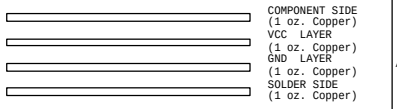
8SR533 Schematics

Revision 2.0

SHEET	TITLE
1	COVER SHEET
2	BOM & PCB MODIFY HISTORY
3	BLOCK DIAGRAM
4,5,6	INTEL CPU_WMT_478
7-10	SIS645 (NORTH BRIDGE) HOST; DDR; AGP,HYPER ZIP
11-14	SIS961 (SOUTH BIRDGE)
15	CLOCK GENERATOR (ICS952001)
16,17	DDR SDRAM DIMMS 1,2,3
18	AGP SLOT
19,20	PCI SLOT 1,2,3,4,5,6
21	IDE,FRONT USB,PCIRST#
22	LPCIO_IT8705
23	BIOS
24	COM,PRT,FDD,KB/MS,IR
25	AUDIO (CT5880)/AC 97
26	AUDIO JACK,GAME PORT
27	FAN, SMB PORT
28	PANEL,STR LED,FANS ,CPU GN
29	VCORE PHASE PWM HIP 6302 + 6602
30	DDR POWER,3VDUAL,VDDQ DC POWER
31	ATX CONN, GPIO LIST
32	RTL8100BL

PCB Size: 304*200 mm



GIGABYTE

Title: COVER SHEET

Size	Document Number	Rev
Custom	GA-8SR533	2.0

Date: Tuesday, July 02, 2002 Sheet 1 of 33

Model Name: 8SR533

Version:2.0

Component value change history

AUTOBOM
91/ /

Date	Change Item	Reason
91/4/24	Change Intel Front Panel	
91/4/24	Change 6-channel CODEC(ALC650)	
91/5/7	Capacitor Cost down	
91/5/7	修改包材	
91/5/17	Fix Kingmax DDR333 compatibility	
91/6/4	Fix Audio Precision fail issue	
91/6/10	Fix Power ON/OFF fail issue	
91/6/10	Change F_USB connector to yellow	

Circuit or PCB layout change for next version

Date	Change Item	Reason
91/4/16	Change Intel Front Panel	Costermer Request
91/4/16	Change 6-channel CODEC(ALC650)	Costermer Request

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Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-8SR533 | Rev: 2.0

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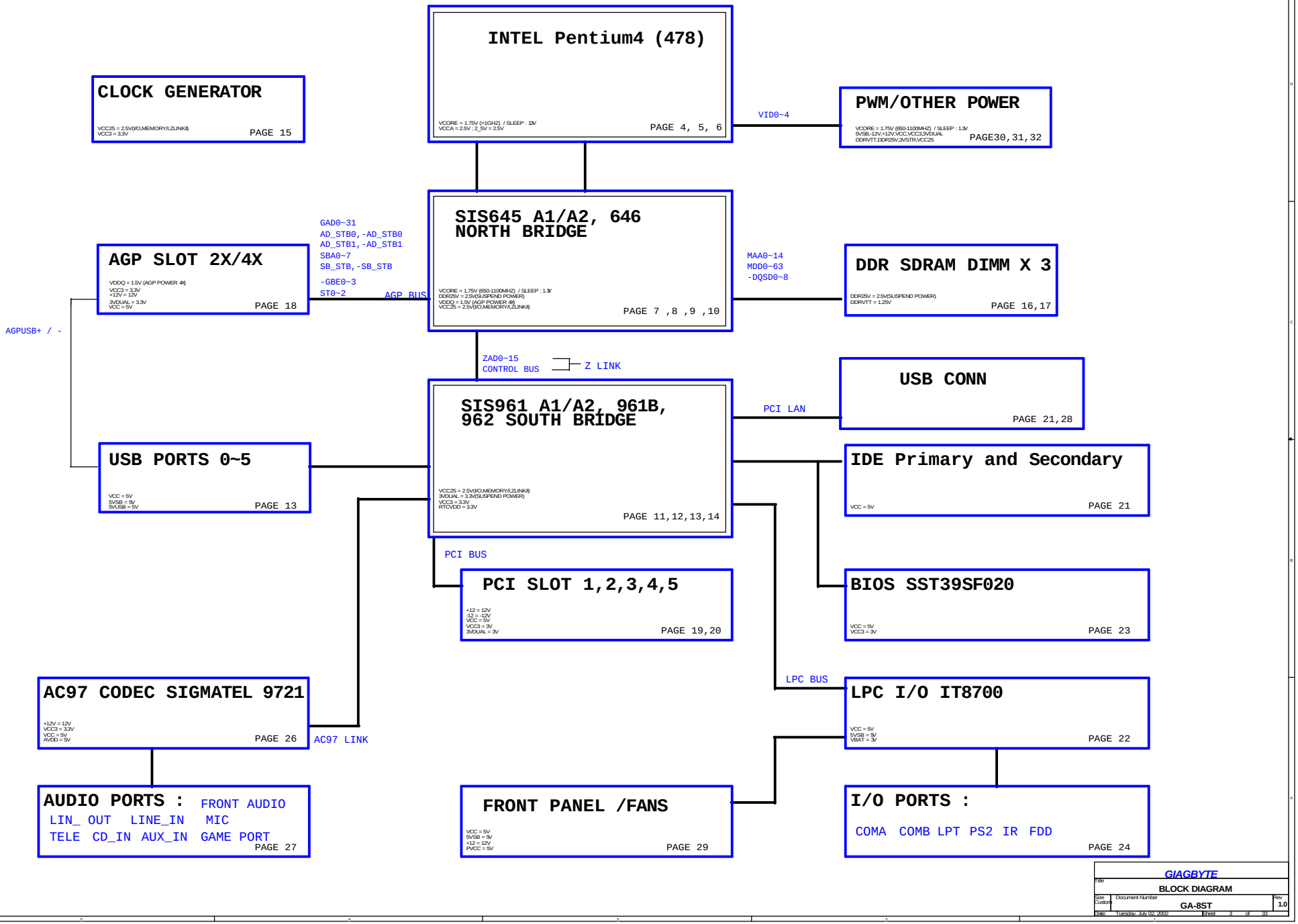
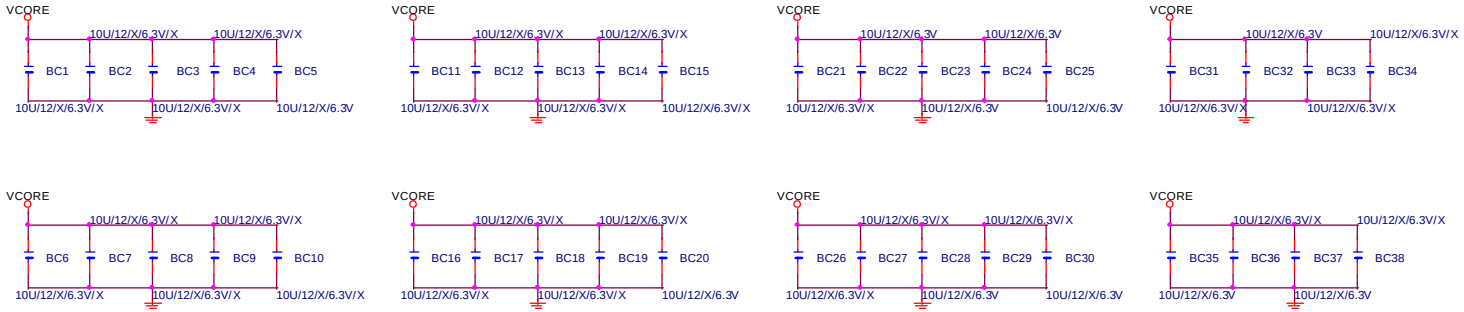
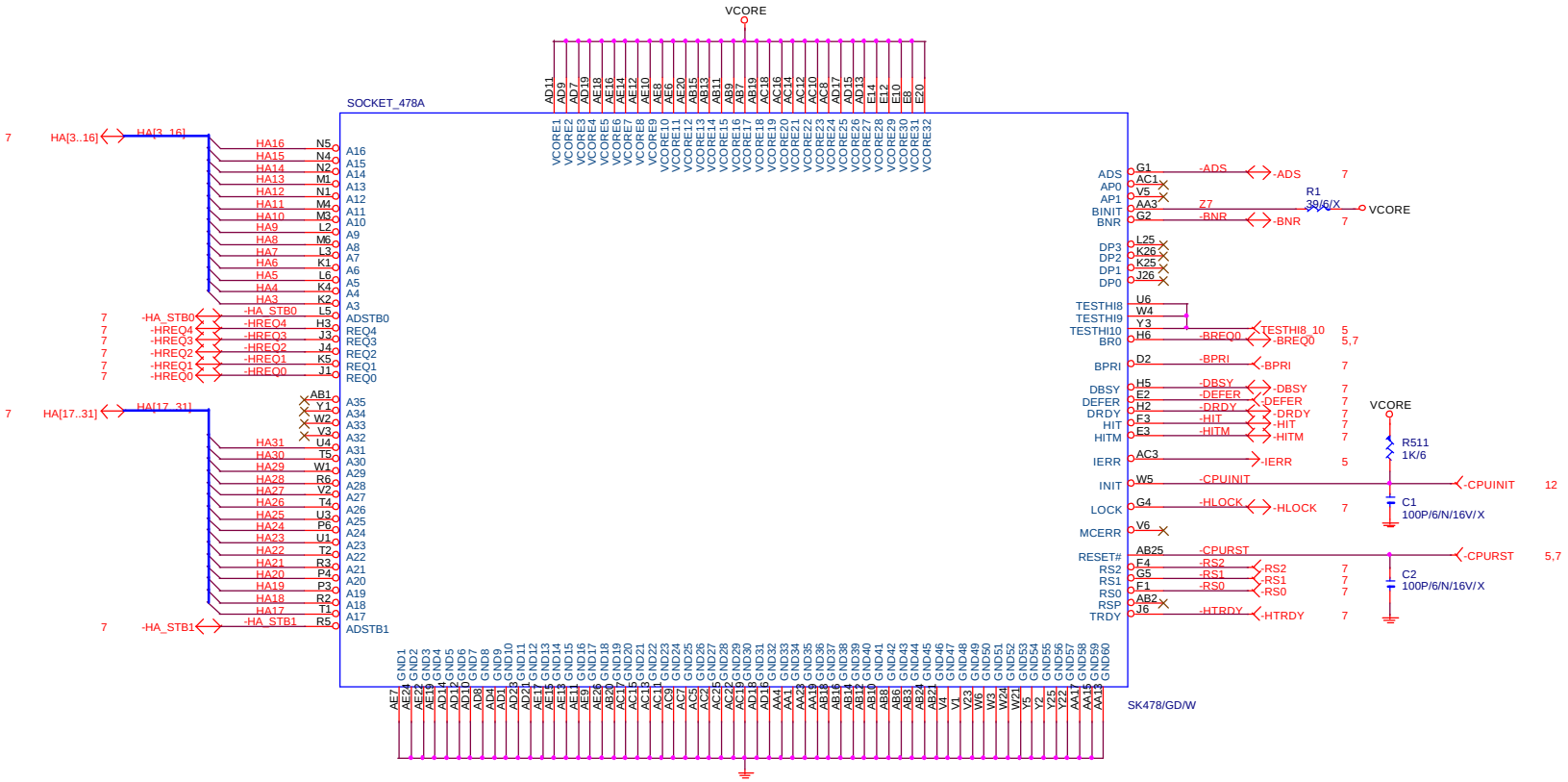
8SR533 BLOCK DIAGRAM





上11顆10U/X5R電容



GIGABYTE			
Title	WILLAMETTE 1/3		
Size B	Document Number GA-8SR533		Rev 2.0
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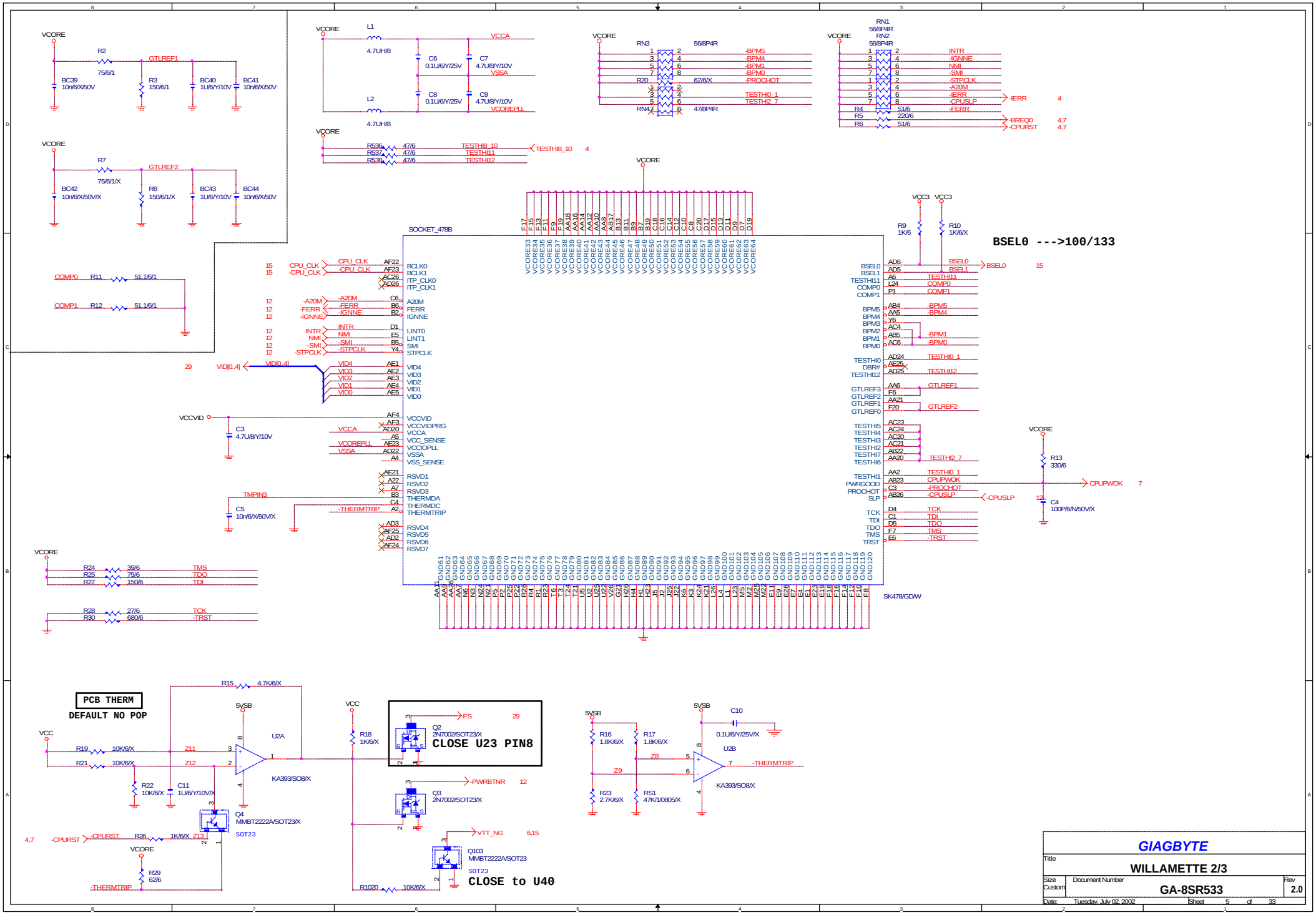
VCORE
R2
75/6/1
GTLREF1
BC39
10n/6/X/50V
R3
150/6/1
BC40
1U/6/Y/10V
BC41
10n/6/X/50V
R7
75/6/1/X
GTLREF2
BC42
10n/6/X/50V/X
R8
150/6/1/X
BC43
1U/6/Y/10V
BC44
10n/6/X/50V
L1
4.7UH/8
L2
4.7UH/8
VCCA
VSSA
C6
0.1U/6Y/25V
C7
4.7U/8Y/10V
C8
0.1U/6Y/25V
C9
4.7U/8Y/10V
VCOREPLL
RN3
56/8P4R
R20
62/6/X
RN4
47/8P4R
-BPM5
-BPM4
-BPM1
-BPM0
-PROCHOT
TESTHI0_1
TESTHI2_7
RN1
56/8P4R
RN2
56/8P4R
INTR
-IGNNE
NMI
-SMI
-STPCLK
-A20M
-IERR
-CPUSLP
-FERR
R4
51/6
R5
220/6
R6
51/6
BREQ0
-CPURST
R536
47/6
R537
47/6
R538
47/6
TESTHI8_10
TESTHI11
TESTHI12
SOCKET_478B
BCLK0
BCLK1
ITP_CLK0
ITP_CLK1
A20M
FERR
IGNNE
LINT0
LINT1
SMI
STPCLK
VID4
VID3
VID2
VID1
VID0
VCCVID
VCCVIDPRG
VCCA
VCC_SENSE
VCCIOPLL
VSSA
VSS_SENSE
RSVD1
RSVD2
RSVD3
THERMDA
THERMDC
THERMTRIP
RSVD4
RSVD5
RSVD6
RSVD7
SK478/GDW
R9
1K/6
R10
1K/6/X
BSEL0 --->100/133
BSEL0
BSEL1
TESTHI11
COMP0
COMP1
BPM5
BPM4
BPM3
BPM2
BPM1
BPM0
TESTHI0
DBR#
TESTHI12
GTLREF3
GTLREF2
GTLREF1
GTLREF0
TESTHI5
TESTHI4
TESTHI3
TESTHI2
TESTHI7
TESTHI6
TESTHI1
PWRGOOD
PROCHOT
SLP
TCK
TDI
TDO
TMS
TRST
R13
330/6
CPUPWOK
C4
100P/6/N/50V/X
C3
4.7U/8Y/10V
C5
10n/6/X/50V/X
TMPIN3
R24
39/6
R25
75/6
R27
150/6
R28
27/6
R30
680/6
PCB THERM
DEFAULT NO POP
R15
4.7K/6/X
R19
10K/6/X
R21
10K/6/X
R22
10K/6/X
C11
1U/6/Y/10V/X
U2A
KA393/SO8/X
Q4
MMBT2222A/SOT23/X
SOT23
R26
1K/6/X
R29
62/6
R18
1K/6/X
Q2
2N7002/SOT23/X
CLOSE U23 PIN8
Q3
2N7002/SOT23/X
Q103
MMBT2222A/SOT23
CLOSE to U40
R1020
10K/6/X
R16
1.8K/6/X
R17
1.8K/6/X
R23
2.7K/6/X
RS1
47K/1/0805/X
C10
0.1U/6Y/25V/X
U2B
KA393/SO8/X
GIAGBYTE
WILLAMETTE 2/3
GA-8SR533
2.0
Tuesday, July 02, 2002
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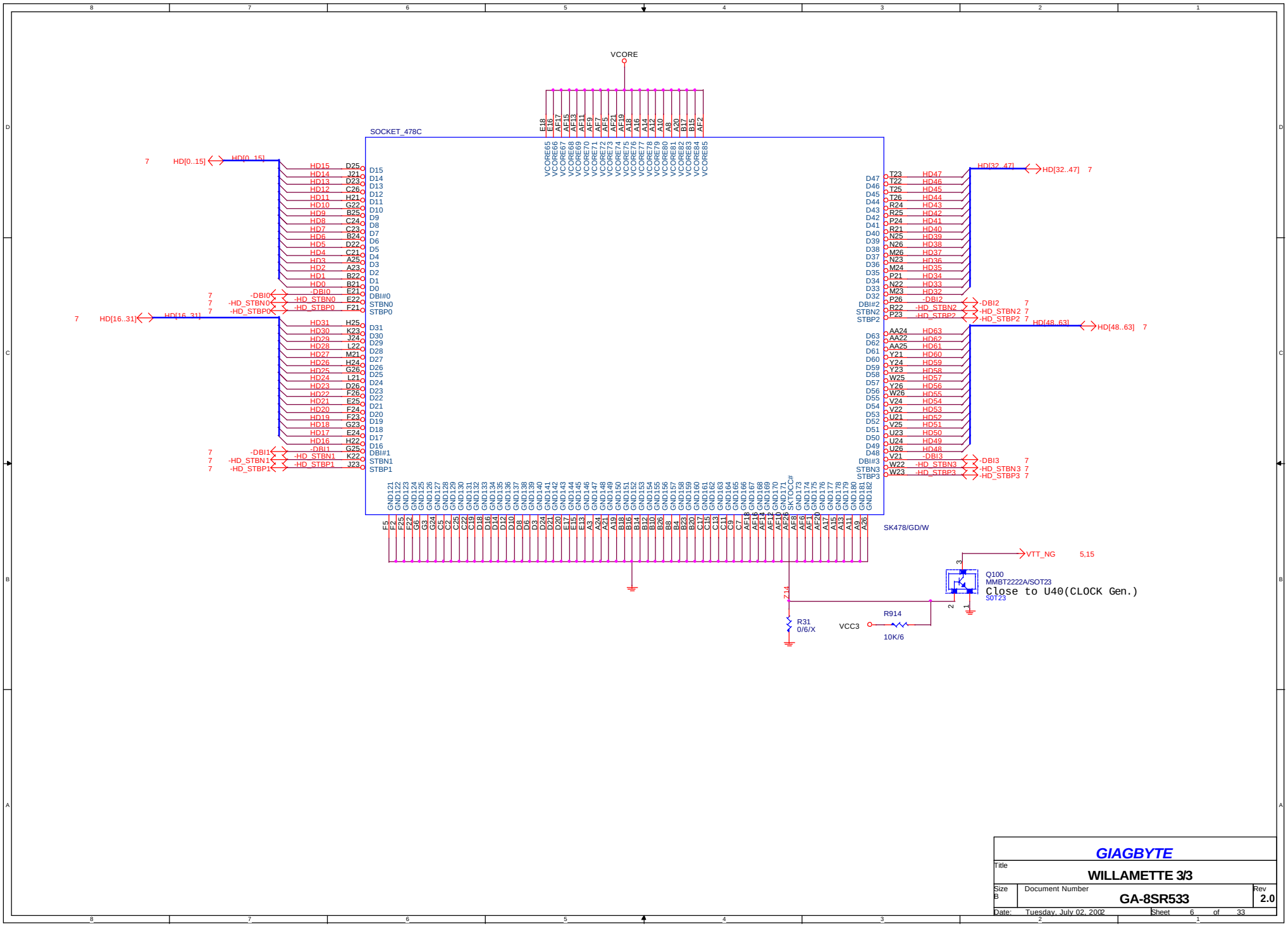

