Model Name: ROM-DB7501 A101-2

ADVANTECH

Title: COVER PAGE

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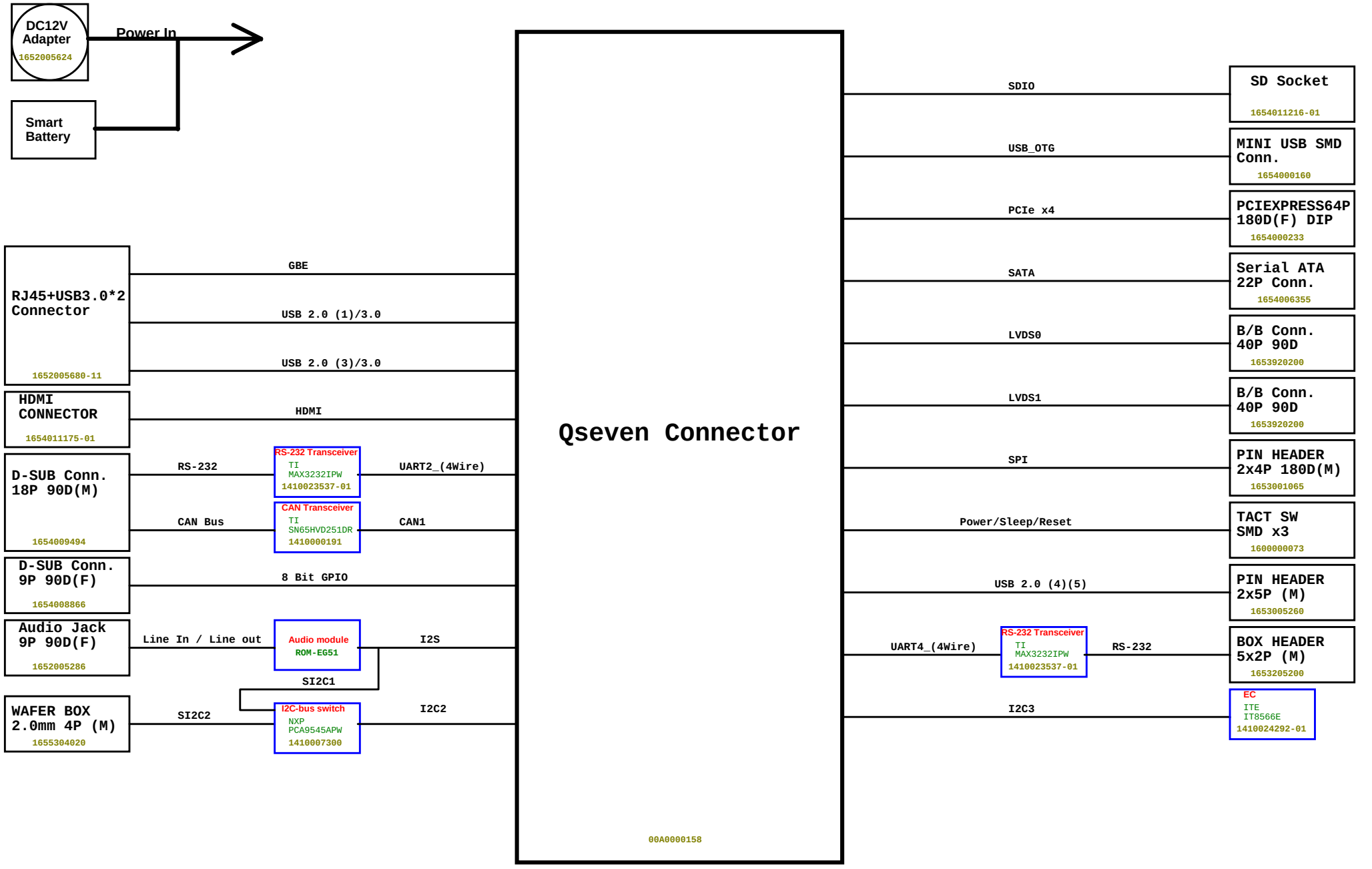
ROM-DB7501 A101-1 PCB: 19A6750100-01 BOM: 9696750100E DATE : 2015/09/10

1. Initial Release

ROM-DB7501 A101-2 PCB: 19A6750101-01 BOM: 9696750100E DATE : 2016/10/04

01. PCB P/N change to 19A6750101-01
02. Can't turn off +V5 issue => Change the power source of U10.pin4 to +V3A from +V3
03. CARRIER_PGOOD should drive to low level first than any power source down => Mount Q20 , Change R90 to 43k
04. PowerOn sequence turning => Change R96 to 47k from 240k , R63 to 8.2k from 100k , Mount C34
05. OTG_USB Power can't turn on issue => connect USB_OTG_PWREN to U3.pin3
06. SD Power can't turn on issue => Add Q51/R411 , Mount R65
07. The voltage level of +V5 is not enough when batt mode => Unmount R73,R67 , Add R383,R384
08. RTS/CTS function abnormal => Swap RTS & CTS connection.
09. Follow ISO-11898/11519 _ CAN Bus Description => Correct the pin definition of CAN Bus on D-SUB9 , Reserve PS3
10. Avoid LAN's current leakage => Unmount R331,R341
11. Avoid CPU can't detect SD Card insert or not , when the power of +V3_SDIO is turn off . => Unmount R21 , Add R390
12. Follow DFM report indicate the Naming Rule of Jumper , correct the PartReference => ATATX1(1-2)1,LVDS_VDD1(1-2)1,LVDS_BL1(1-2)1.....
13. LCD_BKLT_EN & LCD_BKLT_PWM have glitch before POR# de-assert => Add Q52~Q54,R392,R393
14. TPS51125 Continue mode for +V3A/+AVCC ripple issue => Add R394
15. For PCIe CLK rise/fall time issue => Remove R167/R161
16. For EMI & CLK Overshoot issue => Add 22p on AUDIO_MCK , Bead for OSC PWR , C224~C226 , R395/R396 , Unmount D42~D44/R357 , Change B33~B35 to 1k from 60ohm
17. Design WDTO function for customer's required => Add R397/D58
18. Avoid current leakage from WDT_TIME_OUT# => Add R398/D59
19. For CMC's required => Update MXM connector symbol , Change D46/D47 to 1300005439-01 from 1300000473
20. Naming => Rename CN22 to SATADOM_PWR1
21. Add one USB port for customer's required => Add one USB port & Power solution.
22. change R78 to 19.6k from 20k, by USB drop issue.



