEMVDD
SDRAMTSOP50(1Mx15-60)
U8
MEMVDD
MEMVDD
R11
10K\0603
SDRAMTSOP50(1Mx15-60)
U7
MEMVDD
SDRAMTSOP50(1Mx15-60)
U5
MEMVDD
SDRAMTSOP50(1Mx15-60)
FBDQM9
FBDQM8
FBDQM12
FBDQM13
FBBA[10:0]
U16D
3.3V
NV10\BGA548-A03 SILICON
Not required for testpoints since
these are no internal connections
R81
100R\0805
FBBCS1#
RP1
100R\MNR14
FBBBA
FBBCS0#
FBBA3
FBBWE#
RP3
100R\MNR14
FBBRAS#
FBBCAS#
FBBA10
FBBA9
RP4
100R\MNR14
FBBA8
FBBA7
FBBA6
FBBA5
RP2
100R\MNR14
FBBA4
FBBA2
FBBA0
FBBA1
FBBA[10:0]
FBBCLK0
FBBCLK1
FBDQM[15:8]
FBDQM[15:8]
R85
150\0805
R86
150\0805
R84
150\0805
R80
150\0805
R82
150\0805
FBBCKE
CFBBCLK1
CFBBCKE
FBVREF
R79
100\0805
R83
100\0805
NVVDD
R89
75R\1%\0805
C154
0.1UF\0805
Ge FORCE NV10 AGP4X,32MB,ATX,TV,DFP Production Board
Size
C
CAGE Code
DWG NO
MS-8809
Rev
1.0
Tuesday, May 16, 2000
Scale
Sheet
5
of
11



	Ge FORCE NV10 AGP4X,32MB,ATX,TV,DFP Production Board			
	Size C	CAGE Code	DWG NO MS-8809	Rev 1.0
Tuesday, May 16, 2000	Scale		Sheet 6 of 11	

POPULATE THIS DEVICE IF FANSINK IS USED ON NV10.