GIGABYTE			
Title	WILLAMETTE 3/3		
Size B	Document Number GA-8SR533		Rev 2.0
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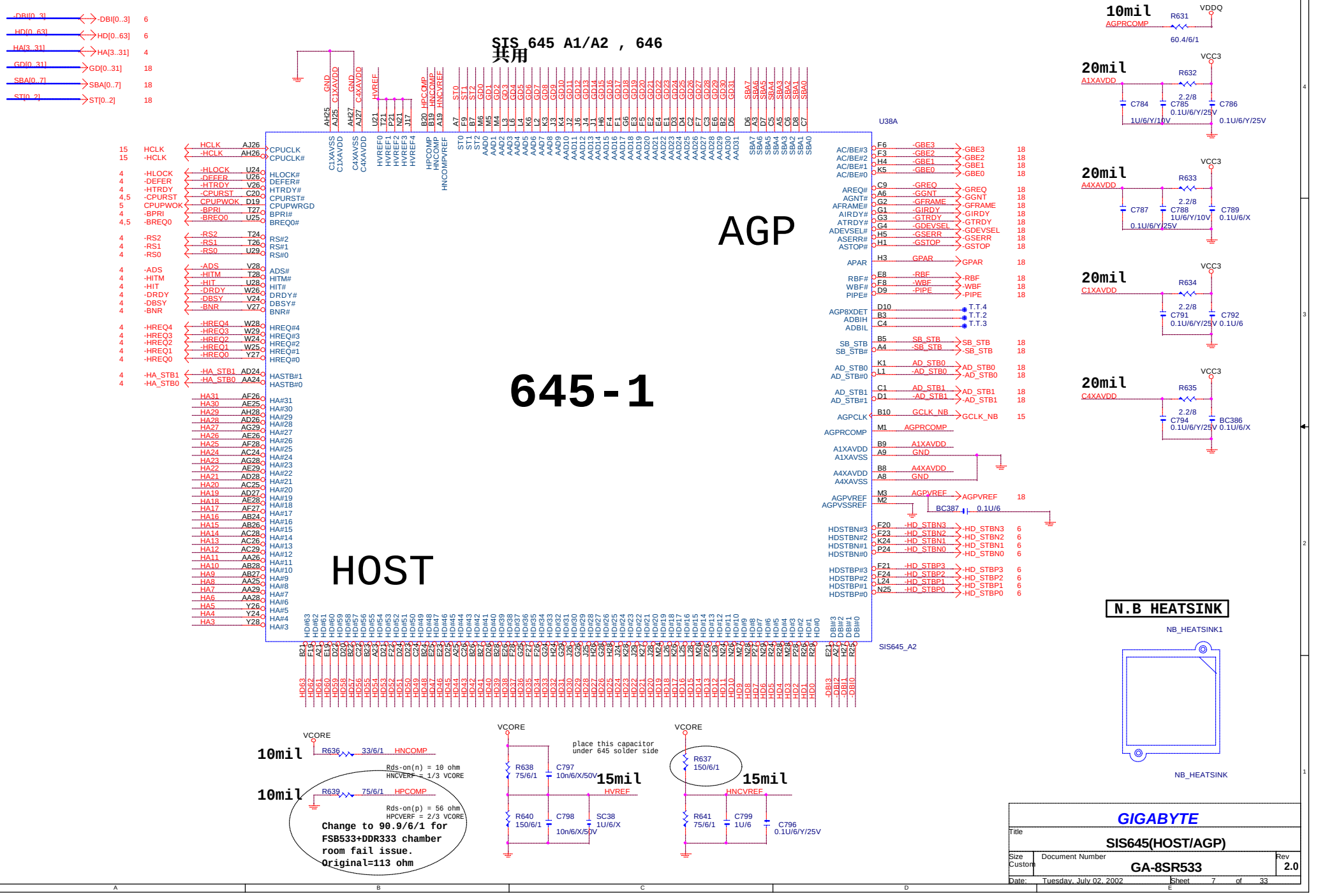
SIS 645 A1/A2 , 646
共用
AGP
645-1
HOST
SIS645_A2
U38A
-DBI[0..3] -DBI[0..3] 6
HD[0..63] HD[0..63] 6
HA[3..31] HA[3..31] 4
GD[0..31] GD[0..31] 18
SBA[0..7] SBA[0..7] 18
ST[0..2] ST[0..2] 18
HCLK HCLK CPUCLK
-HCLK -HCLK CPUCLK#
-HLOCK -HLOCK HLOCK#
-DEFER -DEFER DEFER#
-HTRDY -HTRDY HTRDY#
-CPURST -CPURST CPURST#
CPUPWOK CPUPWOK CPUPWRGD
-BPRI -BPRI BPRI#
-BREQ0 -BREQ0 BREQ0#
-RS2 -RS2 RS#2
-RS1 -RS1 RS#1
-RS0 -RS0 RS#0
-ADS -ADS ADS#
-HITM -HITM HITM#
-HIT -HIT HIT#
-DRDY -DRDY DRDY#
-DBSY -DBSY DBSY#
-BNR -BNR BNR#
-HREQ4 -HREQ4 HREQ#4
-HREQ3 -HREQ3 HREQ#3
-HREQ2 -HREQ2 HREQ#2
-HREQ1 -HREQ1 HREQ#1
-HREQ0 -HREQ0 HREQ#0
-HA_STB1 -HA_STB1 HASTB#1
-HA_STB0 -HA_STB0 HASTB#0
HA31 HA#31
HA30 HA#30
HA29 HA#29
HA28 HA#28
HA27 HA#27
HA26 HA#26
HA25 HA#25
HA24 HA#24
HA23 HA#23
HA22 HA#22
HA21 HA#21
HA20 HA#20
HA19 HA#19
HA18 HA#18
HA17 HA#17
HA16 HA#16
HA15 HA#15
HA14 HA#14
HA13 HA#13
HA12 HA#12
HA11 HA#11
HA10 HA#10
HA9 HA#9
HA8 HA#8
HA7 HA#7
HA6 HA#6
HA5 HA#5
HA4 HA#4
HA3 HA#3
AC/BE#3 -GBE3 -GBE3 18
AC/BE#2 -GBE2 -GBE2 18
AC/BE#1 -GBE1 -GBE1 18
AC/BE#0 -GBE0 -GBE0 18
AREQ# -GREQ -GREQ 18
AGNT# -GGNT -GGNT 18
AFRAME# -GFRAME -GFRAME 18
AIRDY# -GIRDY -GIRDY 18
ATRDY# -GTRDY -GTRDY 18
ADEVSEL# -GDEVSEL -GDEVSEL 18
ASERR# -GSERR -GSERR 18
ASTOP# -GSTOP -GSTOP 18
APAR GPAR GPAR 18
RBF# -RBF -RBF 18
WBF# -WBF -WBF 18
PIPE# -PIPE -PIPE 18
AGP8XDET T.T.4
ADBIH T.T.2
ADBIL T.T.3
SB_STB SB_STB SB_STB 18
SB_STB# -SB_STB -SB_STB 18
AD_STB0 AD_STB0 AD_STB0 18
AD_STB0# -AD_STB0 -AD_STB0 18
AD_STB1 AD_STB1 AD_STB1 18
AD_STB1# -AD_STB1 -AD_STB1 18
AGPCLK GCLK_NB GCLK_NB 15
AGPRCOMP AGPRCOMP
A1XAVDD A1XAVDD
A1XAVSS GND
A4XAVDD A4XAVDD
A4XAVSS GND
AGPVREF AGPVREF AGPVREF 18
AGPVSSREF BC387 0.1U/6
HDSTBN#3 -HD_STBN3 -HD_STBN3 6
HDSTBN#2 -HD_STBN2 -HD_STBN2 6
HDSTBN#1 -HD_STBN1 -HD_STBN1 6
HDSTBN#0 -HD_STBN0 -HD_STBN0 6
HDSTBP#3 -HD_STBP3 -HD_STBP3 6
HDSTBP#2 -HD_STBP2 -HD_STBP2 6
HDSTBP#1 -HD_STBP1 -HD_STBP1 6
HDSTBP#0 -HD_STBP0 -HD_STBP0 6
10mil R631 VDDQ AGPRCOMP 60.4/6/1
20mil A1XAVDD R632 2.2/8 C784 C785 0.1U/6/Y/25V C786 1U/6/Y/10V 0.1U/6/Y/25V VCC3
20mil A4XAVDD R633 2.2/8 C787 C788 1U/6/Y/10V C789 0.1U/6/X 0.1U/6/Y/25V VCC3
20mil C1XAVDD R634 2.2/8 C791 C792 0.1U/6/Y/25V 0.1U/6 VCC3
20mil C4XAVDD R635 2.2/8 C794 BC386 0.1U/6/Y/25V 0.1U/6/X VCC3
N.B HEATSINK
NB_HEATSINK1
NB_HEATSINK
VCORE 10mil R636 33/6/1 HNCOMP
Rds-on(n) = 10 ohm
HNCVERF = 1/3 VCORE
10mil R639 75/6/1 HPCOMP
Rds-on(p) = 56 ohm
HPCVERF = 2/3 VCORE
Change to 90.9/6/1 for FSB533+DDR333 chamber room fail issue. Original=113 ohm
VCORE R638 75/6/1 C797 10n/6/X/50V 15mil HVREF R640 150/6/1 C798 10n/6/X/50V SC38 1U/6/X
place this capacitor under 645 solder side
VCORE R637 150/6/1 15mil HNCVREF R641 75/6/1 C799 1U/6 C796 0.1U/6/Y/25V
GIGABYTE
Title SIS645(HOST/AGP)
Size Custom
Document Number GA-8SR533
Rev 2.0
Date: Tuesday, July 02, 2002
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DQM[0..7] → DQM[0..7] 16,17
MAA[0..14] → MAA[0..14] 16,17
-DQSD[0..7] → -DQSD[0..7] 16,17
CKE[0..5] → CKE[0..5] 16,17

SIS 645 A1/A2 , 646 共用

645-2

U38B

SIS645_A2

MD0	AJ23	MD0/SMD63	
MD1	AG22	MD1/SMD30	
MD2	AH21	MD2/SMD29	
MD3	AJ21	MD3/SMD59	
MD4	AD23	MD4/SMD31	
MD5	AE23	MD5/SMD62	
MD6	AE22	MD6/SMD60	
MD7	AF21	MD7/SMD28	
DQMD0	AD22	DQM0/SMD61	
DQS0	AH22	DQS0/CSB#0	
MD8	AD21	MD8/SMD27	
MD9	AG20	MD9/SMD58	
MD10	AE19	MD10/SMD55	
MD11	AF19	MD11/SMD23	
MD12	AE21	MD12/SMD26	
MD13	AD20	MD13/SMD57	
MD14	AD19	MD14/SMD56	
MD15	AH19	MD15/SMD24	
DQMD1	AF20	DQM1/SMD25	
DQS1	AH20	DQS1/CSB#1	
MD16	AF18	MD16/SMD22	
MD17	AG18	MD17/SMD53	
MD18	AH17	MD18/SMD20	
MD19	AD16	MD19/SMD19	
MD20	AD18	MD20/SMD54	
MD21	AD17	MD21/SMD21	
MD22	AF17	MD22/SMD51	
MD23	AJ17	MD23/SMD50	
DQMD2	AE17	DQM2/SMD52	
DQS2	AH18	DQS2/CSB#2	
MD24	AD14	MD24/SMD18	
MD25	AG14	MD25/SMD17	
MD26	AJ13	MD26/SDQM7	
MD27	AE13	MD27/SDQM6	
MD28	AJ15	MD28/SMD49	
MD29	AF14	MD29/SMD48	
MD30	AD13	MD30/SDQM3	
MD31	AF13	MD31/SDQM2	
DQMD3	AH13	DQM3/SMD16	
DQS3	AH14	DQS3/CSB#3	
MD32	AD10	MD32/SDQM5	
MD33	AH10	MD33/SDQM4	
MD34	AE9	MD34/SMD47	
MD35	AD8	MD35/SMD45	
MD36	AG10	MD36/SDQM1	
MD37	AF10	MD37/SDQM0	
MD38	AH9	MD38/SMD46	
MD39	AF9	MD39/SMD14	
DQMD4	AD9	DQM4/SMD15	
DQS4	AJ9	DQS4/CSB#4	
MD40	AH5	MD40/SMD13	
MD41	AG4	MD41/SMD43	
MD42	AE5	MD42/SMD42	
MD43	AH3	MD43/SMD10	
MD44	AG6	MD44/SMD44	
MD45	AF6	MD45/SMD12	
MD46	AF5	MD46/SMD41	
MD47	AF4	MD47/SMD9	
DQMD5	AH4	DQM5/SMD11	
DQS5	AJ3	DQS5/CSB#5	
MD48	AE4	MD48/SMD40	
MD49	AD6	MD49/SMD8	
MD50	AE2	MD50/SMD37	
MD51	AC5	MD51/SMD36	
MD52	AG2	MD52/SMD39	
MD53	AG1	MD53/SMD7	
MD54	AF3	MD54/SMD6	
MD55	AC6	MD55/SMD5	
DQMD6	AD4	DQM6/SMD38	
DQS6	AF2	DQS6/CSB#6	
MD56	AB6	MD56/SMD35	
MD57	AD3	MD57/SMD34	
MD58	AA6	MD58/SMD1	
MD59	AB3	MD59/SMD0	
MD60	AC4	MD60/SMD4	
MD61	AE1	MD61/SMD3	
MD62	AD2	MD62/SMD33	
MD63	AC1	MD63/SMD32	
DQMD7	AB4	DQM7/SMD2	
DQS7	AC2	DQS7/CSB#7	

MA0 AH11 MA0
MA1 AF12 MA1
MA2 AH12 MA2
MA3 AG12 MA3
MA4 AD12 MA4
MA5 AH15 MA5
MA6 AF15 MA6
MA7 AH16 MA7
MA8 AE15 MA8
MA9 AD15 MA9
MA10 AF11 MA10
MA11 AG8 MA11
MA12 AJ11 MA12
MA13 AG16 MA13
MA14 AF16 MA14

RN146 10/8P4R: MA3 1 / MA2 3 / MA1 5 / MA0 7 → 2 MAA3 / 4 MAA2 / 6 MAA1 / 8 MAA0
RN147 10/8P4R: MA7 1 / MA5 3 / MA6 5 / MA4 7 → 2 MAA7 / 4 MAA5 / 6 MAA6 / 8 MAA4
MA10 R916 10/6 MAA10
MA12 R917 10/6 MAA12
RN149 10/8P4R: MA14 1 / MA13 3 / MA9 5 / MA8 7 → 2 MAA14 / 4 MAA13 / 6 MAA9 / 8 MAA8
MA11 1 → 2 MAA11

SRAS# AH8 -RAS
SCAS# AJ7 -CAS
SWE# AH7 -SWE
RN150 10/8P4R: -RAS 3 / -CAS 5 / -SWE 7 → 4 -SRASA / 6 -SWEA / 8 -SCASA
-SRASA → -SRASA 16,17
-SWEA → -SWEA 16,17
-SCASA → -SCASA 16,17

CS#0 AE7 -C0
CS#1 AF7 -C1
CS#2 AH6 -C2
CS#3 AJ5 -C3
CS#4 AF8 -C4
CS#5 AD7 -C5
RN1511 10/8P4R: -C0 / -C1 / -C2 / -C3 → -CS0 / -CS1 / -CS2 / -CS3
R652 10/6 -C4 → -CS4
R653 10/6 -C5 → -CS5
-CS0 → -CS0 16,17
-CS1 → -CS1 16,17
-CS2 → -CS2 16,17
-CS3 → -CS3 16,17
-CS4 → -CS4 17
-CS5 → -CS5 17