ADVANTECH

Title	BLOCK DIAGRAM	
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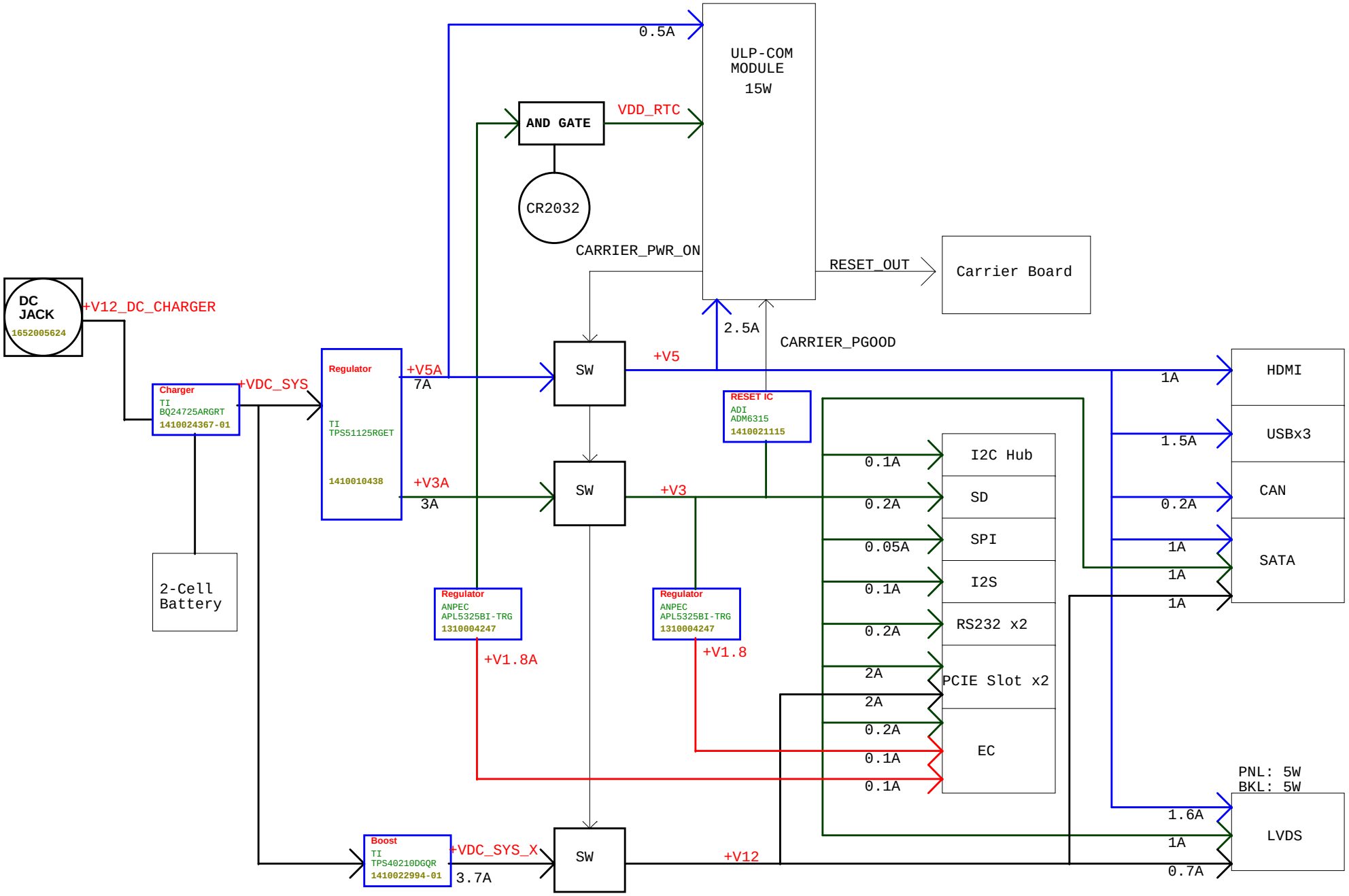

ADVANTECH

Title	POWER BLOCK DIAGRAM	
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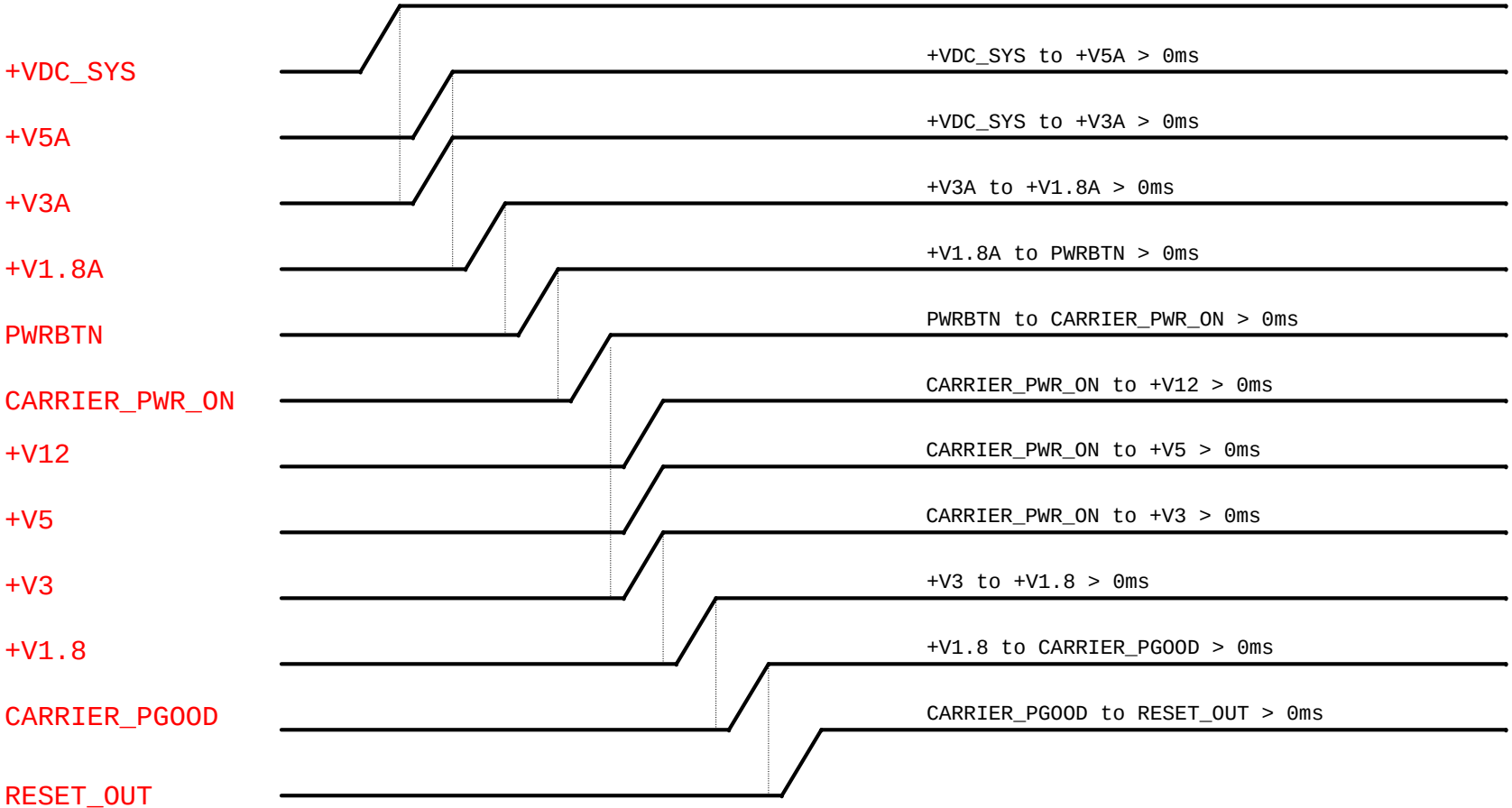
ATX Mode



ADVANTECH

Title	POWER ENABLE SEQUENCE	
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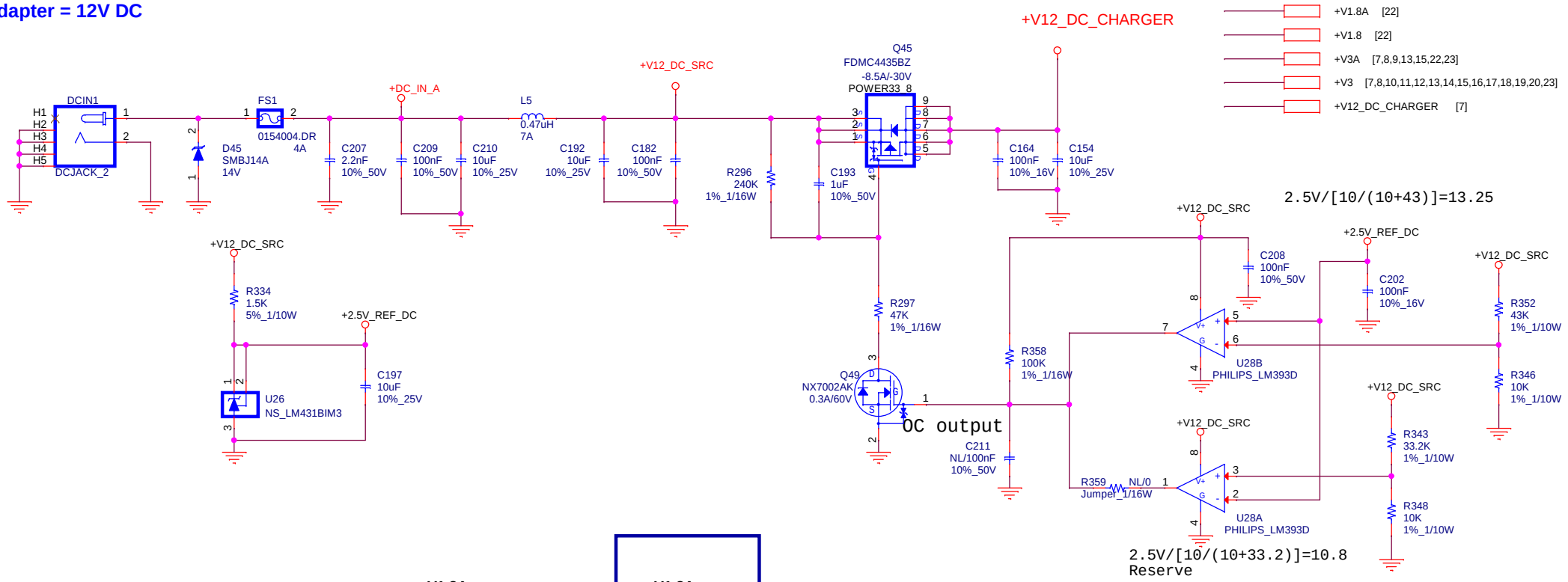
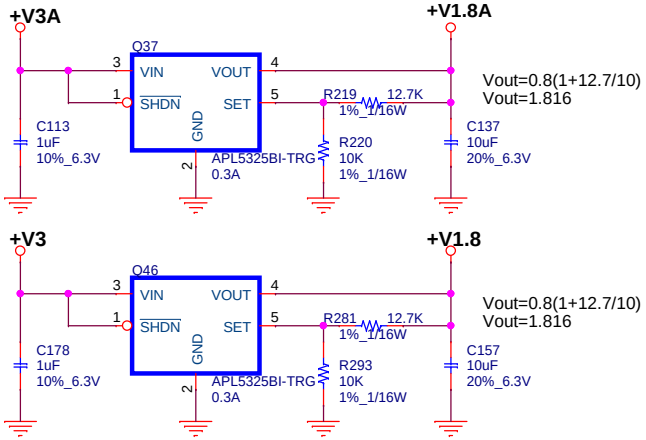
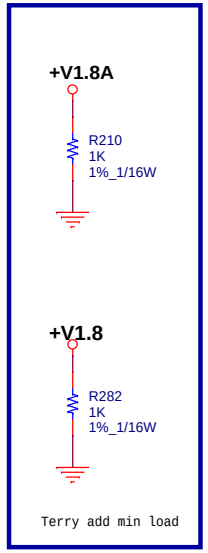
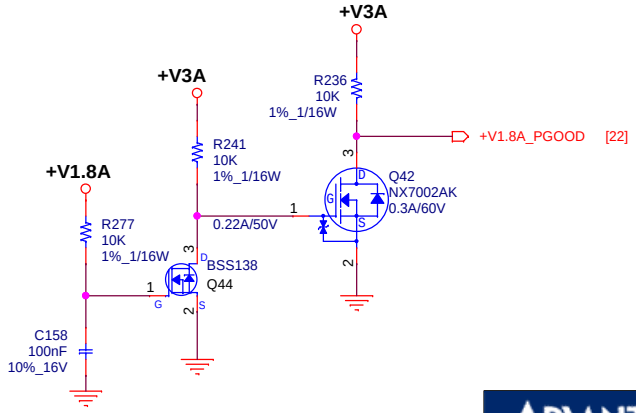
Adapter = 12V DC









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Title	DC IN / +V1.8	
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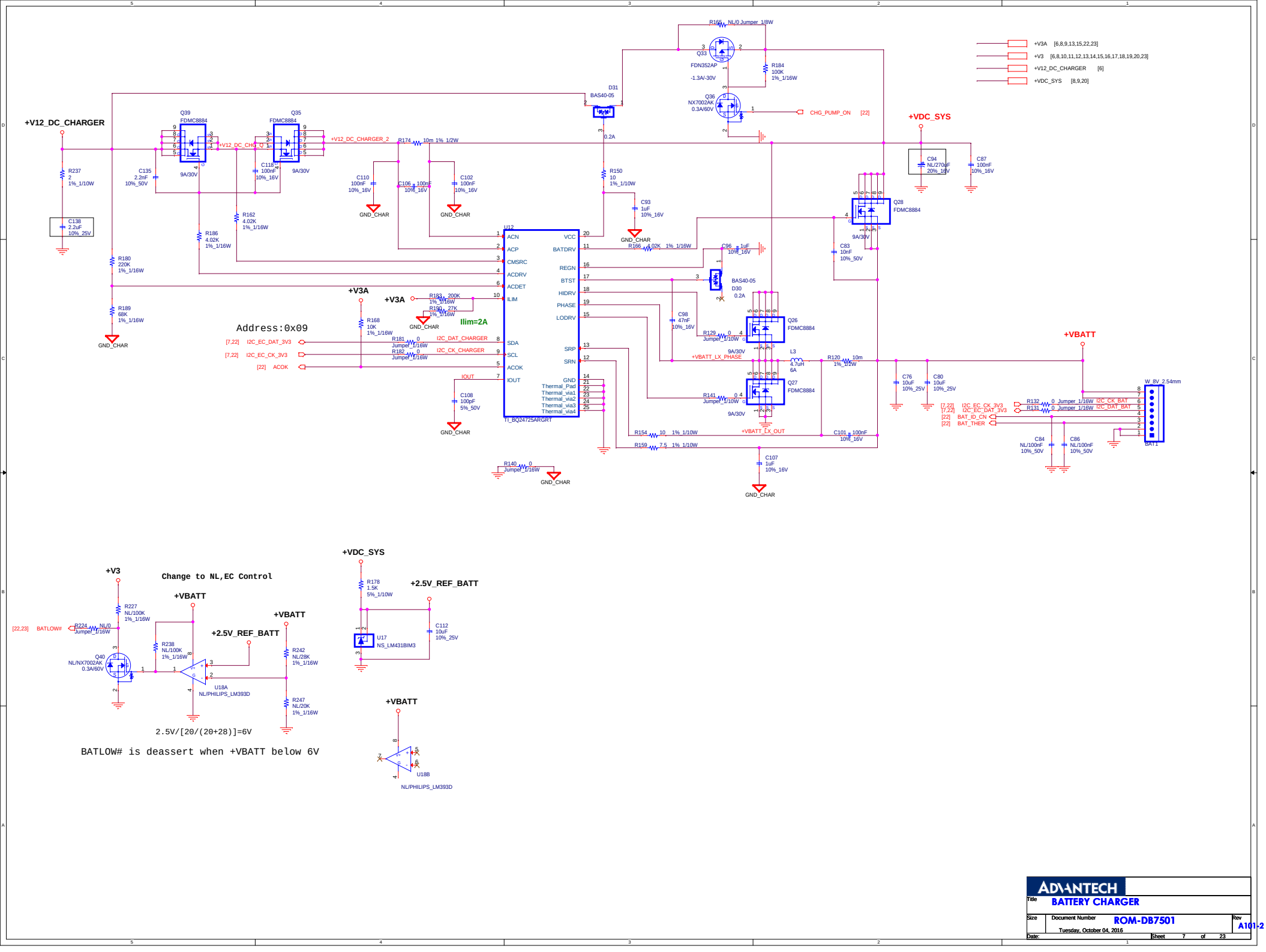
+V12_DC_CHARGER
+VDC_SYS
+V3A
+VBATT
+V3
+2.5V_REF_BATT
Address:0x09
Ilim=2A
Change to NL,EC Control
2.5V/[20/(20+28)]=6V
BATLOW# is deassert when +VBATT below 6V
TI_BQ24725ARGRT
NL/PHILIPS_LM393D
ADVANTECH