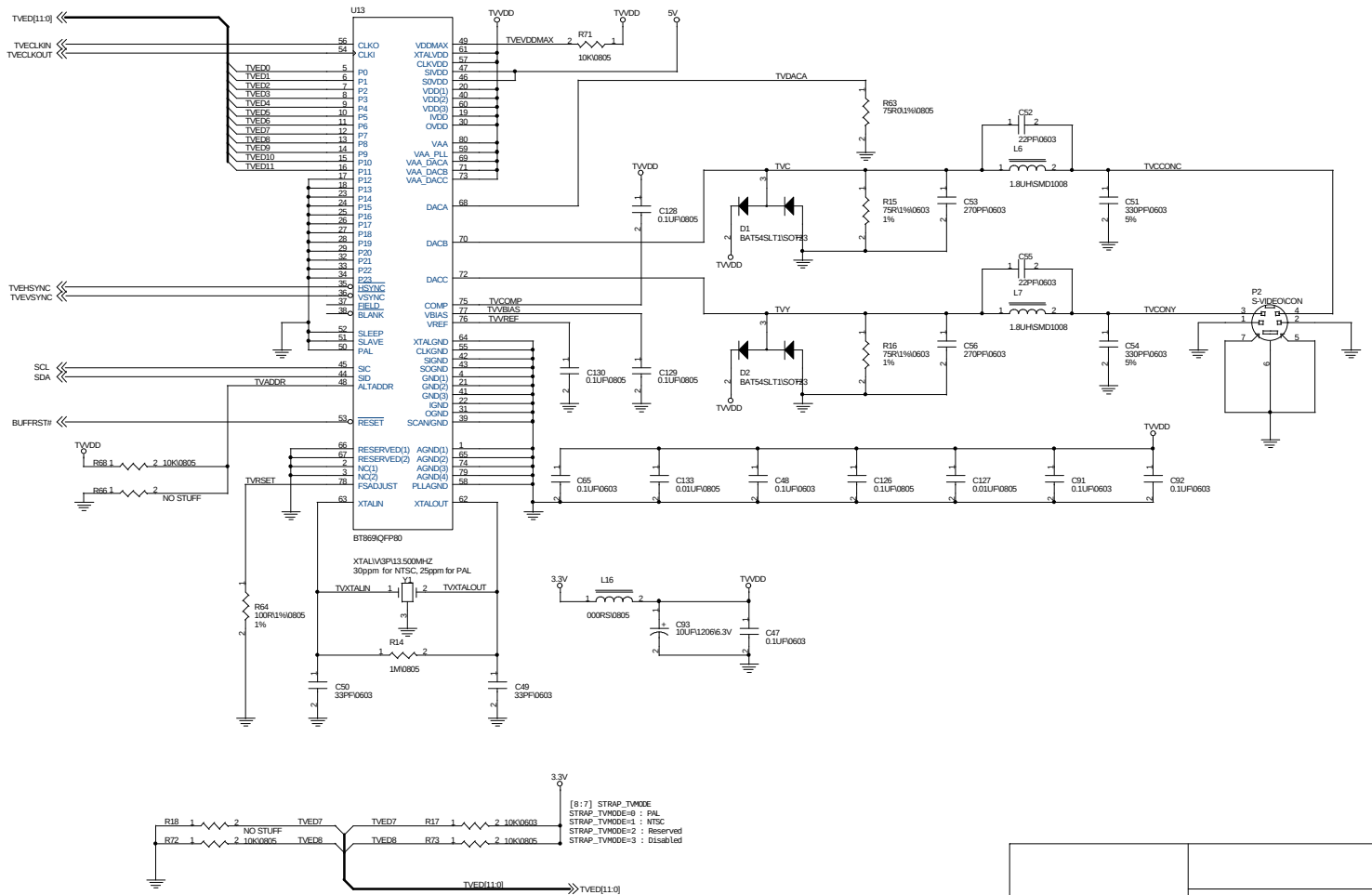




NO STUFF

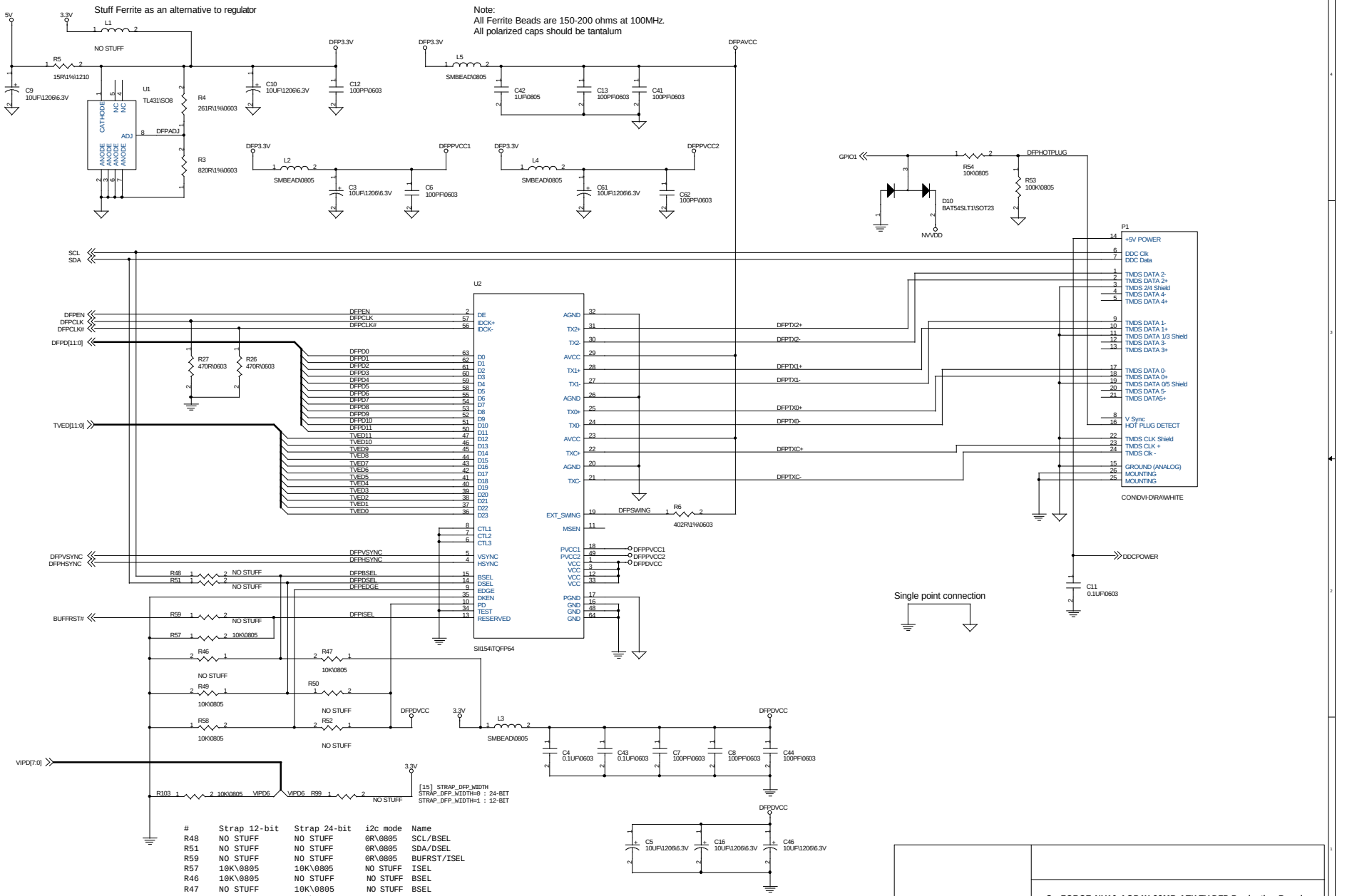
	Ge FORCE NV10 AGP4X,32MB,ATX,TV,DFP Production Board			
	Size: C	CAGE Code:	DWG NO: MS-8809	Rev: 1.0
Tuesday, May 16, 2000	Scale:		Sheet: 7 of 11	