DDR25V 3VDUAL
CKE0 AB2 CKE0
CKE1 AA4 CKE1
CKE2 AB1 CKE2
CKE3 Y6 CKE3
CKE4 AA5 CKE4
CKE5 Y5 CKE5
CKE2 1 / CKE1 3 / CKE3 5 / CKE4 7 → 2 / 4 RN152 / 6 470/8P4R / 8
CKE5 R654 470/6
CKE0 R655 470/6
S3AUXSW# Y4 → -SUSB → -SUSB 30
R34 1K/6

SDCLK AA3 → SDCLK → SDCLK 15
FWDSDCLKO AD11 R657 22/6 → FWDSDCLKO → FWDSDCLKO 15
SDRCLKI AE11
C807 22P/6
C909 22P/6/X

SDAVDD Y1 → SDAVDD
SDAVSS Y2 → GND
DDRAVDD AA1 → DDRAVDD
DDRAVSS AA2 → GND

DDRVREFA AJ19 → DDRVREFA
DDRVREFB AH2 → DDRVREFB
DRAM_SEL W3 → R660 4.7K/6 → 3VDUAL

DQM0 R642 10/6 DQMD0
DQM1 R643 10/6 DQMD1
DQM2 R644 10/6 DQMD2
DQM3 R645 10/6 DQMD3
DQM4 R646 10/6 DQMD4
DQM5 R647 10/6 DQMD5
DQM6 R648 10/6 DQMD6
DQM7 R649 10/6 DQMD7

DQS0 R40 10/6 -DQSD0
DQS1 R41 10/6 -DQSD1
DQS2 R42 10/6 -DQSD2
DQS3 R43 10/6 -DQSD3
DQS4 R44 10/6 -DQSD4
DQS5 R45 10/6 -DQSD5
DQS6 R46 10/6 -DQSD6
DQS7 R47 10/6 -DQSD7

20mil
SDAVDD
VCC3
R650 2.2/8
C800 1U/6/Y/10V
C801 0.1U/6/Y/25V
C802 0.1U/6/X

20mil
DDRAVDD
VCC3
R651 2.2/8
C803 0.1U/6/Y/25V
C804 1U/6/Y/10V
C805 0.1U/6/Y/25V

10mil
DDRVREFB
DDR25V
R656 150/6/1
R658 150/6/1
C806 0.1U/6
C808 1U/6/Y/10V

10mil
DDRVREFA
DDR25V
R659 150/6/1
R661 150/6/1
C905 0.1U/6/Y/25V
C810 1U/6/Y/10V

DDR MD DAMPPING

Near DIMM 1

MDD[0:63] → MDD[0:63] 16,17

MD0	1	2	MDD0	MD5	3	4	MDD5
MD4	5	6	MDD4	MD1	7	8	MDD1
RN5 10/8P4R							
MD2	1	2	MDD2	MD3	3	4	MDD3
MD7	5	6	MDD7	MD6	7	8	MDD6
RN6 10/8P4R							
MD15	1	2	MDD15	MD14	3	4	MDD14
MD10	5	6	MDD10	MD11	7	8	MDD11
RN7 10/8P4R							
MD8	1	2	MDD8	MD9	3	4	MDD9
MD12	5	6	MDD12	MD13	7	8	MDD13
RN8 10/8P4R							
MD20	1	2	MDD20	MD17	3	4	MDD17
MD21	5	6	MDD21	MD16	7	8	MDD16
RN9 10/8P4R							
MD18	1	2	MDD18	MD23	3	4	MDD23
MD22	5	6	MDD22	MD19	7	8	MDD19
RN10 10/8P4R							
MD24	1	2	MDD24	MD28	3	4	MDD28
MD25	5	6	MDD25	MD29	7	8	MDD29
RN11 10/8P4R							
MD26	1	2	MDD26	MD30	3	4	MDD30
MD31	5	6	MDD31	MD27	7	8	MDD27
RN12 10/8P4R							
MD34	1	2	MDD34	MD38	3	4	MDD38
MD35	5	6	MDD35	MD39	7	8	MDD39
RN13 10/8P4R							
MD36	1	2	MDD36	MD33	3	4	MDD33
MD32	5	6	MDD32	MD37	7	8	MDD37
RN14 10/8P4R							
MD44	1	2	MDD44	MD40	3	4	MDD40
MD45	5	6	MDD45	MD41	7	8	MDD41
RN15 10/8P4R							
MD42	1	2	MDD42	MD43	3	4	MDD43
MD46	5	6	MDD46	MD47	7	8	MDD47
RN16 10/8P4R							
MD61	1	2	MDD61	MD60	3	4	MDD60
MD57	5	6	MDD57	MD56	7	8	MDD56
RN17 10/8P4R							
MD49	1	2	MDD49	MD52	3	4	MDD52
MD48	5	6	MDD48	MD54	7	8	MDD54
RN18 10/8P4R							
MD62	1	2	MDD62	MD58	3	4	MDD58
MD63	5	6	MDD63	MD59	7	8	MDD59
RN19 10/8P4R							
MD53	1	2	MDD53	MD50	3	4	MDD50
MD51	5	6	MDD51	MD55	7	8	MDD55
RN20 10/8P4R							

DDR25V
SC54 0.1U/6/X
SC55 0.1U/6/X
SC56 0.1U/6/X
SC58 0.1U/6/X

DDR25V
Decoupling capacitor
SC59 0.1U/6/X
SC60 1U/6
SC64 0.1U/6/X
SC65 0.1U/6/X
SC66 0.1U/6/X
SC67 0.1U/6/X
SC70 0.1U/6/X
SC71 0.1U/6/X

GIGABYTE

Title: SIS645(DDR)

Size: Custom | Document Number: GA-8SR533 | Rev: 2.0

Date: Tuesday, July 02, 2002 | Sheet 8 of 33

NOTE: This page is for universal PCB design(suitable for both 645 or 650)

NB Hardware Trap Table

	0	1	Default	embedded pull-low (30~50K Ohm)
DLLEN#	enable PLL	disable PLL	0	yes
DRAM_SEL	SDR	DDR	1(DDR)	yes
TRAP0	normal	NB debug mode	0	yes
TRAP1	TV selection, NTSC/PAL(0/1)		0	
CSYNC	enable VB		0	
RSYNC	enable VGA interrupt		1	
LSYNC	enable panel link		0	

SIS 645 A1/A2 , 646 共用

U38C SIS645_A2

645-3

HyperZip

For R,G,B F.B. :
FB220/8/MAG/200mA/ MLB-201209-0100B

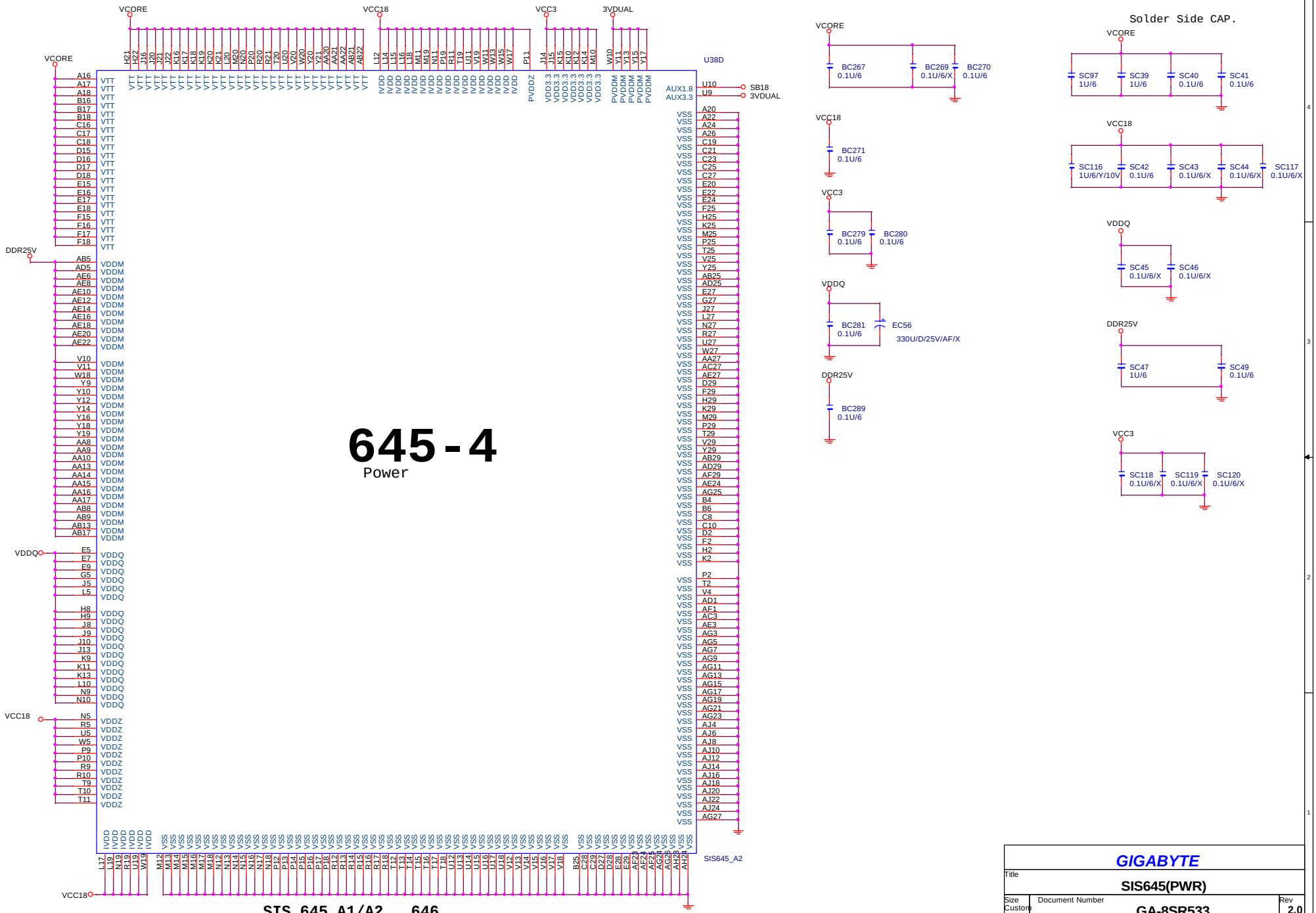
SIS REQUEST
NO POP

DACAVDD1(VSS)---->DACAVDD2(VSS)
(SIS AP-02)

REV 0.2 SIS CHECK

GIGABYTE

Title	SIS645(HYPER ZIP)	
Size: Custom	Document Number: GA-8SR533	Rev: 2.0
Date: Tuesday, July 02, 2002	Sheet 9 of 33	



GIGABYTE

Title	SIS645(PWR)	
Size: Custom	Document Number: GA-8SR533	Rev: 2.0
Date: Tuesday, July 02, 2002	Sheet 10 of 33	

SIS 961 A1/A2 , 961B, 962

共用

PCI

IDE

961A-1

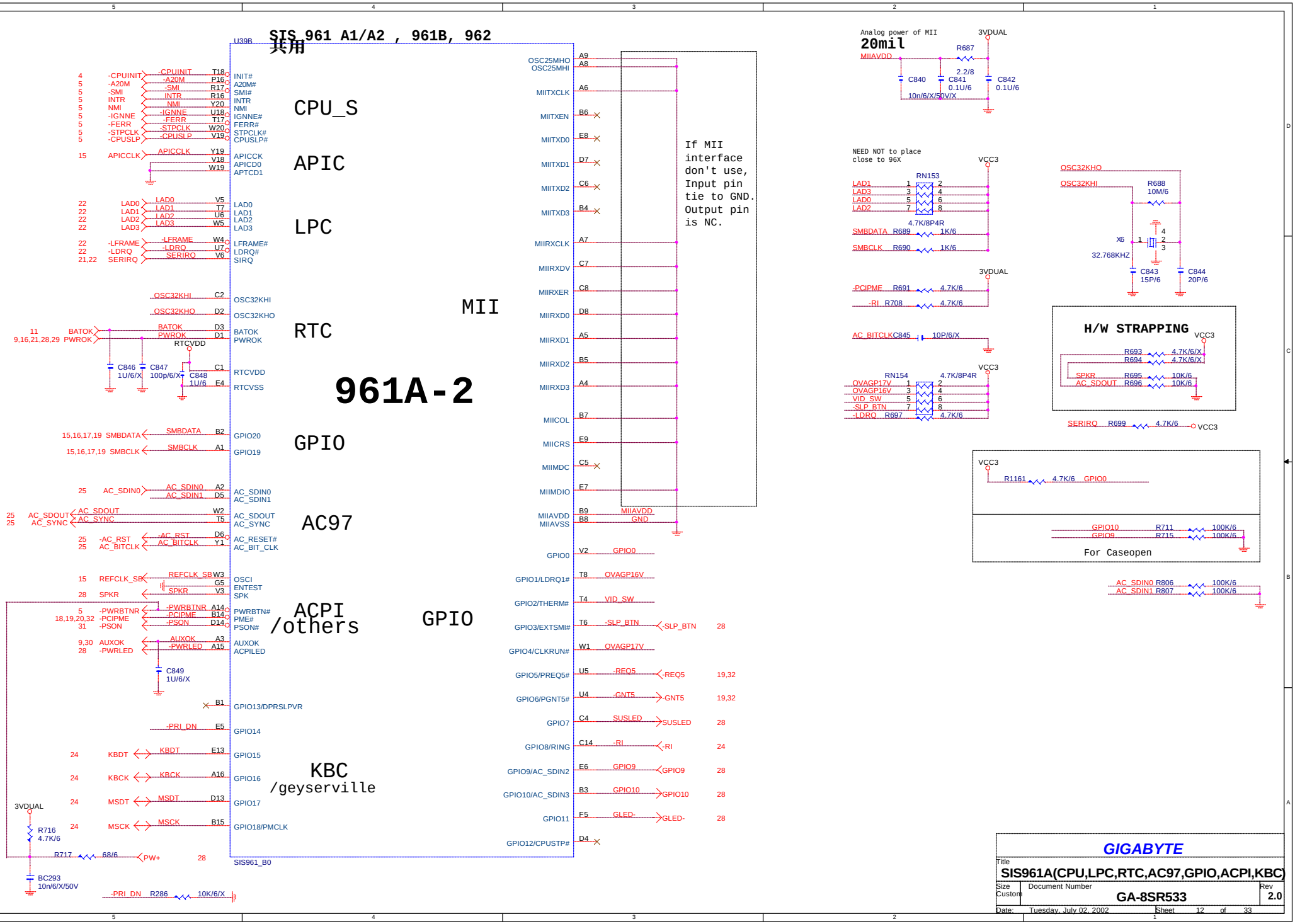
HyperZip

SIS961_B0

CLR_CMOS	CLEAR COMS JUMPER
1-2	Enable
2-3	Disable (Default)

Analog Power supplies of Transzip function for 96X Chip.

Title	SIS961A(HP ZIP,PCI,IDE)
Size	Custom
Document Number	GA-8SR533
Rev	2.0
Date:	Tuesday, July 02, 2002
Sheet	11 of 33


SIS 961 A1/A2 , 961B, 962
共用
961A-2
CPU_S
APIC
LPC
RTC
GPIO
AC97
ACPI
/others
KBC
/geyserville
MII
GPIO
If MII interface don't use, Input pin tie to GND. Output pin is NC.
H/W STRAPPING
For Caseopen
GIGABYTE
SIS961A(CPU,LPC,RTC,AC97,GPIO,ACPI,KBC)
GA-8SR533
2.0
Tuesday, July 02, 2002
12 of 33

SIS 961 A1/A2 , 961B, 962 共用

961A-3

USB

U39C

SIS961_B0

20mil

H/W TRAP

FOR AP NOTE 003 SiS MuTIOL 1GB Link

FOR SIS962 USB2.0
RN156,RN159,RN161=0/8P4R
CN23,CN24,CN25=N/A
RN157,RN160,RN162=N/A

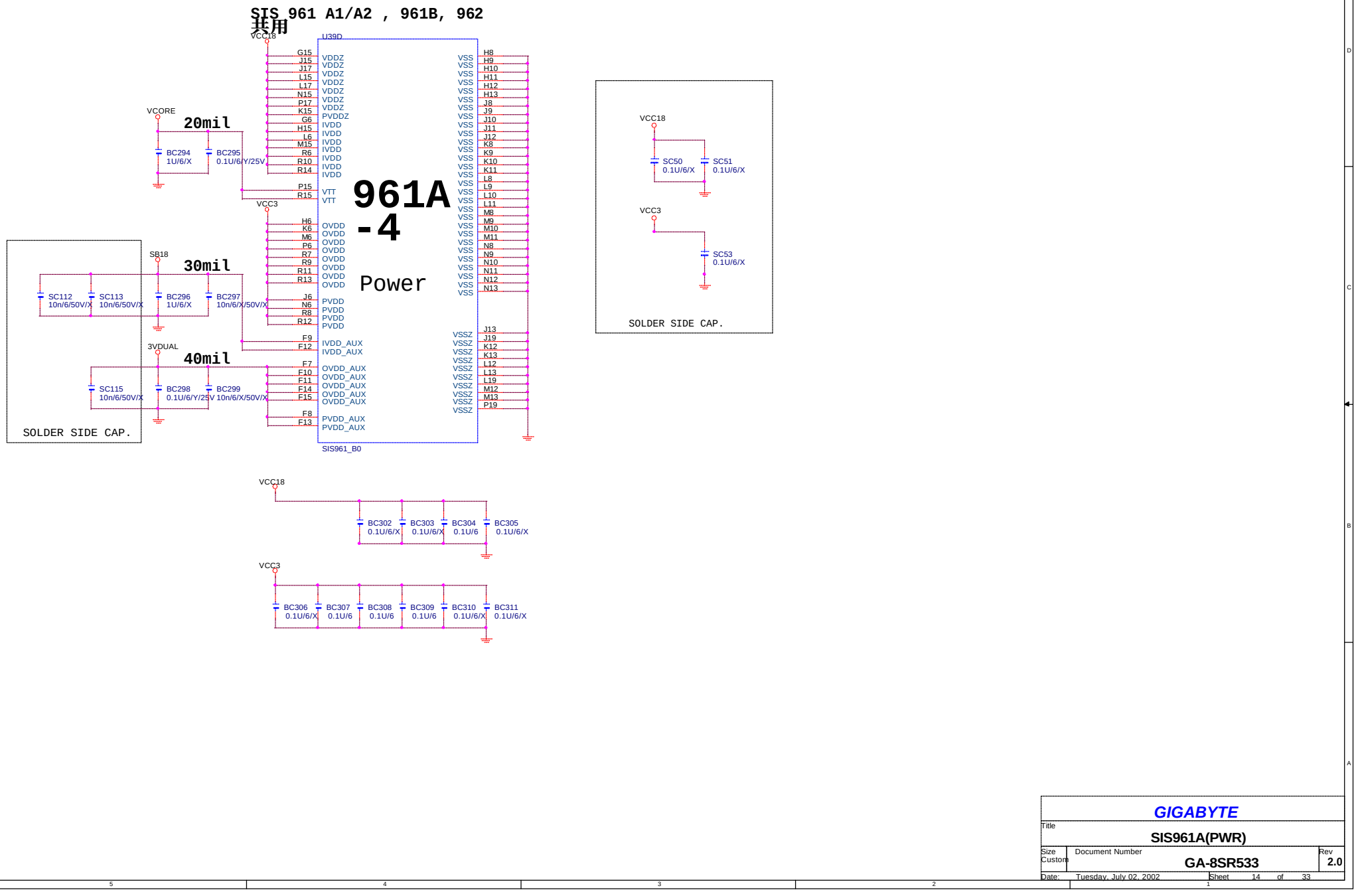
FOR SIS961 USB1.1
RN156,RN159,RN161=27/8P4R
CN23,CN24,CN25=22P
RN157,RN160,RN162=15K

SIS962 USB 2.0

All of 1394 pin:
Output pin(LPS, LREQ) can be open.
All input pin connect together and pull-down to gnd.