BATTERY CHARGER
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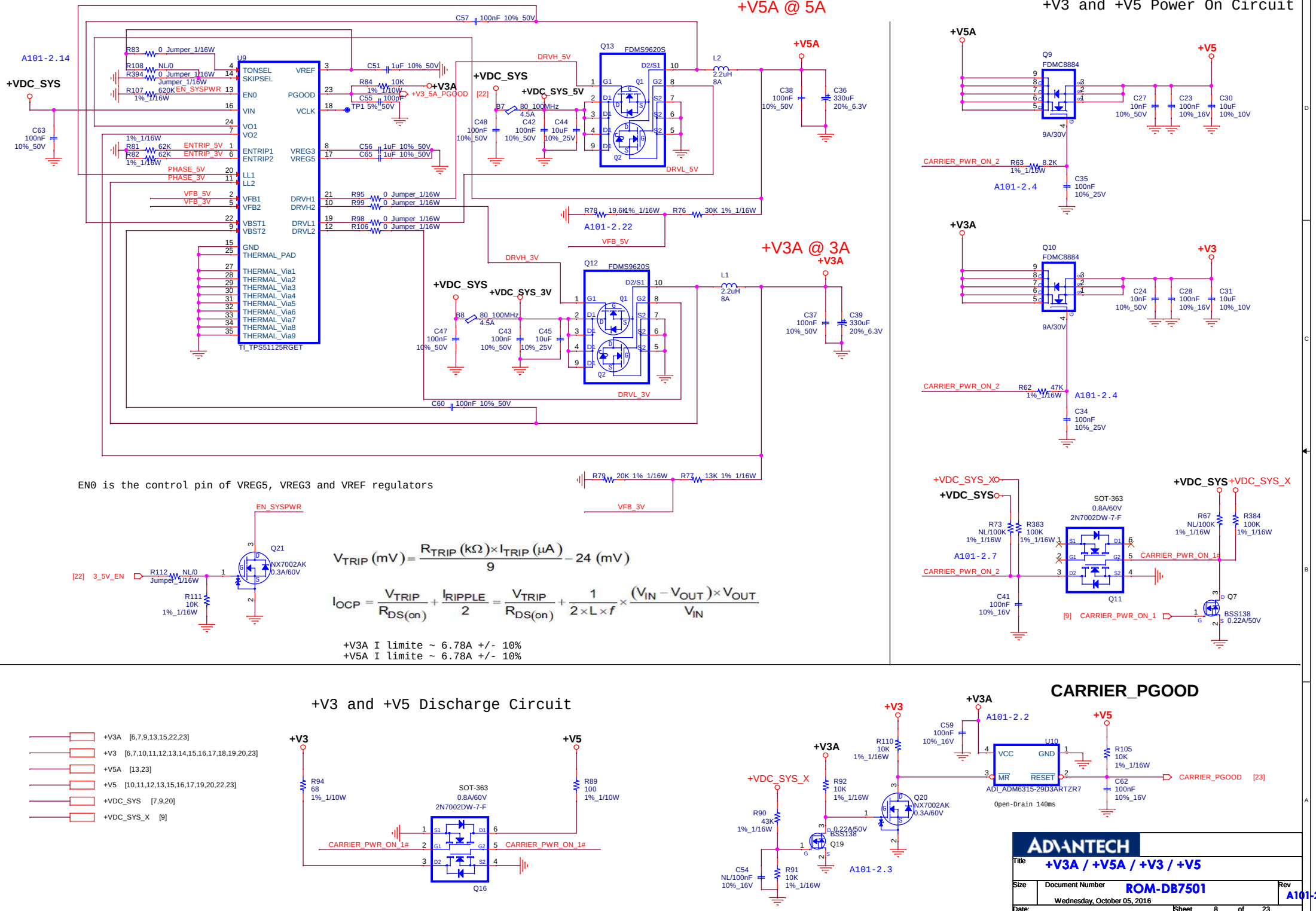
+V5A @ 5A
+V3A @ 3A
+V3 and +V5 Power On Circuit
EN0 is the control pin of VREG5, VREG3 and VREF regulators
$V_{TRIP}(mV) = \frac{R_{TRIP}(k\Omega) \times I_{TRIP}(\mu A)}{9} - 24\,(mV)$
$I_{OCP} = \frac{V_{TRIP}}{R_{DS(on)}} + \frac{I_{RIPPLE}}{2} = \frac{V_{TRIP}}{R_{DS(on)}} + \frac{1}{2 \times L \times f} \times \frac{(V_{IN} - V_{OUT}) \times V_{OUT}}{V_{IN}}$
+V3A I limite ~ 6.78A +/- 10%
+V5A I limite ~ 6.78A +/- 10%
+V3 and +V5 Discharge Circuit
CARRIER_PGOOD
+V3A [6,7,9,13,15,22,23]
+V3 [6,7,10,11,12,13,14,15,16,17,18,19,20,23]
+V5A [13,23]
+V5 [10,11,12,13,15,16,17,19,20,22,23]
+VDC_SYS [7,9,20]
+VDC_SYS_X [9]
ADVANTECH
Title +V3A / +V5A / +V3 / +V5
Size
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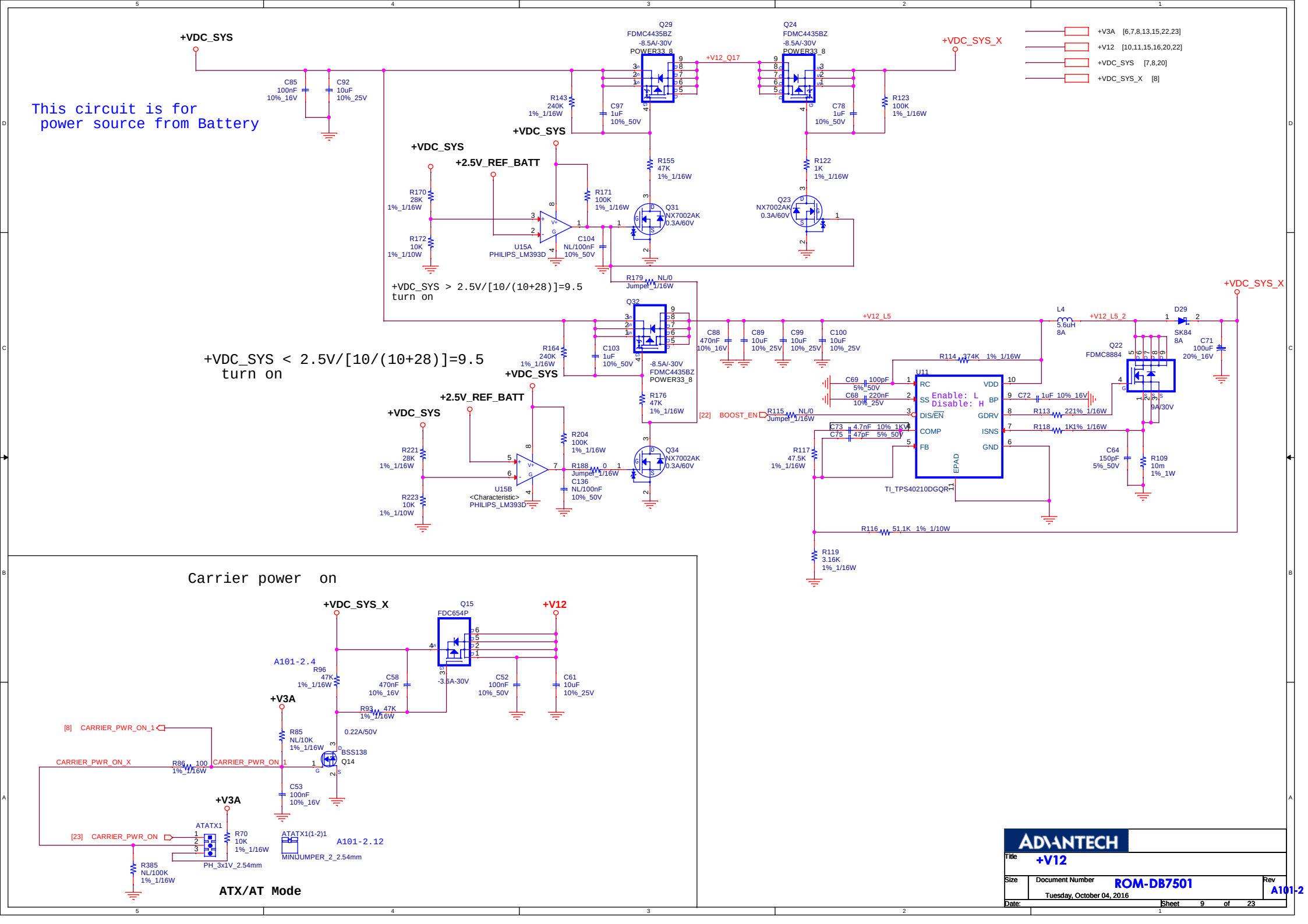
This circuit is for
power source from Battery
+VDC_SYS