OPTION FOR TV-OUT



	Ge FORCE NV10 AGP4X,32MB,ATX,TV,DFP Production Board			
	Size: C	CAGE Code:	DWG NO: MS-8809	Rev: 1.0
Tuesday, May 16, 2000	Scale:		Sheet: 8 of 11	

OPTION FOR DVI DFP-OUT

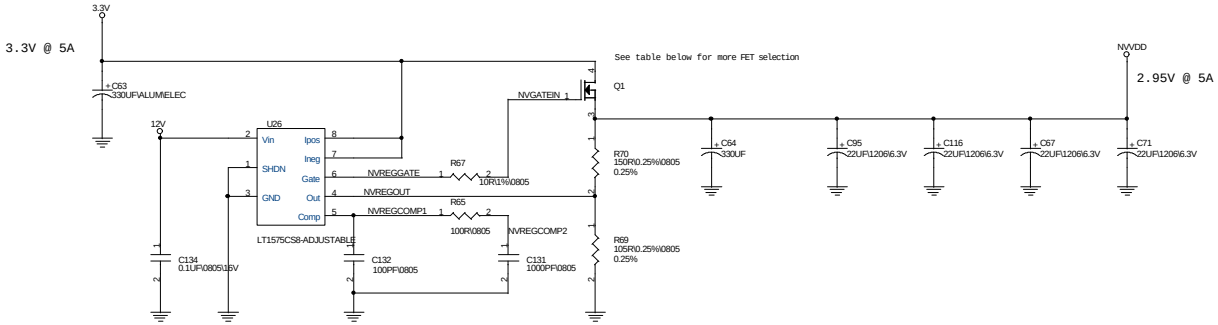


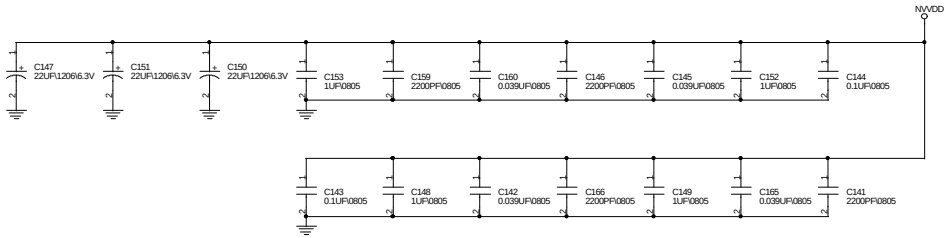
#	Strap 12-bit	Strap 24-bit	i2c mode	Name
R48	NO STUFF	NO STUFF	0R\0805	SCL/BSEL
R51	NO STUFF	NO STUFF	0R\0805	SDA/DSEL
R59	NO STUFF	NO STUFF	0R\0805	BUFRST/ISEL
R57	10K\0805	10K\0805	NO STUFF	ISEL
R46	10K\0805	NO STUFF	NO STUFF	BSEL
R47	NO STUFF	10K\0805	NO STUFF	BSEL
R49	NO STUFF	10K\0805	NO STUFF	DSEL
R50	10K\0805	NO STUFF	NO STUFF	DSEL
R58	10K\0805	10K\0805	NO STUFF	EDGE
R52	NO STUFF	NO STUFF	NO STUFF	EDGE
R103	NO STUFF	10K\0805	NO STUFF	STRAP
R99	10K\0805	NO STUFF	NO STUFF	STRAP