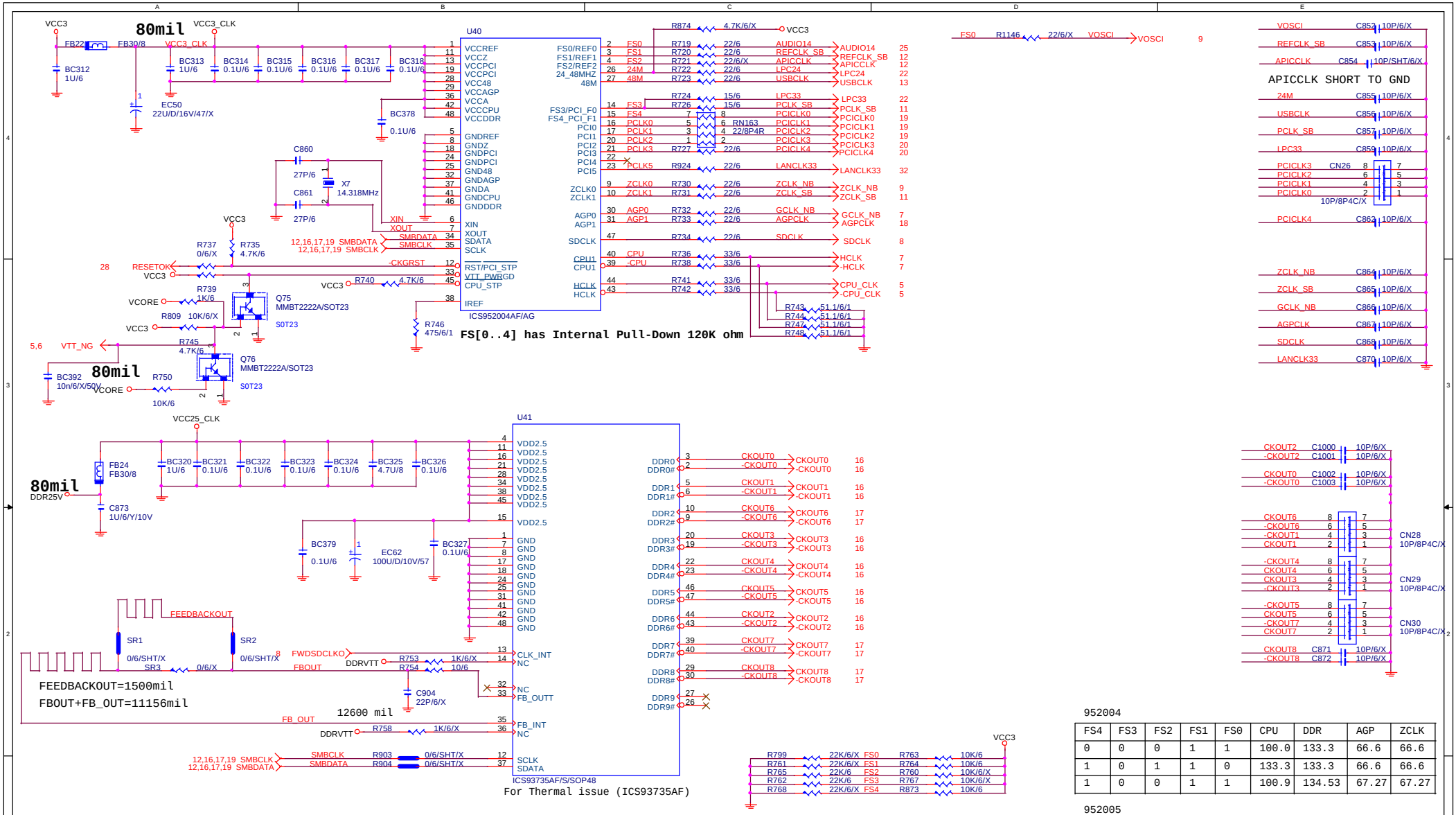
For SIS961B,962

Title	SIS961A(USB)		
Size: Custom	Document Number: GA-8SR533	Rev: 2.0	
Date: Tuesday, July 02, 2002	Sheet 13 of 33		



GIGABYTE

Title: SIS961A(PWR)		
Size: Custom	Document Number: GA-8SR533	Rev: 2.0
Date: Tuesday, July 02, 2002	Sheet 14 of 33	



ICS 952004 / 952005 CLOCK BOM OPTION TABLE

952004	R763	R799	R764	R761	R760	R765	R767	R762	R873	R768	R801	R1095	R808	R795	R1094
100.9->133.3	10K	N/A	10K	N/A	N/A	22K	N/A	22K	10K	N/A	2.2K	N/A	N/A	1K	N/A
100.0->133.3	10K	N/A	10K	N/A	N/A	22K	N/A	22K	N/A	22K	2.2K	N/A	2.2K	1K	N/A

952005	R763	R799	R764	R761	R760	R765	R767	R762	R873	R768	R801	R1095	R808	R795	R1094
100.9->133.9	10K	N/A	10K	N/A	N/A	22K	N/A	22K	10K	N/A	2.2K	2.2K	N/A	N/A	1K
100.0->133.3	10K	N/A	10K	N/A	N/A	22K	N/A	22K	N/A	22K	N/A	2.2K	N/A	N/A	N/A

952004

FS4	FS3	FS2	FS1	FS0	CPU	DDR	AGP	ZCLK
0	0	0	1	1	100.0	133.3	66.6	66.6
1	0	1	1	0	133.3	133.3	66.6	66.6
1	0	0	1	1	100.9	134.53	67.27	67.27

952005

FS4	FS3	FS2	FS1	FS0	CPU	DDR	AGP	ZCLK
0	0	0	1	1	100.0	133.3	66.6	66.6
0	1	0	1	1	133.3	133.3	66.6	66.6
1	0	0	1	1	100.9	134.53	67.27	67.27
0	1	1	1	1	133.9	133.9	66.9	66.9

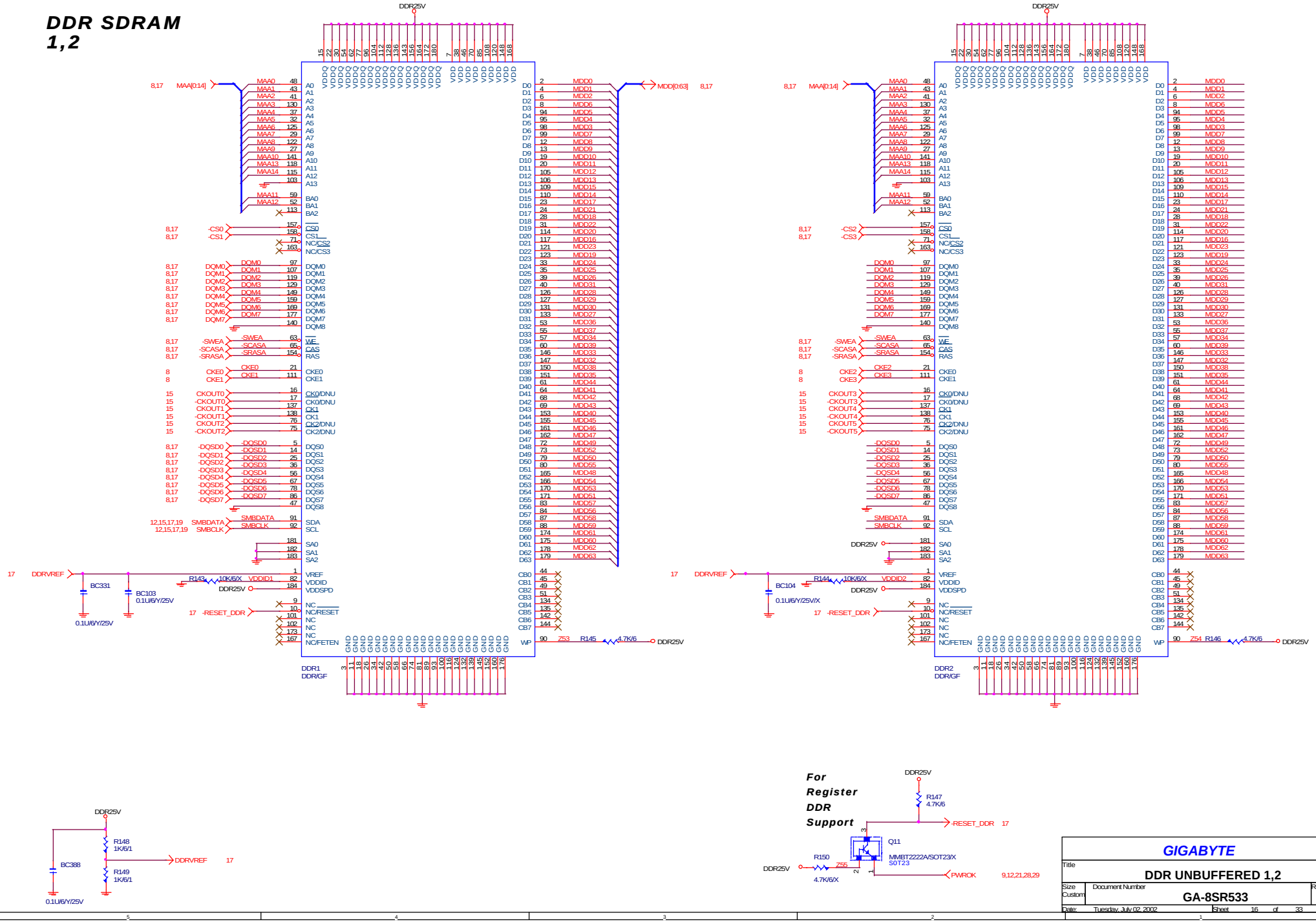
GIGABYTE

Title: CLOCK GEN + SDR BUFFER

Size: Custom | Document Number: GA-8SR533 | Rev: 2.0

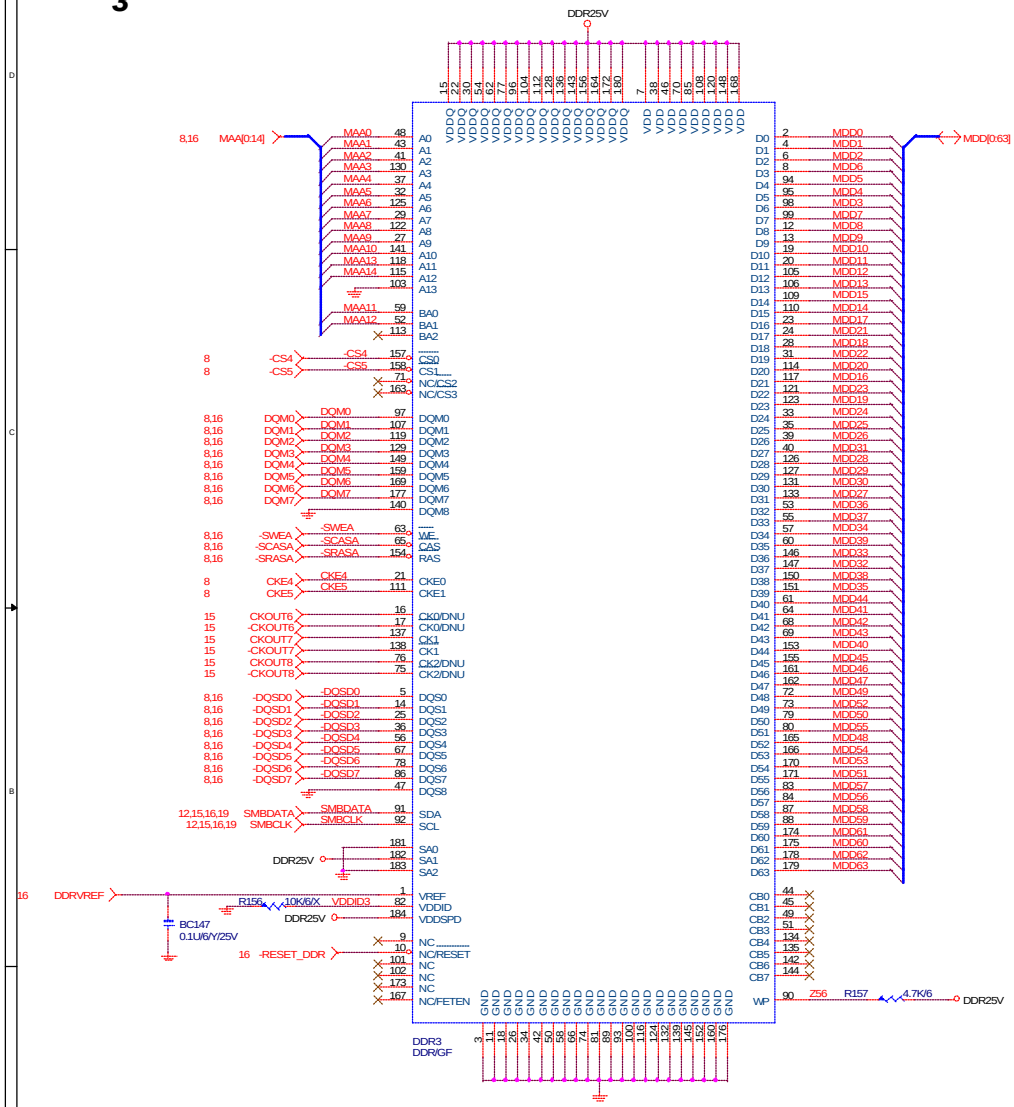
Date: Tuesday, July 02, 2002 | Sheet 15 of 33

DDR SDRAM 1,2

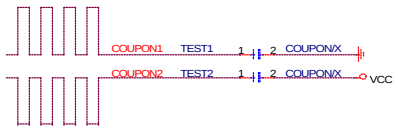


GIGABYTE		
Title	DDR UNBUFFERED 1,2	
Size: Custom	Document Number: GA-8SR533	Rev: 2.0
Date: Tuesday, July 02, 2002	Sheet 16 of 33	

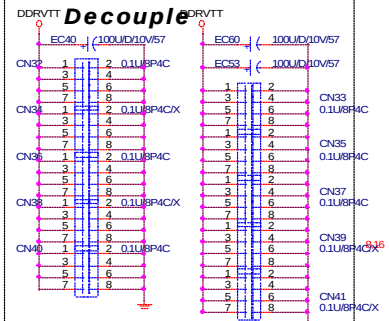
DDR SDRAM 3



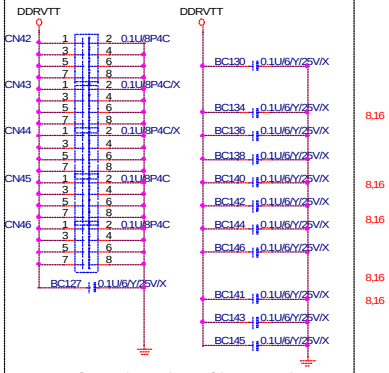
IMPEDENCE TESTING COUPON



DDRVTT Decouple

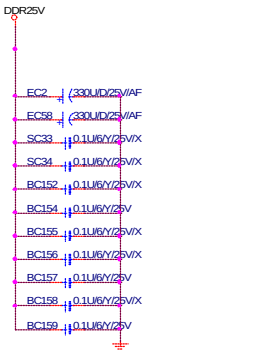


每兩個排容之間放一個0603電容
0.1U排容共上10個即可

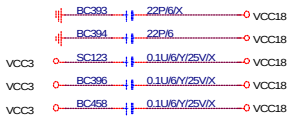


NOTE: Place these decoupling capacitors close to VTT_MEM termination resistors. (one decoupling coapcitor for each two R-packs)

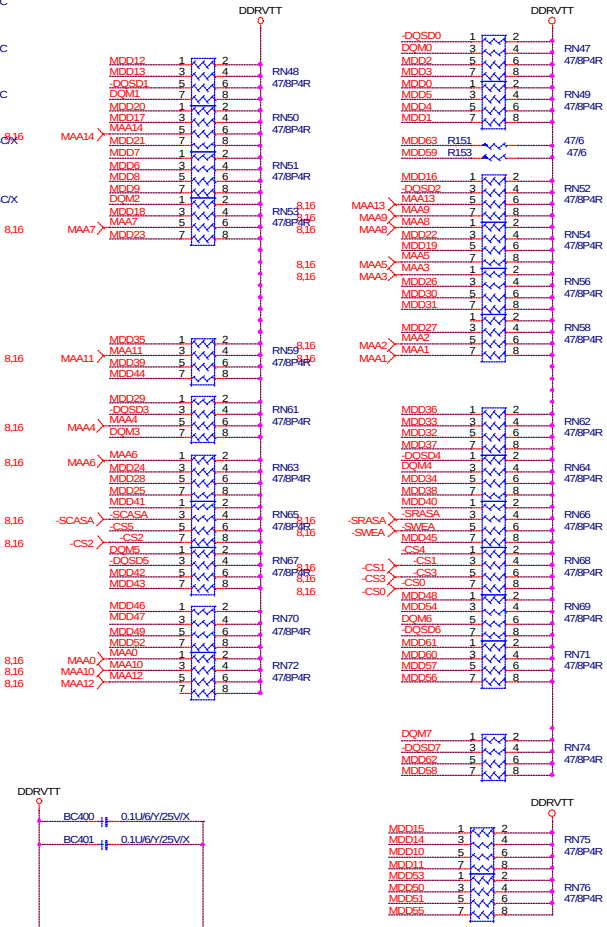
DDR25V Decouple

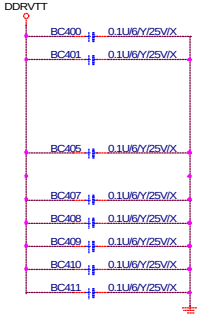


HCLK & -HCLK Decoupling Cap.