+VDC_SYS_X
+V3A [6,7,8,13,15,22,23]
+V12 [10,11,15,16,20,22]
+VDC_SYS [7,8,20]
+VDC_SYS_X [8]
Q29
FDMC4435BZ
-8.5A/-30V
POWER33_8
Q24
FDMC4435BZ
-8.5A/-30V
POWER33_8
+V12_Q17
C85
100nF
10%_16V
C92
10uF
10%_25V
R143
240K
1%_1/16W
C97
1uF
10%_50V
C78
1uF
10%_50V
R123
100K
1%_1/16W
R155
47K
1%_1/16W
R122
1K
1%_1/16W
+2.5V_REF_BATT
R170
28K
1%_1/16W
R172
10K
1%_1/10W
R171
100K
1%_1/16W
U15A
PHILIPS_LM393D
C104
NL/100nF
10%_50V
Q31
NX7002AK
0.3A/60V
Q23
NX7002AK
0.3A/60V
+VDC_SYS > 2.5V/[10/(10+28)]=9.5
turn on
R179 NL/0
Jumper_1/16W
+VDC_SYS < 2.5V/[10/(10+28)]=9.5
turn on
Q32
R164
240K
1%_1/16W
C103
1uF
10%_50V
-8.5A/-30V
FDMC4435BZ
POWER33_8
R176
47K
1%_1/16W
+12V_L5
C88
470nF
10%_16V
C89
10uF
10%_25V
C99
10uF
10%_25V
C100
10uF
10%_25V
L4
5.6uH
8A
+12V_L5_2
D29
SK84
8A
C71
100uF
20%_16V
Q22
FDMC8884
9A/30V
R114 374K 1%_1/16W
U11
TI_TPS40210DGQR
Enable: L
Disable: H
RC
SS
DIS/EN
COMP
FB
VDD
BP
GDRV
ISNS
GND
EPAD