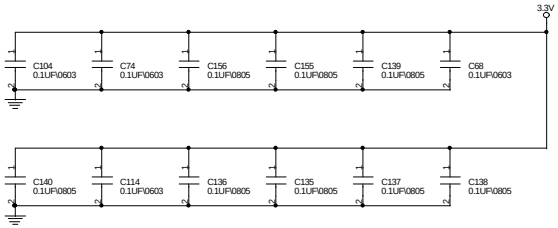
Ge FORCE NV10 AGP4X,32MB,ATX,TV,DFP Production Board

Size	CAGE Code	DWG NO	Rev
C		MS-8809	1.0

Tuesday, May 16, 2000 — Scale — Sheet 9 of 11







FETs in D2PAK/TO-263 package and Rds(on) < 0.014:

International Rectifier:

IRL3102S 0.013
IRL3402S 0.008
IRL3502S 0.006
IRL2203NS 0.00
IRL3803S 0.006
IRF1010NS 0.01
IRF3705NS 0.01
IRF3206S 0.008
IRL2505S 0.006

Fairchild:

FDP8030L 0.0045
FDP7030L 0.007
FDP7030BL 0.00
FDP6035L 0.011
FDP6035AL 0.0125
FDP6030L 0.0135
NDB7052L 0.0075
NDB7050L 0.0
NDB7052 0.01
NDB7051L 0.0115
NDB7050 0.013
NDB7051 0.013
NDB7060 0.013

Motorola:

MTB75N06HD 0.01
MTB75N05HD 0.0095
MTB60N05HDL 0.01
MTB1306 0.008
MTB75N03HDL 0.00

Harris:

HRF3205S/T 0.00
HUF75339S3S/T 0.012
HUF75343S3S/T 0.009
HUF75344S3S/T 0.008
HUF75345S3S/T 0.007

Toshiba

2SK2986 0.008
2SK2986 0.008
2SK2986 0.007

Siliconix

SMB60N03-10L 0.01
SUB45N03-13L 0.013
SUB70N03-09P 0.009
SUB70N04-10 0.010
SUB70N06-14 0.014
SUB75N03-04 0.004
SUB75N03-07 0.007
SUB75N04-05L 0.0065
SUB75N05-06 0.006
SUB75N05-07 0.007
SUB75N06-06 0.0065
SUB75N06-07L 0.0085
SUB75N06-12L 0.012
SUB75N06-08 0.008
SUB75N08-09L 0.009
SUB75N08-10 0.010