DDR TERMINATION





GIGABYTE

Title	DDR UNBUFFERED 3	
Size: Custom	Document Number: GA-8SR533	Rev: 2.0
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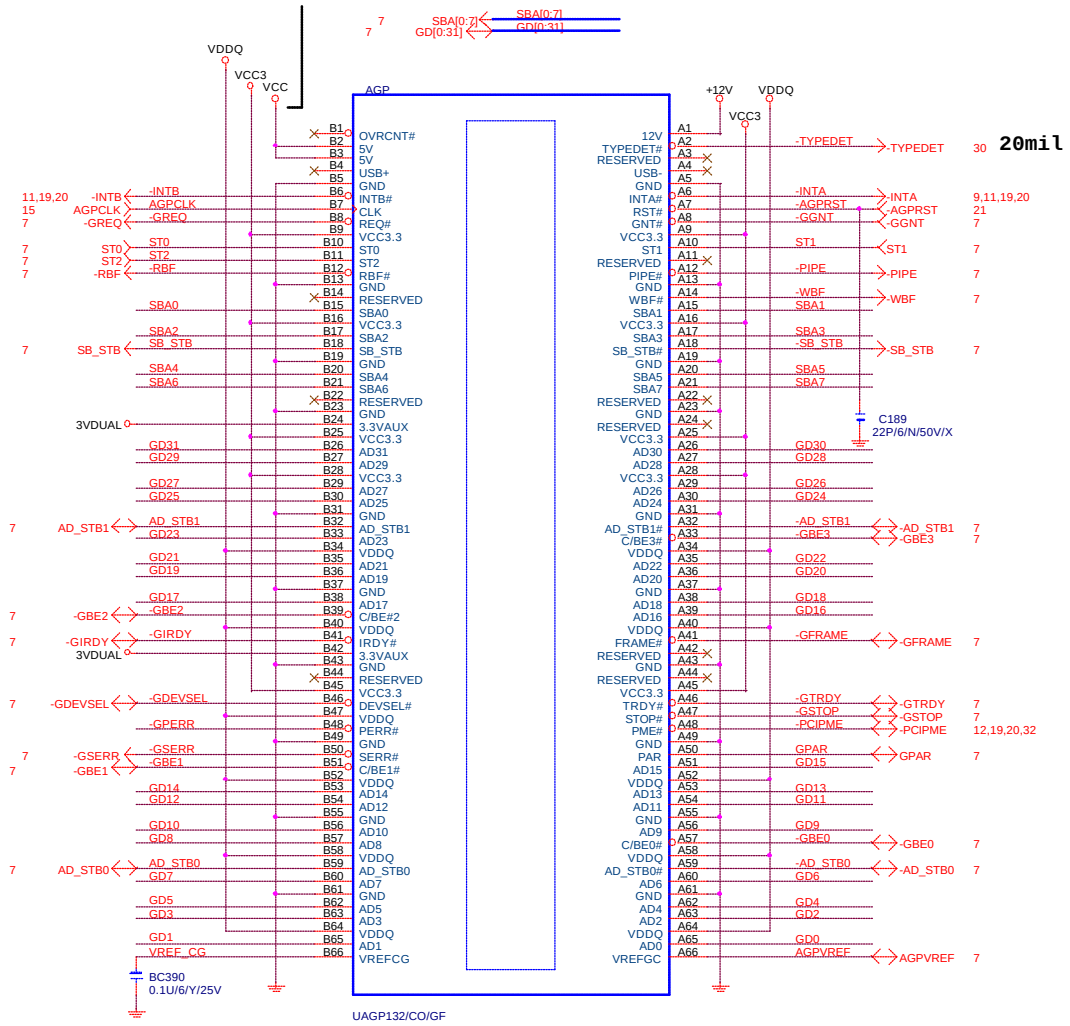
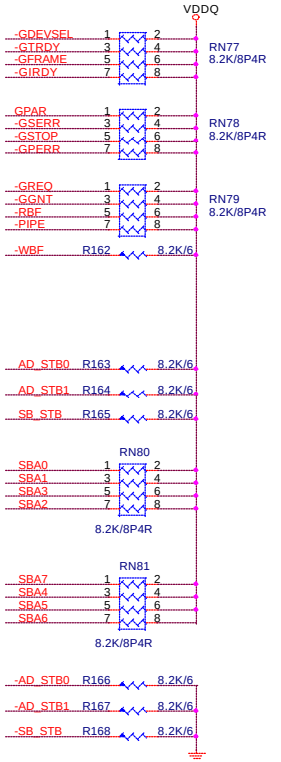
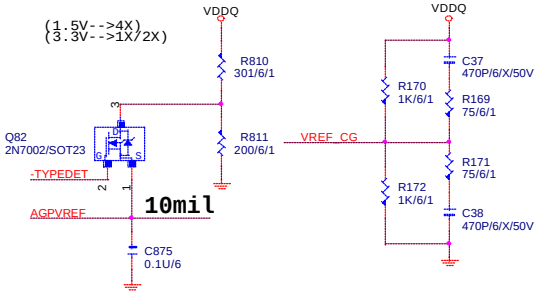
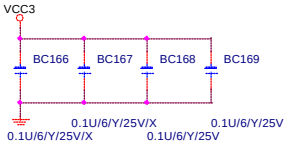
VCC : 80 mil





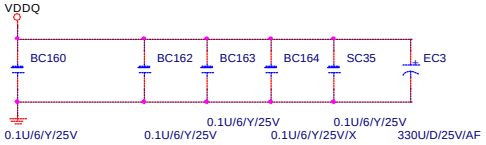
SWITCH CIRCUIT FOR VDDQ





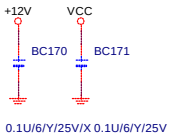
Place 1 at each pair of 3.3V pins

Decoupling capacitors
(Place near AGP slot)



Place 1 at each pair of VDDQ pins

Place an additional for spread from A14 - A33



GIGABYTE

Title: **AGP SLOT**

Size: Custom | Document Number: **GA-8SR533** | Rev: **2.0**

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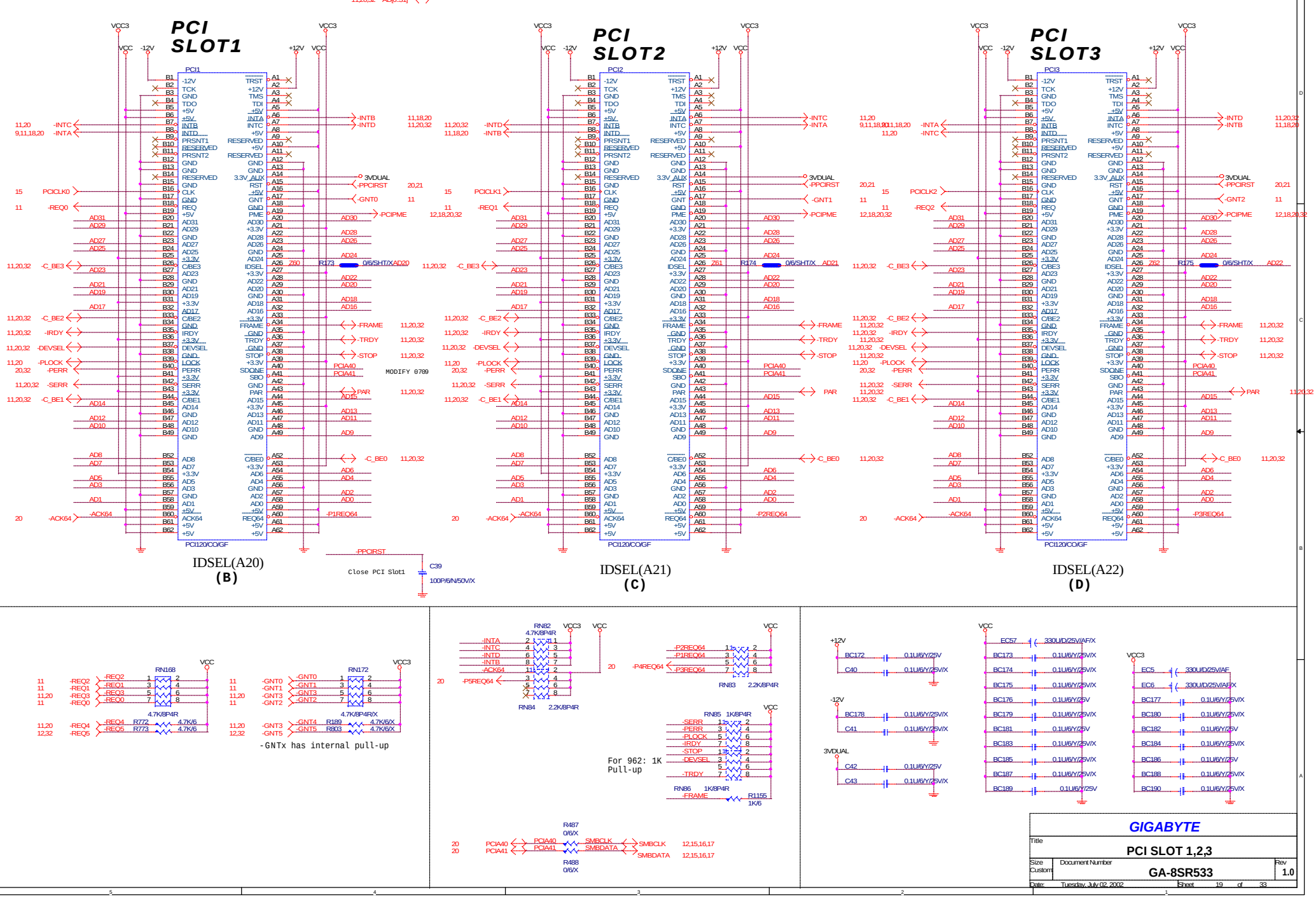
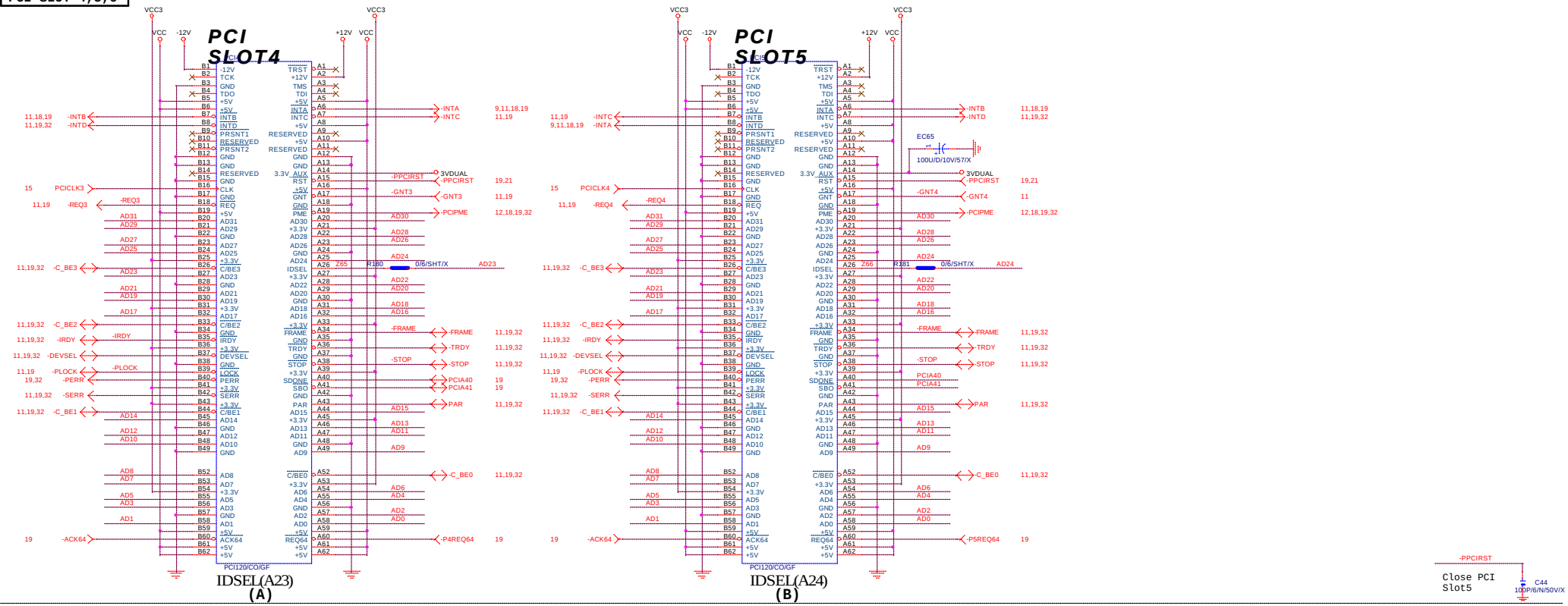
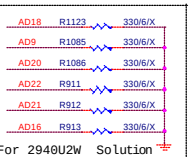
PCI SLOT 1,2,3


PCI SLOT1
PCI SLOT2
PCI SLOT3
IDSEL(A20)
(B)
IDSEL(A21)
(C)
IDSEL(A22)
(D)
Close PCI Slot1
C39
100P/6N/50V/X
MODIFY 0709
-GNTx has internal pull-up
For 962: 1K
Pull-up
GIGABYTE
PCI SLOT 1,2,3
GA-8SR533
1.0
Tuesday, July 02, 2002
19
33

PCI SLOT 4,5,6



PCI的走線要盡量 避免走"T"型。



For 2940U2W Solution

放在U55(RTL8100)或PCI SLOT旁邊作為PCI bus signal termination.

	INTA#	IDSEL	REQx-
PCI1	BCDA	AD20	REQ0
PCI2	CDAB	AD21	REQ1
PCI3	DABC	AD22	REQ2
PCI4	ABCD	AD23	REQ3
PCI5	BCDA	AD24	REQ4
RTL8100	D	AD26	REQ5

GIGABYTE

Title: PCI SLOT 4,5

Size: Custom | Document Number: GA-8SR533 | Rev: 2.0

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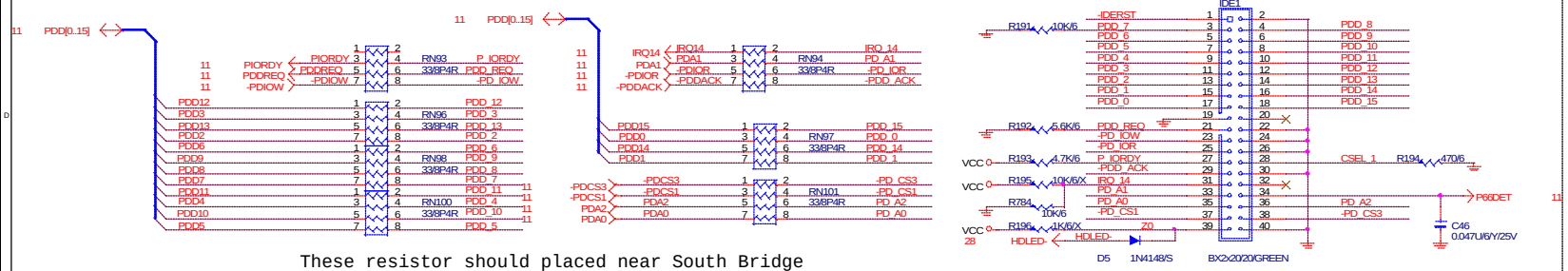
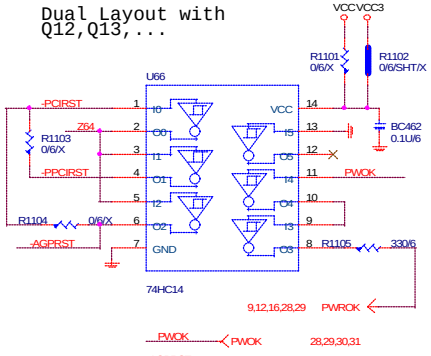
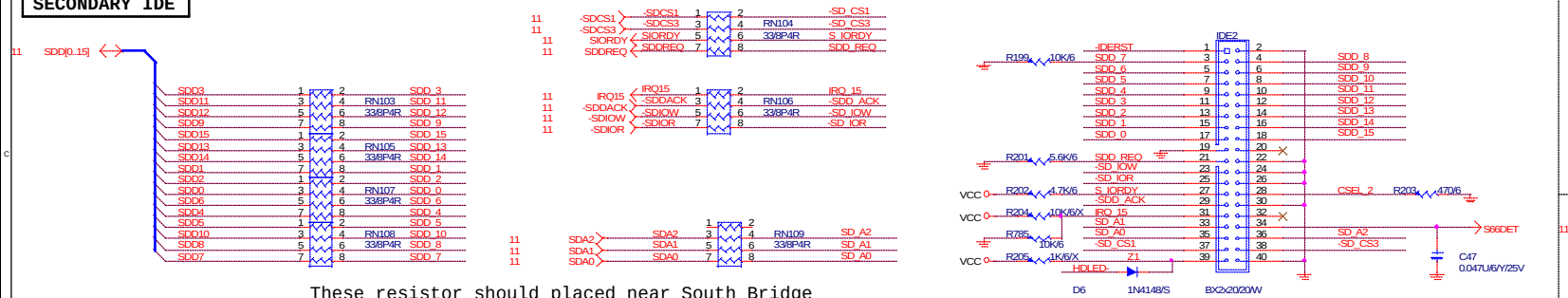
PRIMARY IDE



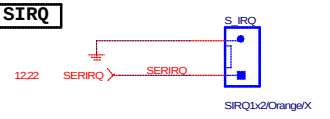
Dual Layout with Q12,Q13,...