C69 100pF 5%_50V
C68 220nF 10%_25V
C72 1uF 10%_16V
R113 221% 1/16W
R118 1K1% 1/16W
C73 4.7nF 10% 1KV
C75 47pF 5% 50V
R115 NL/0
Jumper_1/16W
[22] BOOST_EN
R117
47.5K
1%_1/16W
C64
150pF
5%_50V
R109
10m
1%_1W
R116 51.1K 1% 1/10W
R119
3.16K
1%_1/16W
R221
28K
1%_1/16W
R223
10K
1%_1/10W
R204
100K
1%_1/16W
R188 0
Jumper_1/16W
C136
NL/100nF
10%_50V
U15B
<Characteristic>
PHILIPS_LM393D
Q34
NX7002AK
0.3A/60V
Carrier power on
+VDC_SYS_X
Q15
FDC654P
-3.5A-30V
+V12
A101-2.4
R96
47K
1%_1/16W
C58
470nF
10%_16V
R93 47K
1%_1/16W
C52
100nF
10%_50V
C61
10uF
10%_25V
+V3A
[8] CARRIER_PWR_ON_1
R85
NL/10K
1%_1/16W
0.22A/50V
BSS138
Q14
CARRIER_PWR_ON_X
R86 100
1%_1/16W
CARRIER_PWR_ON
C53
100nF
10%_16V
+V3A
ATATX1
[23] CARRIER_PWR_ON
R70
10K
1%_1/16W
ATATX1(1-2)1
MINIJUMPER_2_2.54mm
A101-2.12
PH_3x1V_2.54mm
R385
NL/100K
1%_1/16W
ATX/AT Mode
ADVANTECH
Title
+V12
Size
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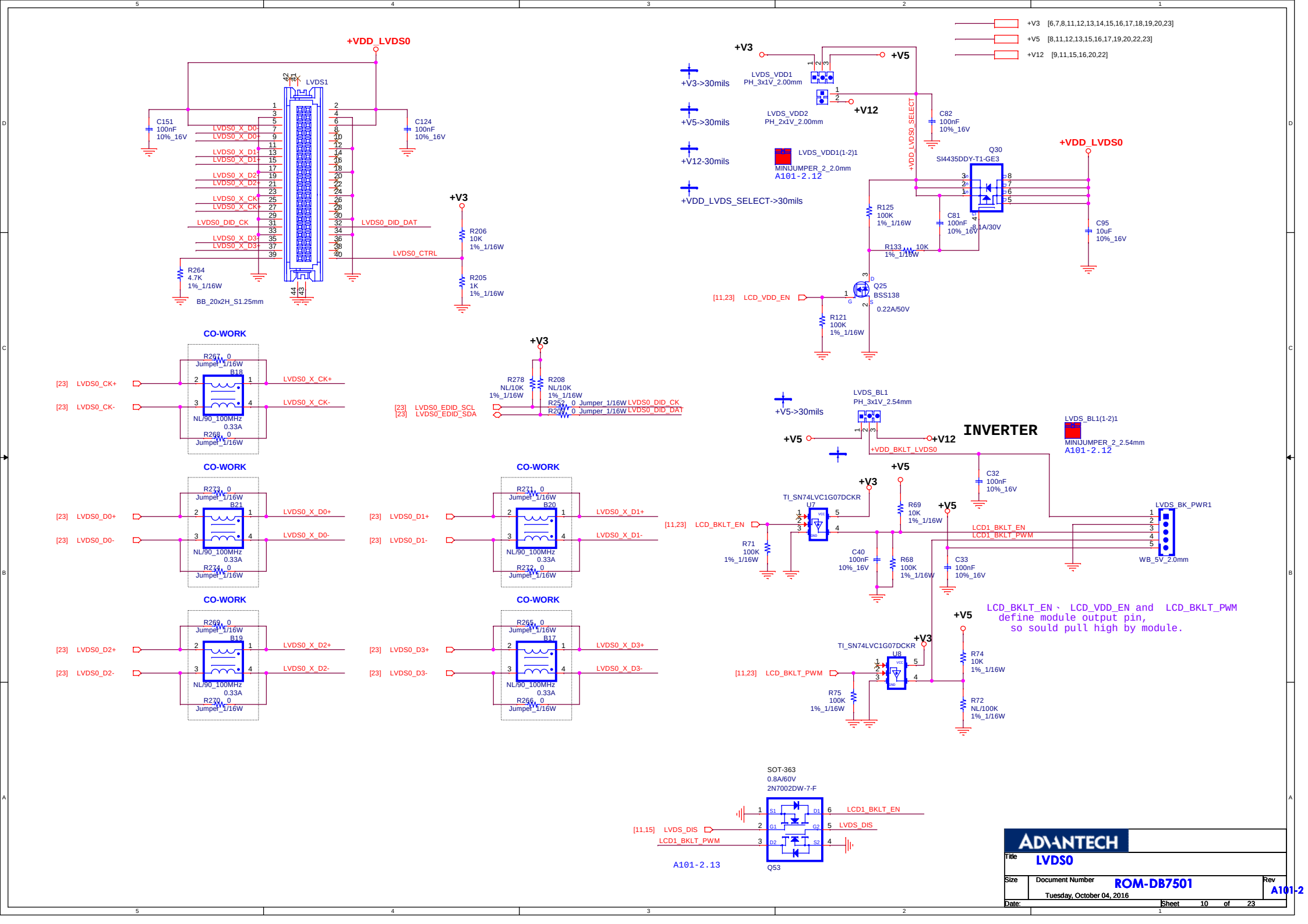