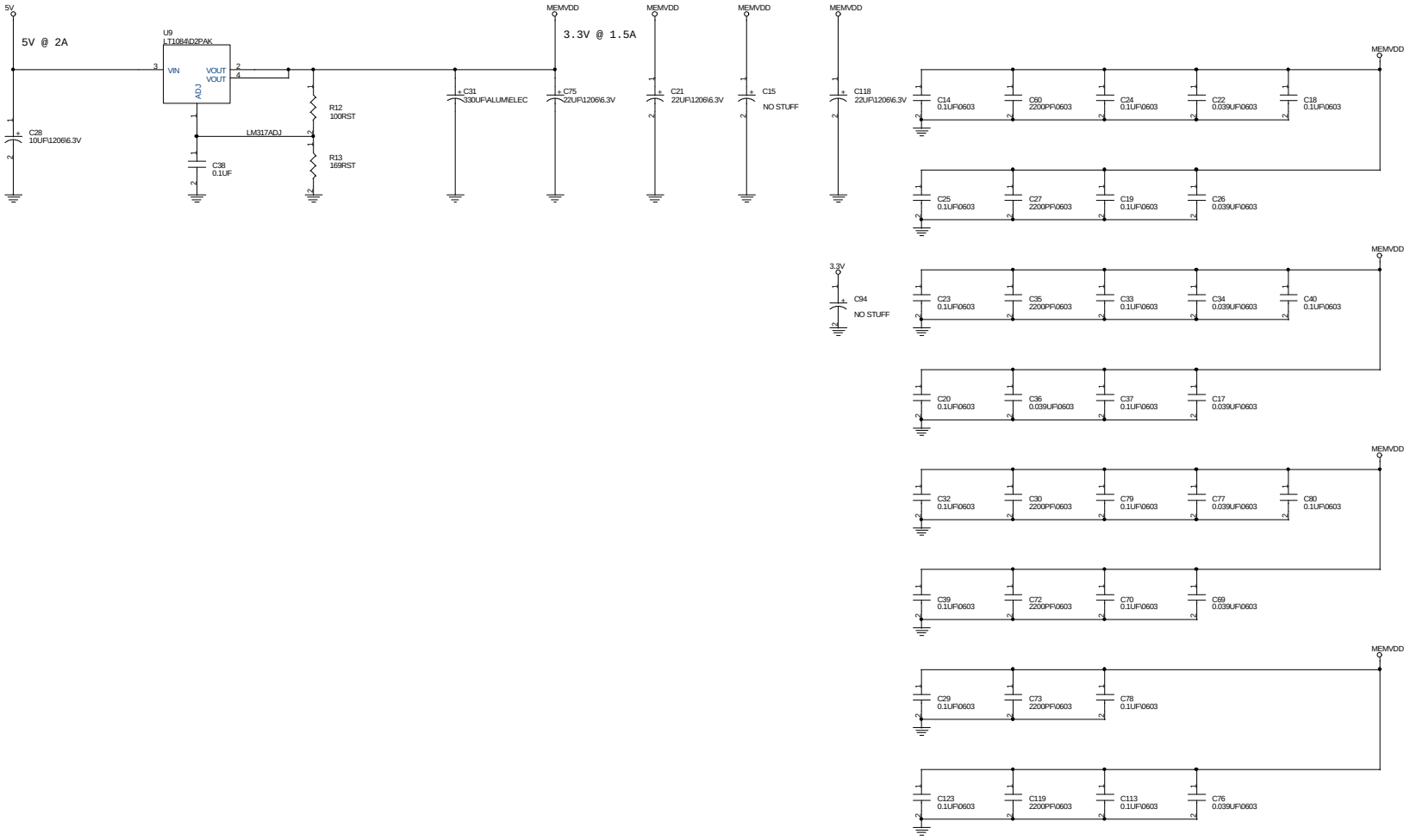
device: LT1575CS8

Rset resistors:
LT1575 for Ultra
Vout 2.95 V = 1.21*(1+R2/R1)
R1 nom 105 ohm 0805 packa ge
R2 nom 150 ohm 0805 packa ge
R tol(%) 0.25%
Vout nom 2.939V
Vout min 2.896V
Vout max 2.981V

FET selection:
Critical parameters:
Rds(on) = 0.014 ohm max @ Vgs = 7.5 V
Pd = 2.25 W min
Id = 3.5 A continuous

Basis:
If Vin(min)=3.13V and Vout(max) = 2.90, then Rds(on) = (Vin-Vout)/Id * 50% margin
If Vin(max)=3.47V and Vout(min) = 2.80, then Pd = (Vin-vout) * Id
Vgs = 12V - 1.6V - Vout

	Ge FORCE NV10 AGP4X,32MB,ATX,TV,DFP Production Board			
	Size: C	CAGE Code:	DWG NO: MS-8809	Rev: 1.0
Tuesday, May 16, 2000	Scale:		Sheet: 10 of 11	



	Ge FORCE NV10 AGP4X,32MB,ATX,TV,DFP Production Board
	Size: C; CAGE Code: ; DWG NO: **MS-8809**; Rev: 1.0
Tuesday, May 16, 2000	Scale: ; Sheet: 11 of 11