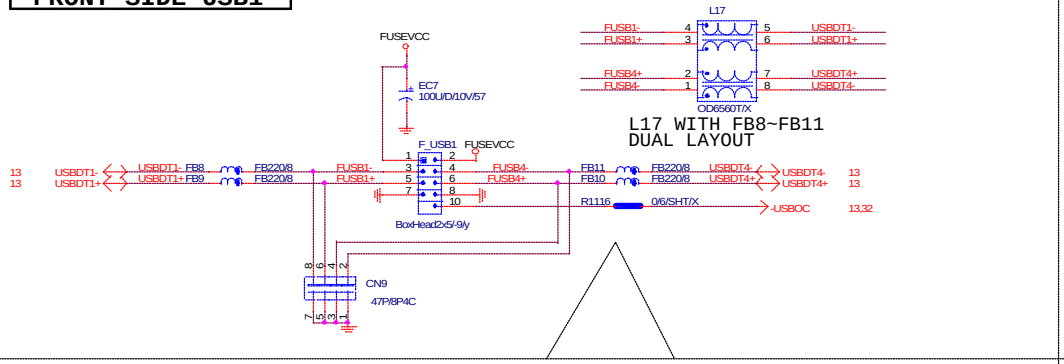
SECONDARY IDE



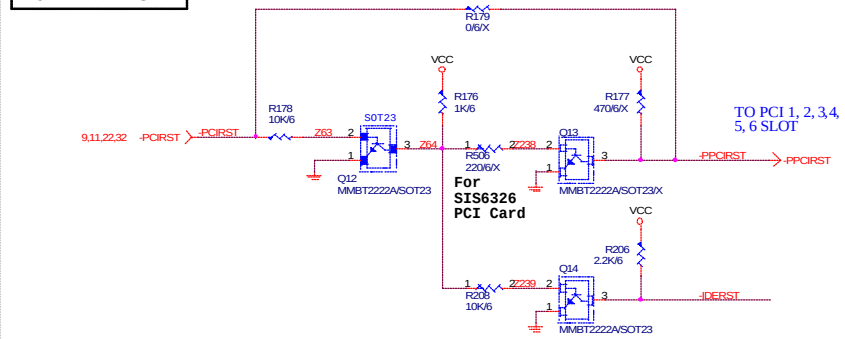
SIRQ



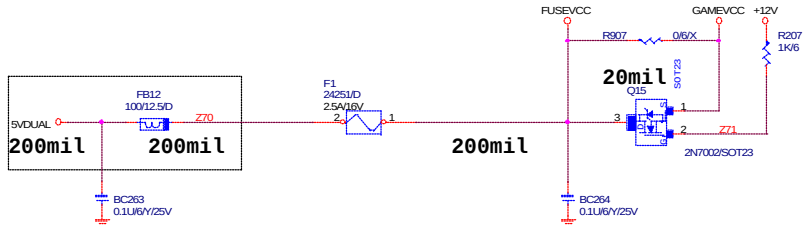
FRONT SIDE USB1

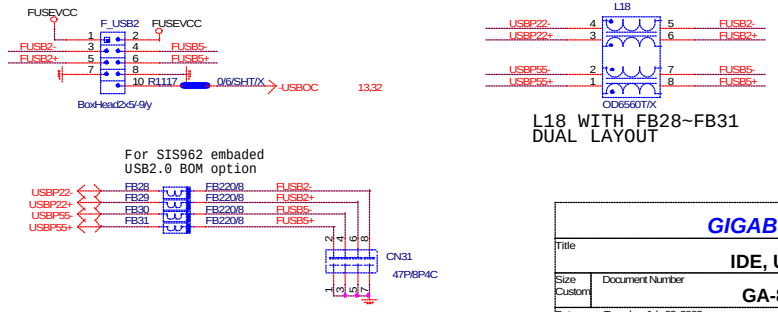


PCI+IDE RESET

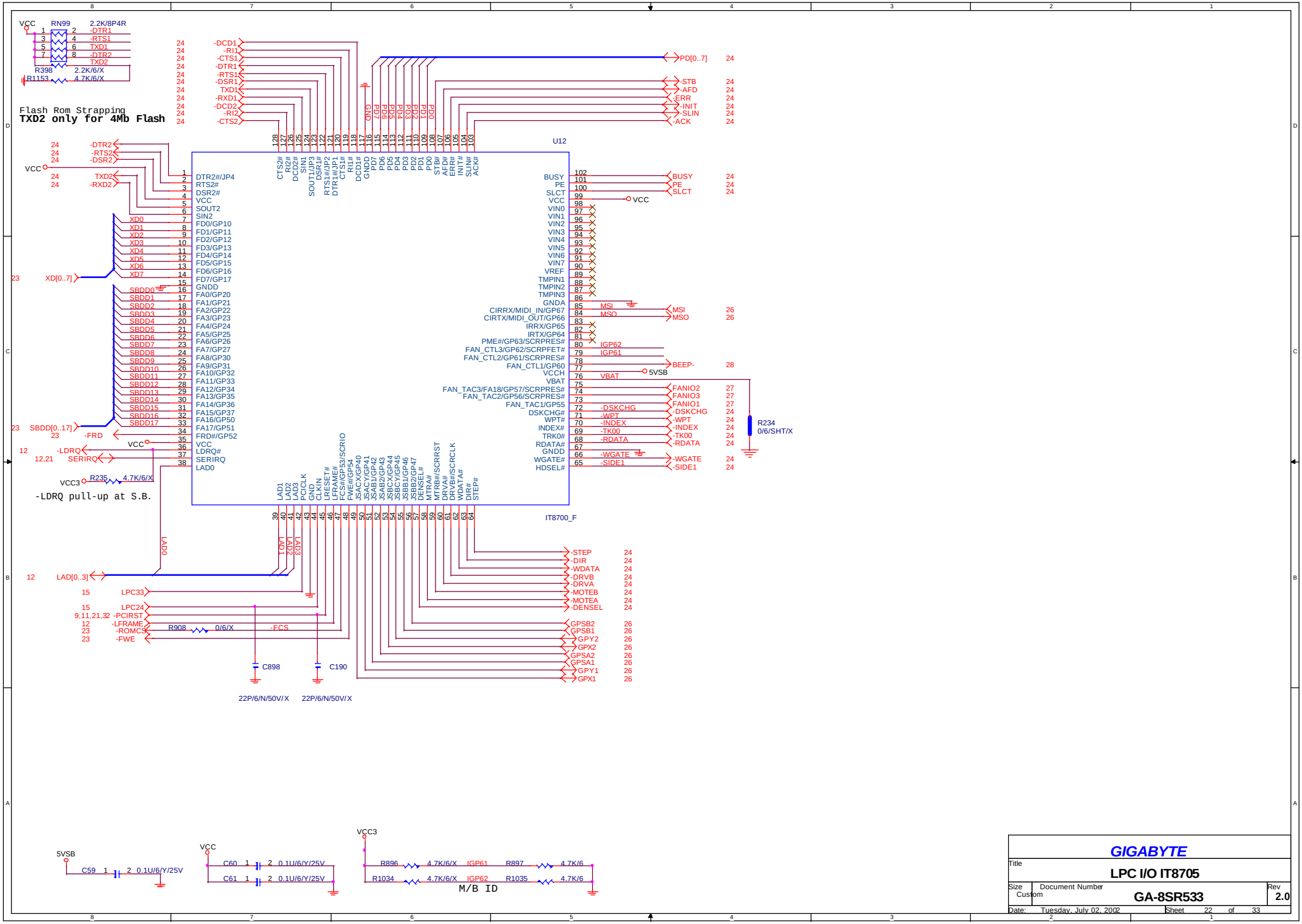


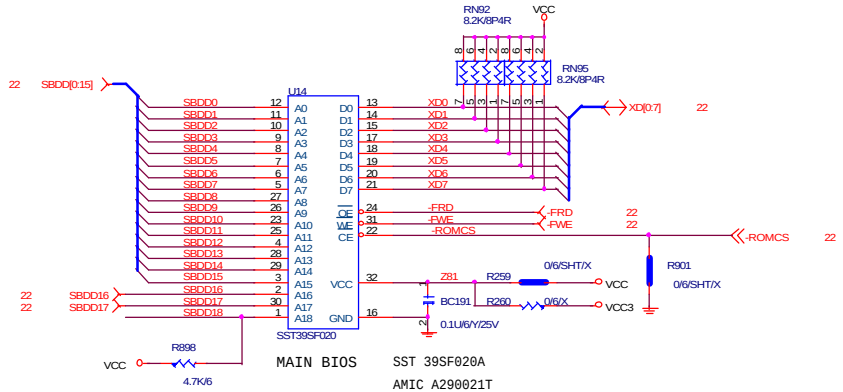
FUSEVCC,GAMEVCC



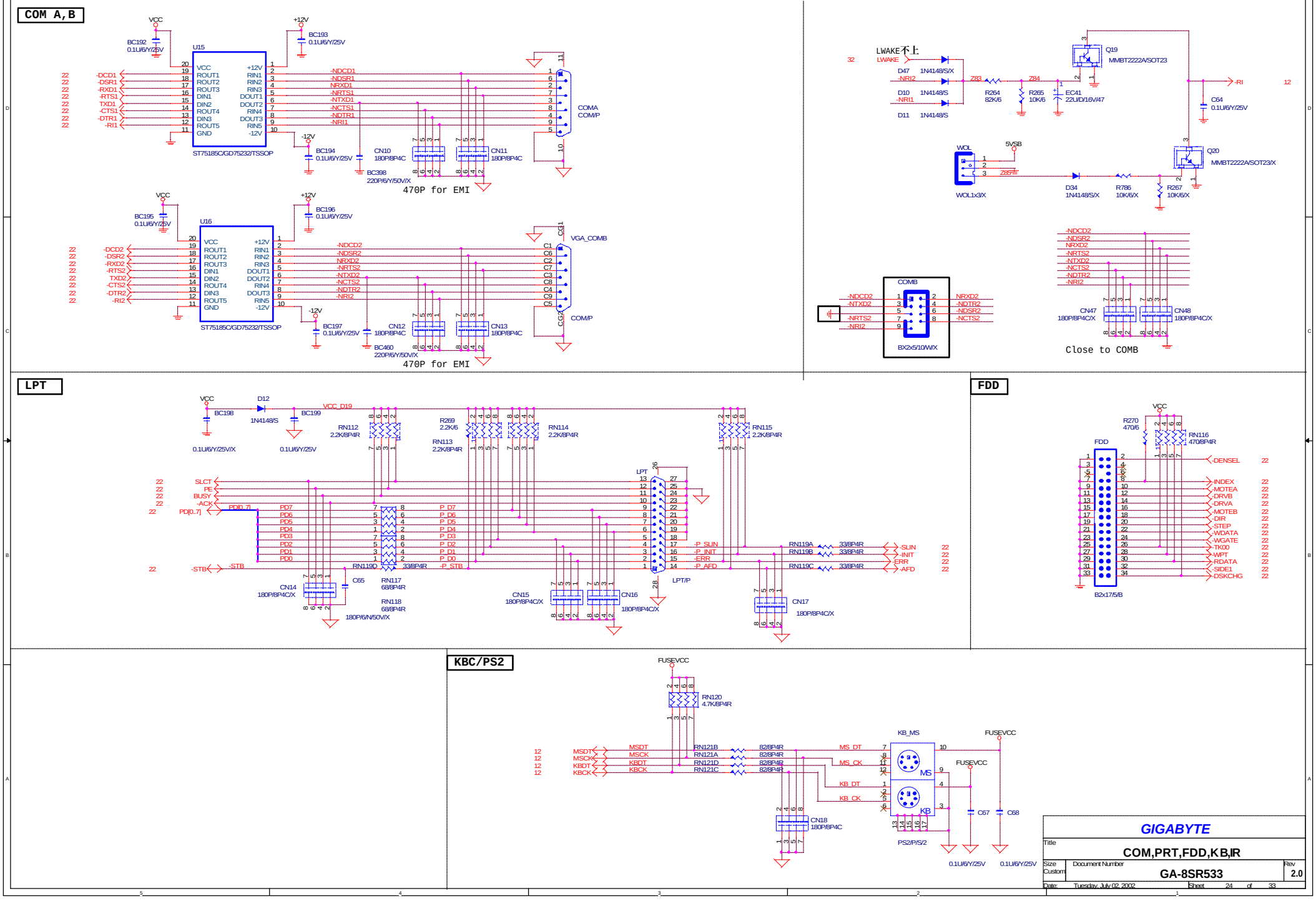


GIGABYTE		
Title: IDE, USB		
Size: Custom	Document Number: GA-8SR533	Rev: 2.0
Date: Tuesday, July 02, 2002	Sheet 21 of 33	


RN99 2.2K/8P4R
-DTR1
-RTS1
TXD1
-DTR2
TXD2
R398 2.2K/6/X
R1153 4.7K/6/X
Flash Rom Strapping
TXD2 only for 4Mb Flash
-DCD1
-RI1
-CTS1
-DTR1
-RTS1
-DSR1
TXD1
-RXD1
-DCD2
-RI2
-CTS2
PD[0..7]
-STB
-AFD
-ERR
-INIT
-SLIN
-ACK
U12
DTR2#/JP4
RTS2#
DSR2#
VCC
SOUT2
SIN2
FD0/GP10
FD1/GP11
FD2/GP12
FD3/GP13
FD4/GP14
FD5/GP15
FD6/GP16
FD7/GP17
GNDD
FA0/GP20
FA1/GP21
FA2/GP22
FA3/GP23
FA4/GP24
FA5/GP25
FA6/GP26
FA7/GP27
FA8/GP30
FA9/GP31
FA10/GP32
FA11/GP33
FA12/GP34
FA13/GP35
FA14/GP36
FA15/GP37
FA16/GP50
FA17/GP51
FRD#/GP52
VCC
LDRQ#
SERIRQ
LAD0
BUSY
PE
SLCT
VIN0
VIN1
VIN2
VIN3
VIN4
VIN5
VIN6
VIN7
VREF
TMPIN1
TMPIN2
TMPIN3
GNDA
CIRRX/MIDI_IN/GP67
CIRTX/MIDI_OUT/GP66
IRRX/GP65
IRTX/GP64
PME#/GP63/SCRPRES#
FAN_CTL3/GP62/SCRPFET#
FAN_CTL2/GP61/SCRPRES#
FAN_CTL1/GP60
VCCH
VBAT
FAN_TAC3/FA18/GP57/SCRPRES#
FAN_TAC2/GP56/SCRPRES#
FAN_TAC1/GP55
DSKCHG#
WPT#
INDEX#
TRK0#
RDATA#
GNDD
WGATE#
HDSEL#
MSI
MSO
IGP62
IGP61
5VSB
VBAT
BEEP-
FANIO2
FANIO3
FANIO1
-DSKCHG
-WPT
-INDEX
-TK00
-RDATA
-WGATE
-SIDE1
R234 0/6/SHT/X
LAD1
LAD2
LAD3
PCICLK
GND
CLKIN
-PCIRST
-LFRAME#
FCS#/GP53/SCRIO
FWE#/GP54
JSACY/GP40
JSABY/GP41
JSABJ/GP42
JSAB2/GP43
JSBCY/GP44
JSBCX/GP45
JSBB1/GP46
JSBB2/GP47
DENSEL#
MTRB#/SCRRST
DRVA#/SCRCLK
DRVB#/SCRCLK
WDATA#
DIR#
STEP#
IT8700_F
-STEP
-DIR
-WDATA
-DRVB
-DRVA
-MOTEB
-MOTEA
-DENSEL
GPSB2
GPSB1
GPY2
GPX2
GPSA2
GPSA1
GPY1
GPX1
XD[0..7]
SBDD[0..17]
-FRD
-LDRQ
SERIRQ
R235 4.7K/6/X
-LDRQ pull-up at S.B.
LAD[0..3]
LPC33
LPC24
-PCIRST
-LFRAME
-ROMCS
-FWE
R908 0/6/X
-FCS
C898
C190
22P/6/N/50V/X
22P/6/N/50V/X
5VSB
C59 0.1U/6/Y/25V
VCC
C60 0.1U/6/Y/25V
C61 0.1U/6/Y/25V
VCC3
R896 4.7K/6/X
R1034 4.7K/6/X
IGP61
IGP62
R897 4.7K/6
R1035 4.7K/6
M/B ID
GIGABYTE
Title
LPC I/O IT8705
Size Custom
Document Number GA-8SR533
Rev 2.0
Date: Tuesday, July 02, 2002
Sheet 22 of 33



GIGABYTE		
Title: Flash ROM		
Size: Custom	Document Number: GA-8SR533	Rev: 2.0
Date: Tuesday, July 02, 2002	Sheet 23 of 33	


COM A,B
VCC
+12V
BC192
0.1U/6Y/25V
BC193
0.1U/6Y/25V
U15
ST75185C/GD75232/TSSOP
-12V
BC194
0.1U/6Y/25V
BC398
220P/6Y/50V/X
CN10
180P/8P4C
CN11
180P/8P4C
COMA
COM/P
470P for EMI
BC195
0.1U/6Y/25V
BC196
0.1U/6Y/25V
U16
ST75185C/GD75232/TSSOP
BC197
0.1U/6Y/25V
BC460
220P/6Y/50V/X
CN12
180P/8P4C
CN13
180P/8P4C
VGA_COMB
COM/P
470P for EMI
LWAKE不上
LWAKE
D47 1N4148/S/X
D10 1N4148/S
D11 1N4148/S
R264
82K/6
R265
10K/6
EC41
22U/D/16V/47
Q19
MMBT2222A/SOT23
C64
0.1U/6Y/25V
WOL
5VSB
WOL1x3/X
D34
1N4148/S/X
R786
10K/6/X
R267
10K/6/X
Q20
MMBT2222A/SOT23/X
COMB
BX2x5/10W/X
CN47
180P/8P4C/X
CN48
180P/8P4C/X
Close to COMB
LPT
BC198
BC199
D12
1N4148/S
0.1U/6Y/25V/X
0.1U/6Y/25V
RN112
2.2K/8P4R
RN113
2.2K/8P4R
R269
2.2K/6
RN114
2.2K/8P4R
RN115
2.2K/8P4R
LPT
LPT/P
RN119A
RN119B
RN119C
33/8P4R
CN14
180P/8P4C/X
CN15
180P/8P4C/X
CN16
180P/8P4C/X
CN17
180P/8P4C/X
C65
RN117
68/8P4R
RN118
68/8P4R
180P/6/N/50V/X
FDD
R270
470/6
RN116
470/8P4R
B2x17/5/B
KBC/PS2
FUSEVCC
RN120
4.7K/8P4R
RN121B
RN121A
RN121D
RN121C
82/8P4R
CN18
180P/8P4C
KB_MS
MS
KB
PS2/P/S2
C67
C68
0.1U/6Y/25V
0.1U/6Y/25V
GIGABYTE
Title
COM,PRT,FDD,KB,IR
Size
Custom
Document Number
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2.0
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24
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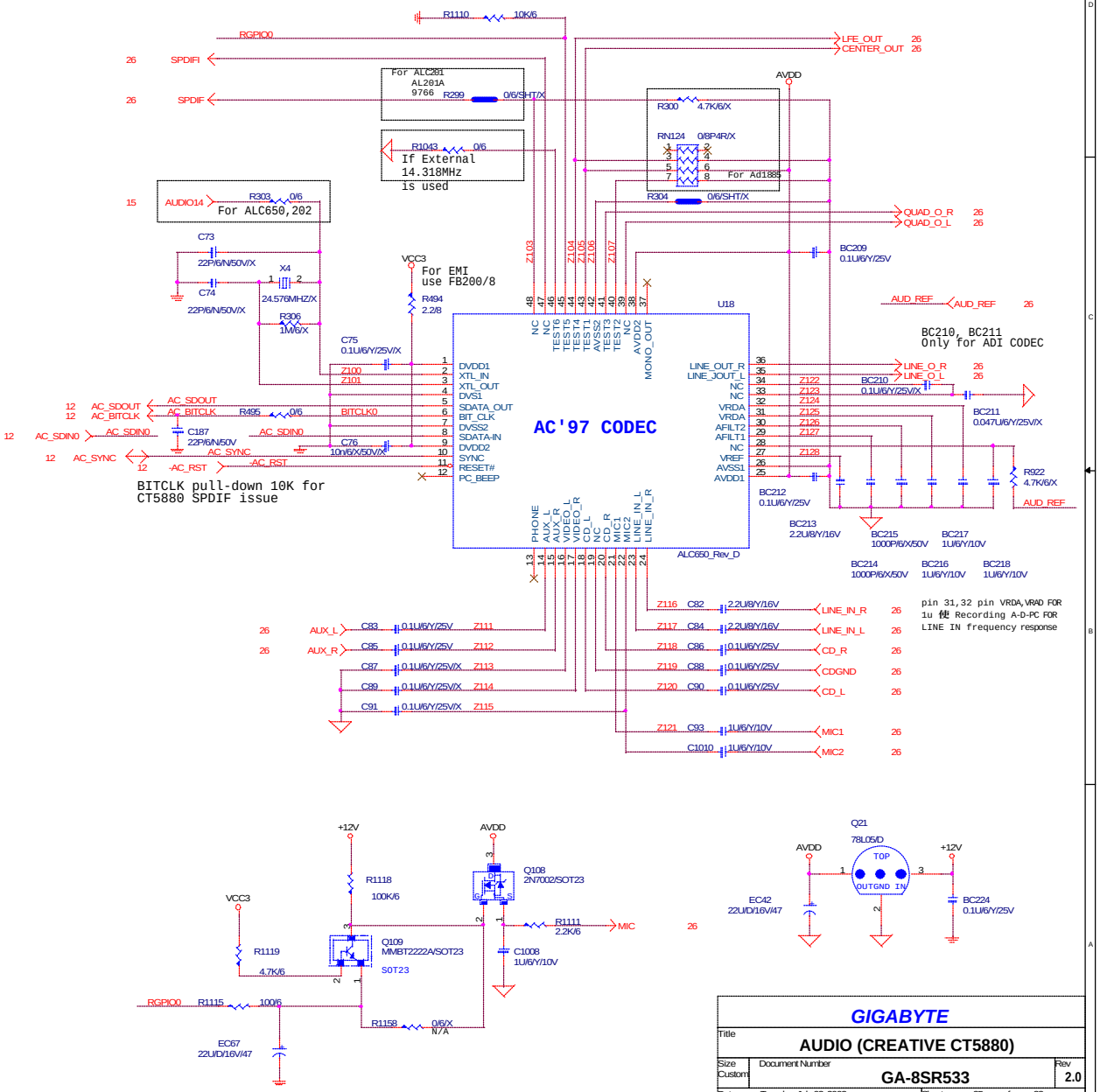
33