+VDD_LVDS0
LVDS1
C151 100nF 10%_16V
C124 100nF 10%_16V
LVDS0_X_D0+
LVDS0_X_D0-
LVDS0_X_D1+
LVDS0_X_D1-
LVDS0_X_D2+
LVDS0_X_D2-
LVDS0_X_CK+
LVDS0_X_CK-
LVDS0_DID_CK
LVDS0_DID_DAT
LVDS0_X_D3+
LVDS0_X_D3-
LVDS0_CTRL
+V3
R206 10K 1%_1/16W
R205 1K 1%_1/16W
R264 4.7K 1%_1/16W
BB_20x2H_S1.25mm
+V3 [6,7,8,11,12,13,14,15,16,17,18,19,20,23]
+V5 [8,11,12,13,15,16,17,19,20,22,23]
+V12 [9,11,15,16,20,22]
+V3->30mils
+V5->30mils
+V12-30mils
+VDD_LVDS_SELECT->30mils
LVDS_VDD1 PH_3x1V_2.00mm
LVDS_VDD2 PH_2x1V_2.00mm
LVDS_VDD1(1-2)1
MINIJUMPER_2_2.00mm
A101-2.12
+VDD_LVDS_SELECT
C82 100nF 10%_16V
Q30 SI4435DDY-T1-GE3
R125 100K 1%_1/16W
C81 100nF 10%_16V
4.5A/30V
R133 10K 1%_1/16W
C95 10uF 10%_16V
[11,23] LCD_VDD_EN
Q25 BSS138 0.22A/50V
R121 100K 1%_1/16W
CO-WORK
R267 0 Jumper_1/16W
B18
R268 0 Jumper_1/16W
NL/90_100MHz 0.33A
[23] LVDS0_CK+
[23] LVDS0_CK-
LVDS0_X_CK+
LVDS0_X_CK-
R278 NL/10K 1%_1/16W
R208 NL/10K 1%_1/16W