AC'97 CODEC
U18
ALC650_Rev_D
BITCLK pull-down 10K for
CT5880 SPDIF issue
If External
14.318MHz
is used
For ALC650,202
For ALC281
AL201A
9766
For Ad1885
For EMI
use FB200/8
BC210, BC211
Only for ADI CODEC
pin 31,32 pin VRDA,VRAD FOR
1u 使 Recording A-D-PC FOR
LINE IN frequency response
GIGABYTE
AUDIO (CREATIVE CT5880)
GA-8SR533
2.0
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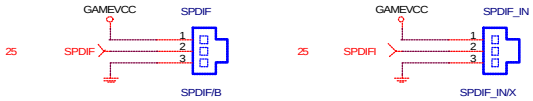
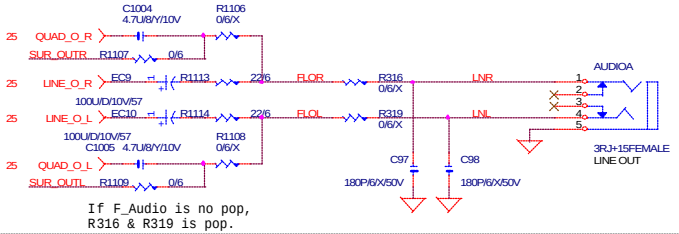
25
33

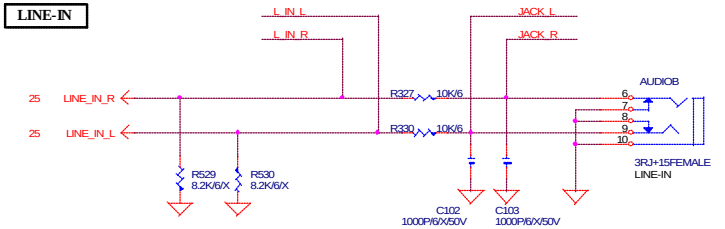
SPDIF



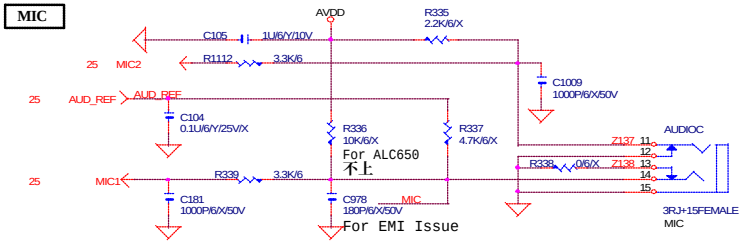
LINE OUT



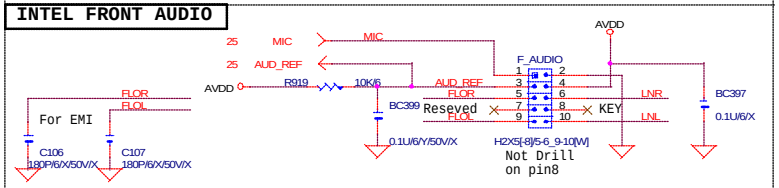
LINE-IN



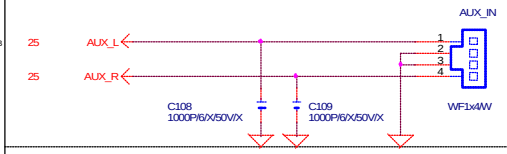
MIC



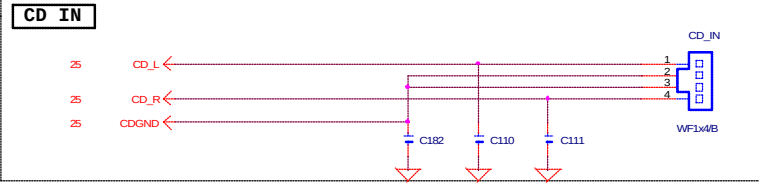
INTEL FRONT AUDIO

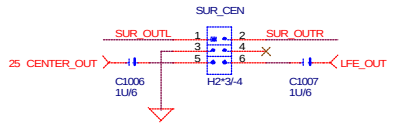


AUX IN DEFAULT NO POP

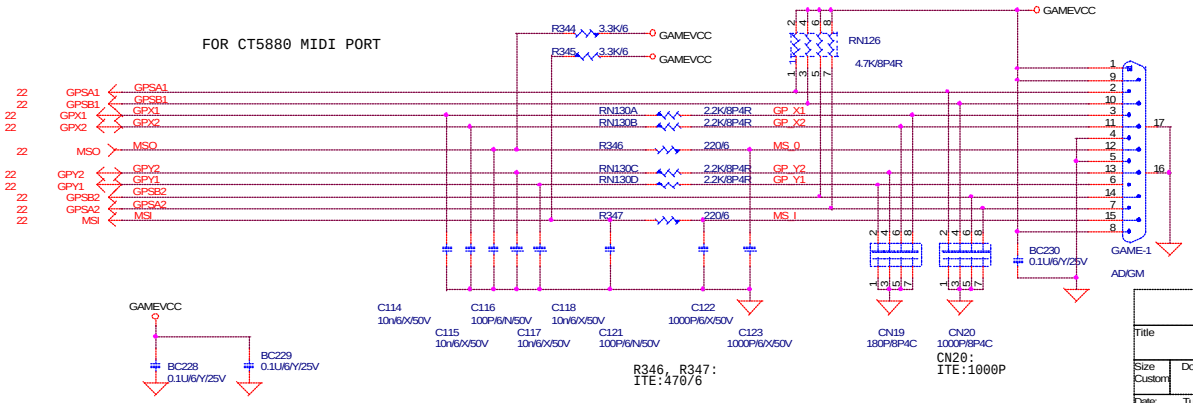


CD IN





GAME PORT



GIGABYTE

Title: AUDIO OUTPUT,GAME PORT

Size: Custom | Document Number: GA-8SR533 | Rev: 2.0

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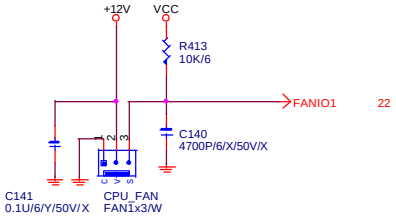
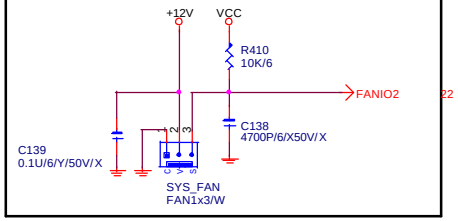
CPU FAN

+12V -->40 mils



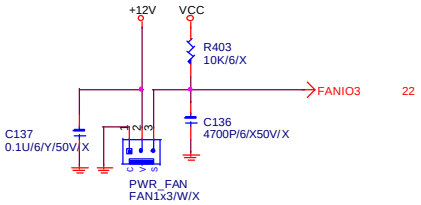
SYSTEM FAN W=0.167W

+12V -->40 mils

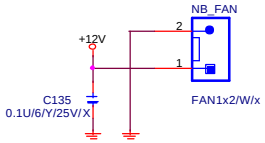


POWER FAN W=0.167W

+12V -->40 mils



NB HEAT SINK FAN



GIGABYTE

Title: FAN

Size	Document Number	Rev
Custom	GA-8SR533	2.0

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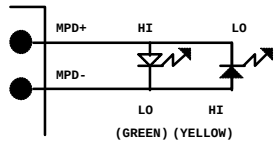
FRONT PANEL



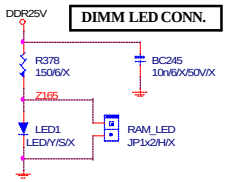
States for a single-color power LED

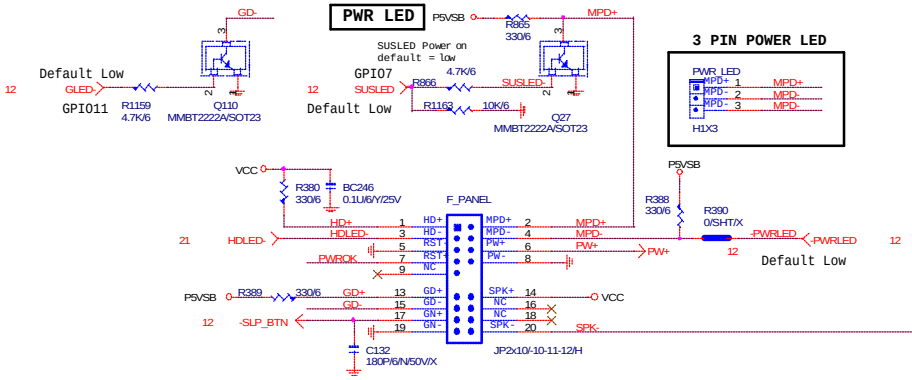
LED States	ACPI States	MPD+	MPD-
OFF	S1,S3,S5	HI	HI
Steady Green	S0	HI	LO
Blinking Green	S0(message waiting)	HI	BLINKING

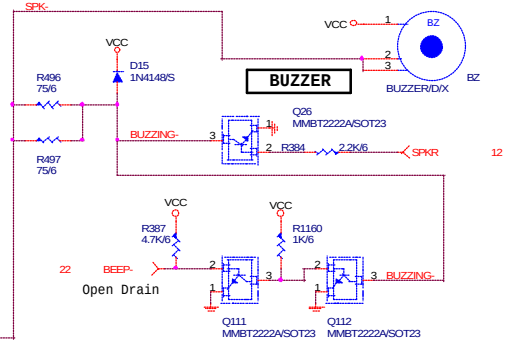
States for a dual-color power LED

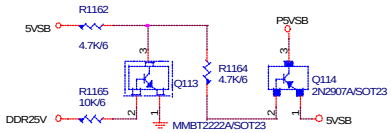
LED States	ACPI States	MPD+	MPD-
OFF	S5	HI	HI
Steady Green	S0	HI	LO
Blinking Green	S0(message waiting)	HI	BLINKING
Steady Yellow	S1,S3	LO	HI
Blinking Yellow	S1,S3(message waiting)	LO	BLINKING

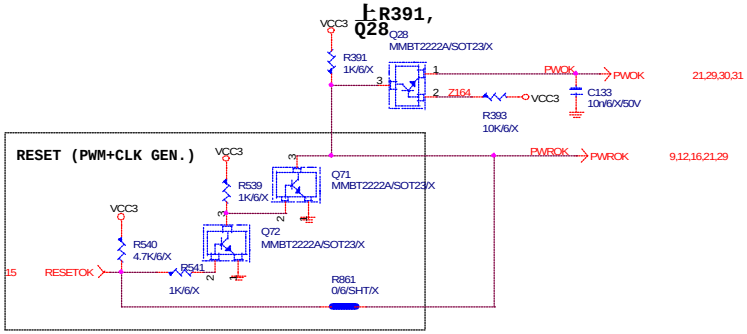
	S0	S1	S3	S5
GPIO11(GLED-)	0	1	1	0
GPIO7(SUSLED)	0	B	B	0
ACPILED(Pin A15)	0	0	0	1

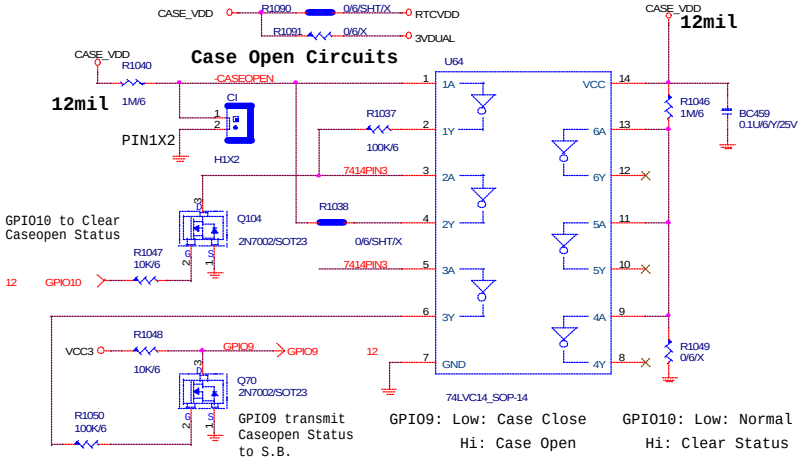












74LVC14:

10TC1-140014-01

10TC1-120014-01

10TC1-120014-02

Title	PANEL, STR LED
Size: Custom	Document Number: GA-8SR533
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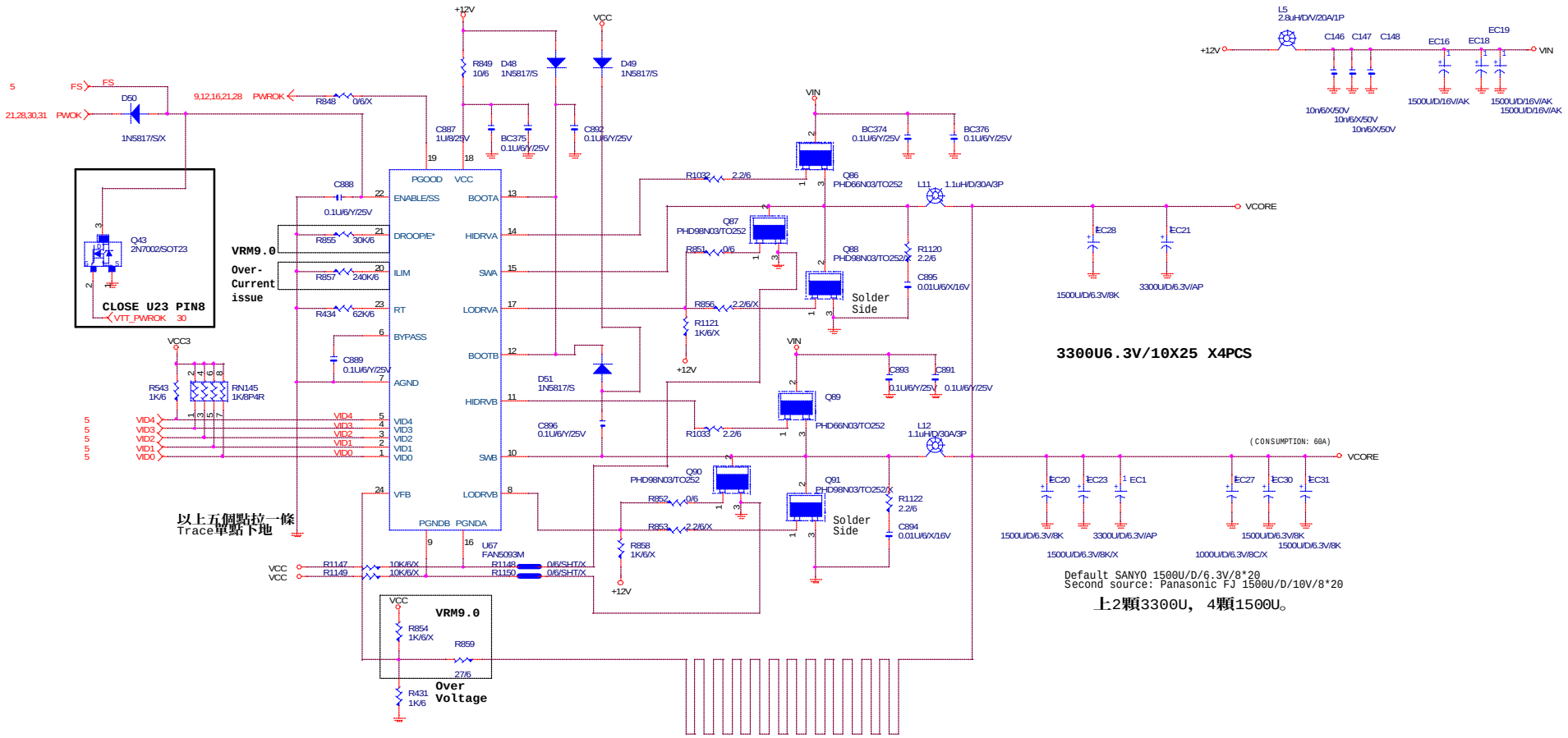
GIGABYTE



GIGABYTE		
Title: VCORE (PWM FAN5093M)		
Size: Custom	Document Number: GA-8SR533	Rev: 0.2
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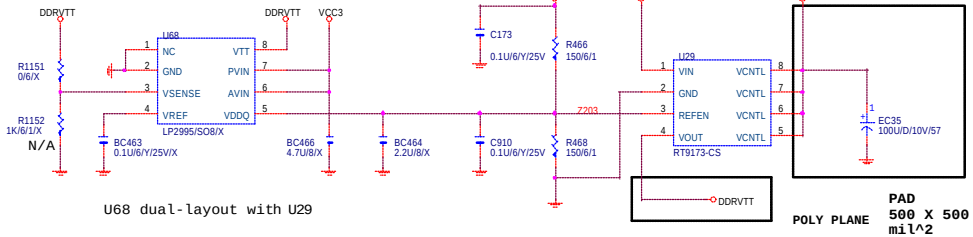
1.25V DDRVTT LINEAR SOLUTION

	RT9173	LP2995
R466	150/6/1	0/6
R468	150/6/1	N/A

1.25V DDRV(NS)