R252 0 Jumper_1/16W
R209 0 Jumper_1/16W
[23] LVDS0_EDID_SCL
[23] LVDS0_EDID_SDA
LVDS0_DID_CK
LVDS0_DID_DAT
CO-WORK
R273 0 Jumper_1/16W
B21
R274 0 Jumper_1/16W
[23] LVDS0_D0+
[23] LVDS0_D0-
LVDS0_X_D0+
LVDS0_X_D0-
CO-WORK
R271 0 Jumper_1/16W
B20
R272 0 Jumper_1/16W
[23] LVDS0_D1+
[23] LVDS0_D1-
LVDS0_X_D1+
LVDS0_X_D1-
CO-WORK
R269 0 Jumper_1/16W
B19
R270 0 Jumper_1/16W
[23] LVDS0_D2+
[23] LVDS0_D2-
LVDS0_X_D2+
LVDS0_X_D2-
CO-WORK
R265 0 Jumper_1/16W
B17
R266 0 Jumper_1/16W
[23] LVDS0_D3+
[23] LVDS0_D3-
LVDS0_X_D3+
LVDS0_X_D3-
+V5->30mils
LVDS_BL1 PH_3x1V_2.54mm
LVDS_BL1(1-2)1
MINIJUMPER_2_2.54mm
A101-2.12
+VDD_BKLT_LVDS0
INVERTER
TI_SN74LVC1G07DCKR
U7
R69 10K 1%_1/16W
C32 100nF 10%_16V
[11,23] LCD_BKLT_EN
R71 100K 1%_1/16W
C40 100nF 10%_16V
R68 100K 1%_1/16W
C33 100nF 10%_16V
LCD1_BKLT_EN
LCD1_BKLT_PWM
LVDS_BK_PWR1
WB_5V_2.0mm
LCD_BKLT_EN、LCD_VDD_EN and LCD_BKLT_PWM
define module output pin,
so sould pull high by module.