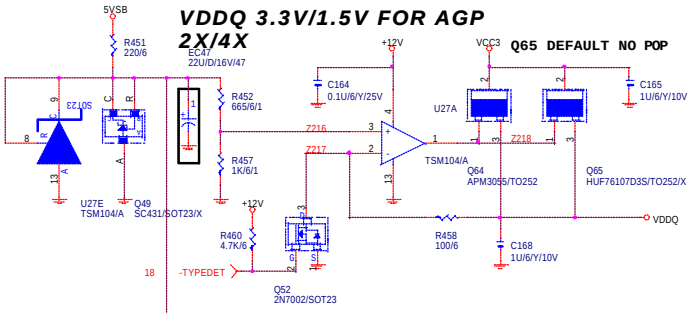


1.25V_1.5A DDRVTT

U68 dual-layout with U29

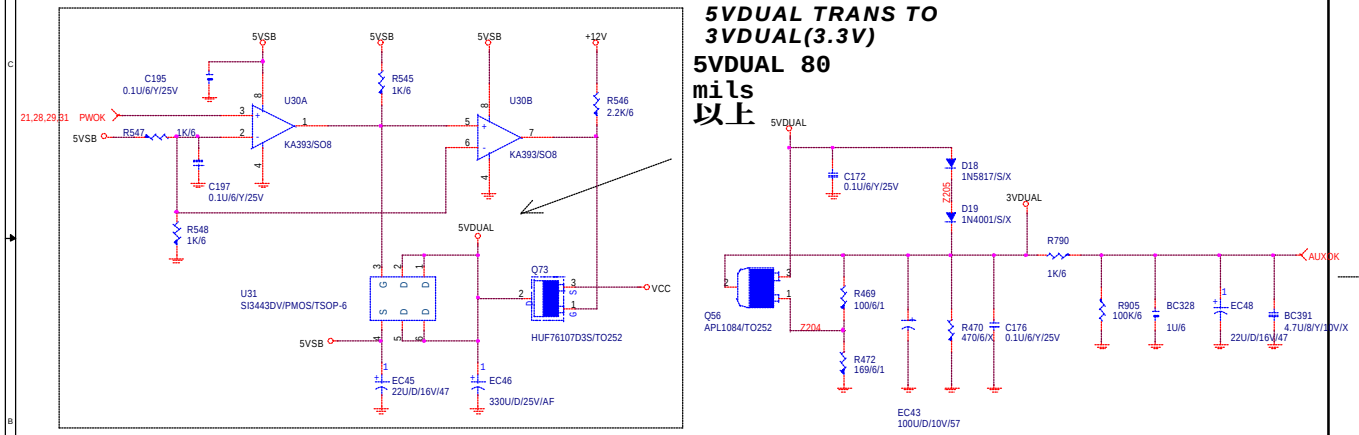
VDDQ 3.3V/1.5V FOR AGP 2X/4X

Q65 DEFAULT NO POP



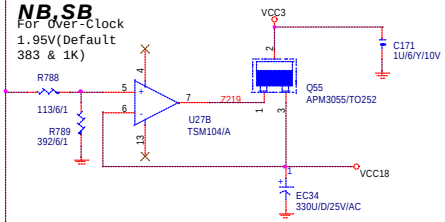
5VDUAL TRANS TO 3VDUAL(3.3V)

5VDUAL 80 mils 以上

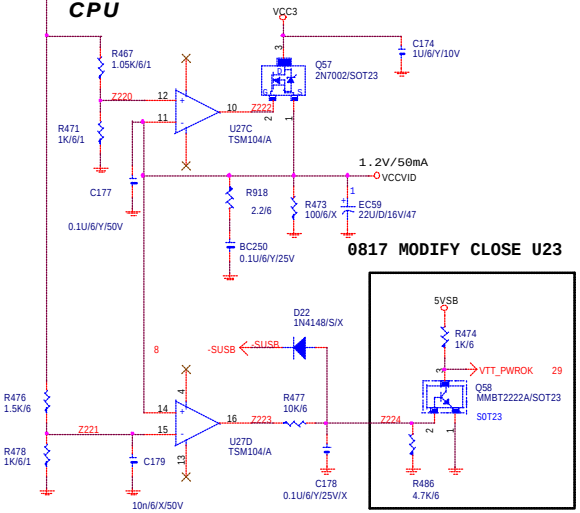


VCC18 FOR NB,SB

For over-Clock 1.95V(Default 383 & 1K)

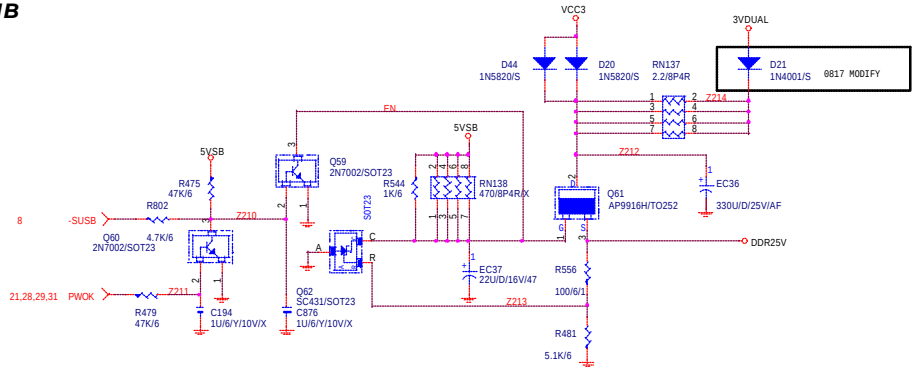


VCCVID FOR NORTHWOOD CPU

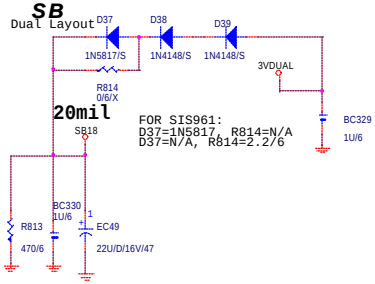


DDR25V FOR DDR DIMM & NB

AP9916 layout TO-263 package for thermal issue



SB18 FOR SB



GIGABYTE

Title: DDR POWER, VDDQ, VCCVID, 3VDUAL

Size: Custom | Document Number: GA-8SR533 | Rev: 2.0

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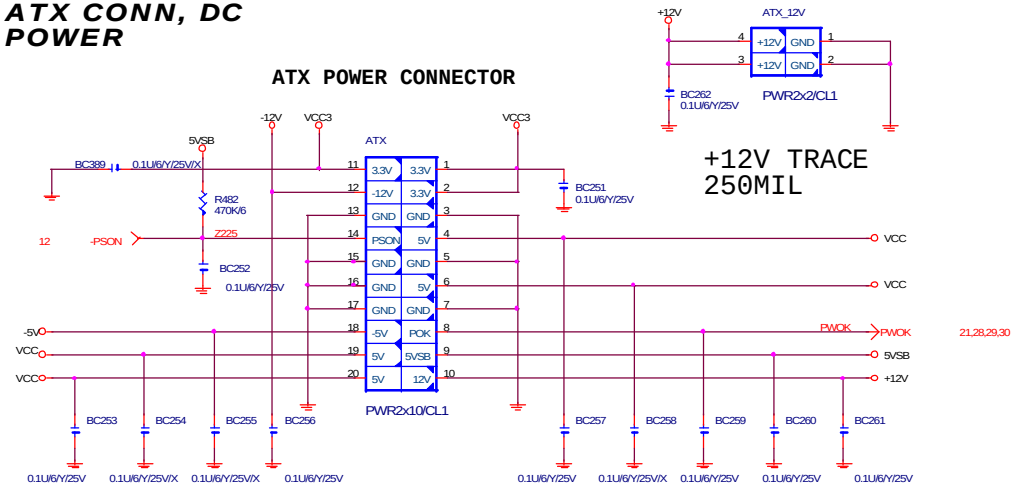
ATX CONN, DC POWER



8SRXL South Bridge GPIO LIST			
ITEM	DESCRIPTION	STATUS	Default
GPO0	Non Use		Hi
GPO1	Non Use		Hi
GPO4	Non Use		Hi
GPO2	Non Use		Hi
GPO3	Green Button	Hi:Normal, Lo:Into Green mode	Hi
GPIO5	REQ5		
GPIO6	GNT5		
GPO7	Non Use		Hi
GPO11	Non Use		Hi
GPI8	Wake On Ring	Hi:Normal, Lo:Ring Power On	Hi
GPI9	Case Open	Hi:Case Open , Lo:Normal	Lo
GPI10	Clear Caseopen status	Hi:Clear Caseopen Status, Lo:Normal	Lo
GPI13	Non Use		Hi
GPO12	Non Use		Hi
GPI14	Primary Down	Lo:CODEC Only	Lo
GPIO15	KB Data		Hi
GPIO16	KB Clk		Hi
GPIO17	MS Data		Hi
GPIO18	MS Clk		Hi

States for a single-color power LED

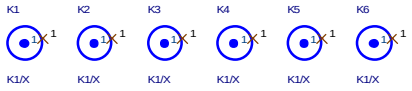
LED States	ACPI States	MPD+	MPD-	BIOS GPIO7	BIOS ACPILED
OFF	S5	HI	HI	LO	HI/NC
Steady Green	S0	HI	LO	LO	LO
Blinking Green	S0(message waiting)	HI	BLINKING	LO	BLINKING

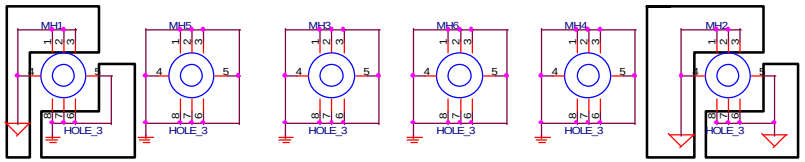
States for a dual-color power LED

LED States	ACPI States	MPD+	MPD-	BIOS GPIO7	BIOS ACPILED
OFF	S5	HI	HI	LO	HI/NC
Steady Green	S0	HI	LO	LO	LO
Blinking Green	S0(message waiting)	HI	BLINKING	LO	BLINKING
Steady Yellow	S1,S3	LO	HI	HI	HI
Blinking Yellow	S1,S3(message waiting)	LO	BLINKING	HI	BLINKING

States for green LED

LED States	ACPI States	GLED-	BIOS GPIO11
ON	S1,S3	HI	HI
OFF	S0,S5	LO	LO





EMI (VCC.GND CUT HOLE PLANE)

EMI (VCC.LGND CUT HOLE PLANE)

BIOS REQUEST

INTEL LED DEFINED SINGLE	INTEL LED DEFINED DUAL		INTEL LED DEFINED GPIO7	INTEL LED DEFINED ACPILED	INTEL LED DEFINED GPIO11	GIGABYTE LED DEFINED	GIGABYTE LED DEFINED GPIO7	GIGABYTE LED DEFINED ACPILED	GIGABYTE LED DEFINED GPIO11	GIGABYTE LED DEFINED SINGLE	GIGABYTE LED DEFINED DUAL
GREEN	GREEN	S0	LO	LO	LO	S0	LO	LO	LO	GREEN	GREEN
OFF	YELLOW	S1	HI	HI	HI	S1	LO	BLINKING	HI	G(BLINK)	G(BLINK)
OFF	YELLOW	S3	HI	HI	HI	S3	HI	HI	HI	OFF	YELLOW
OFF	OFF	S4/S5	LO	HI/NC	LO	S4/S5	LO	HI/NC	LO	OFF	OFF

GIGABYTE

Title: ATX, GPIO LIST

Size: Custom | Document Number: GA-8SR533 | Rev: 2.0

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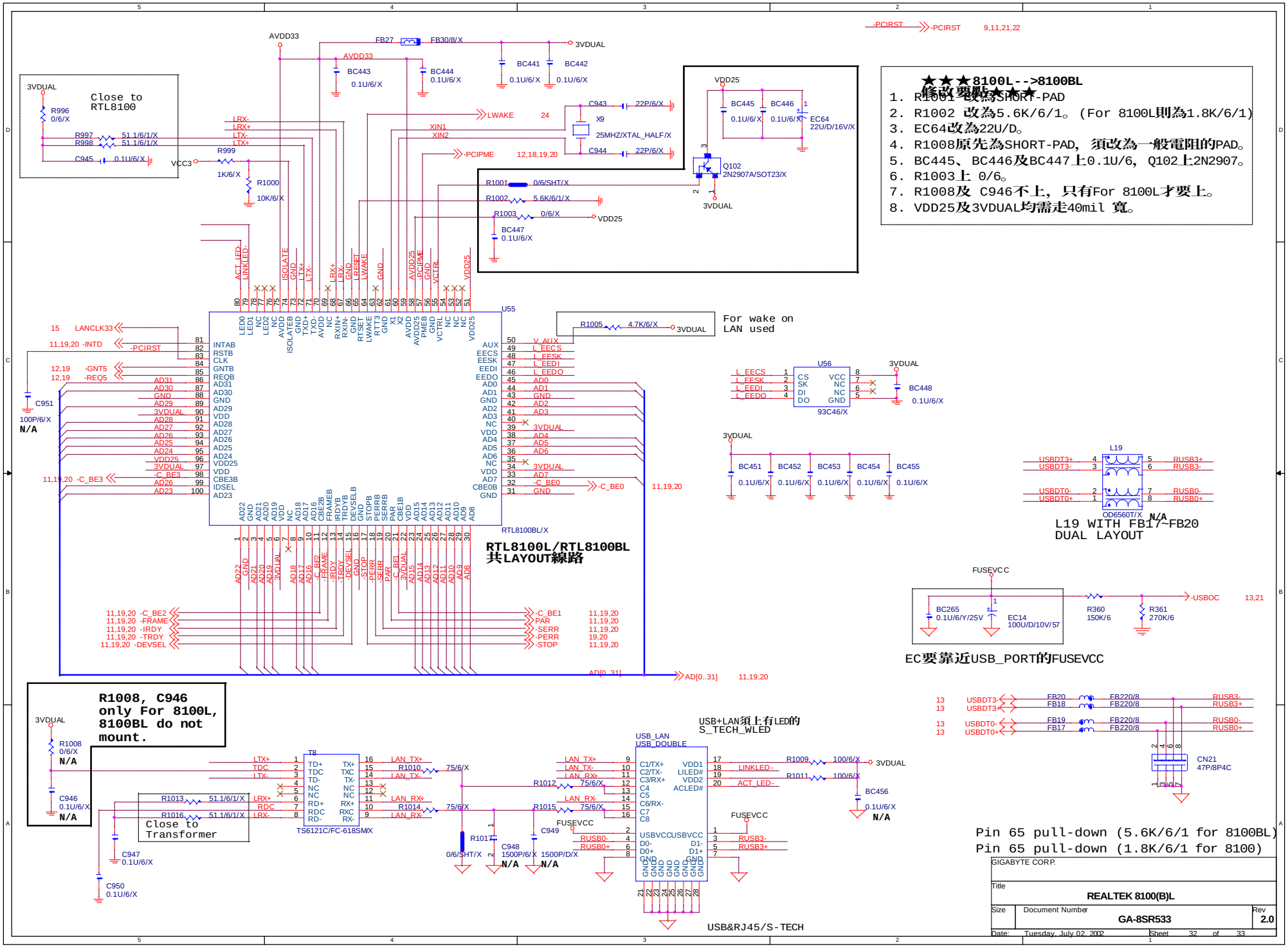
★★★8100L-->8100BL
修改要點★★★
1. R1001改為SHORT-PAD
2. R1002 改為5.6K/6/1。(For 8100L則為1.8K/6/1)
3. EC64改為22U/D。
4. R1008原先為SHORT-PAD，須改為一般電阻的PAD。
5. BC445、BC446及BC447上0.1U/6，Q102上2N2907。
6. R1003上 0/6。
7. R1008及 C946不上，只有For 8100L才要上。
8. VDD25及3VDUAL均需走40mil 寬。
Close to RTL8100
For wake on LAN used
RTL8100L/RTL8100BL 共LAYOUT線路
L19 WITH FB17~FB20 DUAL LAYOUT
EC要靠近USB_PORT的FUSEVCC
R1008, C946 only For 8100L, 8100BL do not mount.
Close to Transformer
USB+LAN須上有LED的 S_TECH_WLED
USB&RJ45/S-TECH
Pin 65 pull-down (5.6K/6/1 for 8100BL)
Pin 65 pull-down (1.8K/6/1 for 8100)
GIGABYTE CORP.
Title
REALTEK 8100(B)L
Size
Document Number
GA-8SR533
Rev
2.0
Date: Tuesday, July 02, 2002
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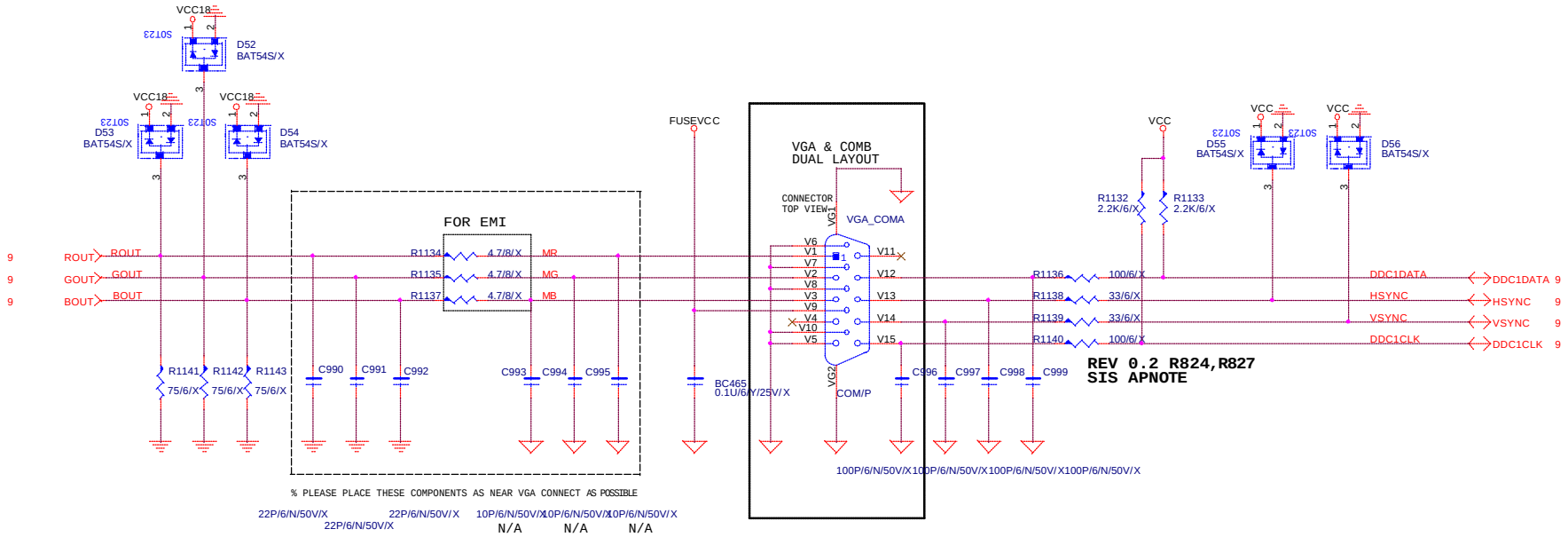
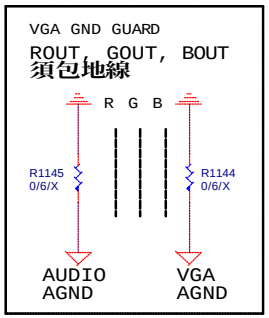
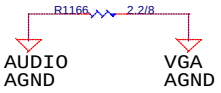
VGA CONNECTOR 1







R1166: For Recording Noise issue
For ST9721: 2.2/8 (EMI Recommend FB30)
For ALC650: 0/8

GIGABYTE		
Title: VGA CONNECTOR		
Size: Custom	Document Number: GA-8SR533	Rev: 2.0
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