TI_SN74LVC1G07DCKR
U8
[11,23] LCD_BKLT_PWM
R75 100K 1%_1/16W
R74 10K 1%_1/16W
R72 NL/100K 1%_1/16W
SOT-363
0.8A/60V
2N7002DW-7-F
[11,15] LVDS_DIS
LCD1_BKLT_PWM
LCD1_BKLT_EN
LVDS_DIS
A101-2.13
Q53
ADVANTECH
Title
LVDS0
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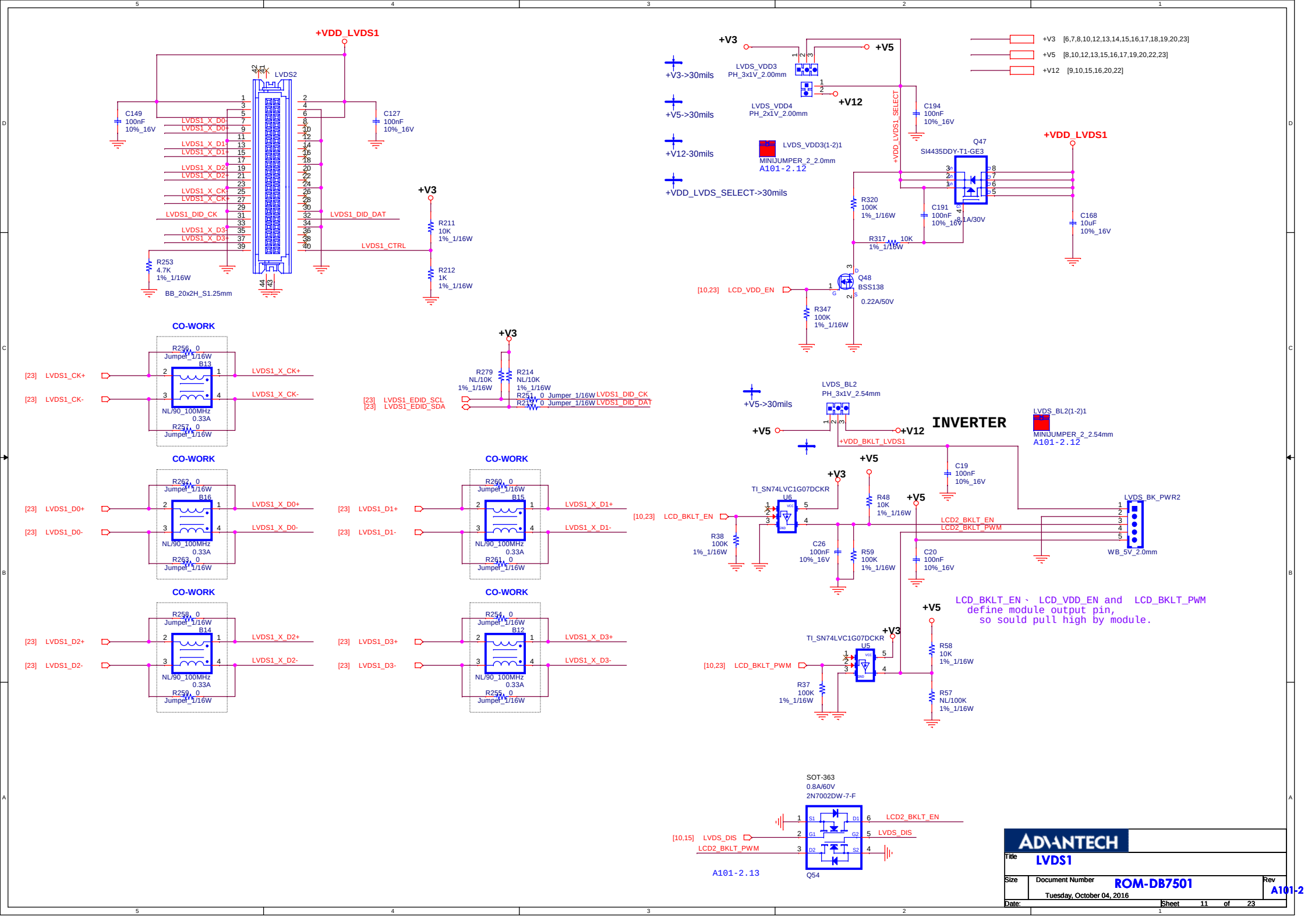
+VDD_LVDS1
LVDS2
C149 100nF 10%_16V
C127 100nF 10%_16V
LVDS1_X_D0-
LVDS1_X_D0+
LVDS1_X_D1-
LVDS1_X_D1+
LVDS1_X_D2-
LVDS1_X_D2+
LVDS1_X_CK-
LVDS1_X_CK+
LVDS1_DID_CK
LVDS1_X_D3-
LVDS1_X_D3+
LVDS1_DID_DAT
LVDS1_CTRL
R253 4.7K 1%_1/16W
BB_20x2H_S1.25mm
+V3
R211 10K 1%_1/16W
R212 1K 1%_1/16W
CO-WORK
R256 0 Jumper_1/16W B13
NL/90_100MHz 0.33A
R257 0 Jumper_1/16W
[23] LVDS1_CK+
[23] LVDS1_CK-
LVDS1_X_CK+
LVDS1_X_CK-
R279 NL/10K 1%_1/16W
R214 NL/10K 1%_1/16W
R251 0 Jumper_1/16W LVDS1_DID_CK
R210 0 Jumper_1/16W LVDS1_DID_DAT
[23] LVDS1_EDID_SCL
[23] LVDS1_EDID_SDA
R262 0 Jumper_1/16W B16
R263 0 Jumper_1/16W
[23] LVDS1_D0+
[23] LVDS1_D0-
LVDS1_X_D0+
LVDS1_X_D0-
R260 0 Jumper_1/16W B15
R261 0 Jumper_1/16W
[23] LVDS1_D1+
[23] LVDS1_D1-
LVDS1_X_D1+
LVDS1_X_D1-
R258 0 Jumper_1/16W B14
R259 0 Jumper_1/16W
[23] LVDS1_D2+
[23] LVDS1_D2-
LVDS1_X_D2+
LVDS1_X_D2-
R254 0 Jumper_1/16W B12
R255 0 Jumper_1/16W
[23] LVDS1_D3+
[23] LVDS1_D3-
LVDS1_X_D3+
LVDS1_X_D3-
+V3
+V5
+V12
+V3->30mils
+V5->30mils
+V12-30mils
+VDD_LVDS_SELECT->30mils
LVDS_VDD3 PH_3x1V_2.00mm
LVDS_VDD4 PH_2x1V_2.00mm
LVDS_VDD3(1-2)1 MINIJUMPER_2_2.0mm A101-2.12
+V3 [6,7,8,10,12,13,14,15,16,17,18,19,20,23]
+V5 [8,10,12,13,15,16,17,19,20,22,23]
+V12 [9,10,15,16,20,22]
+VDD_LVDS_SELECT
C194 100nF 10%_16V
Q47 SI4435DDY-T1-GE3
R320 100K 1%_1/16W
C191 100nF 10%_16V
R317 10K 1%_1/16W
8.1A/30V
C168 10uF 10%_16V
[10,23] LCD_VDD_EN
Q48 BSS138
0.22A/50V
R347 100K 1%_1/16W
LVDS_BL2 PH_3x1V_2.54mm
LVDS_BL2(1-2)1 MINIJUMPER_2_2.54mm A101-2.12
INVERTER
+VDD_BKLT_LVDS1
TI_SN74LVC1G07DCKR U6
R48 10K 1%_1/16W
C19 100nF 10%_16V
[10,23] LCD_BKLT_EN
R38 100K 1%_1/16W
C26 100nF 10%_16V
R59 100K 1%_1/16W
C20 100nF 10%_16V
LCD2_BKLT_EN
LCD2_BKLT_PWM
LVDS_BK_PWR2
WB_5V_2.0mm
LCD_BKLT_EN、LCD_VDD_EN and LCD_BKLT_PWM
define module output pin,
so sould pull high by module.
TI_SN74LVC1G07DCKR U5
[10,23] LCD_BKLT_PWM
R37 100K 1%_1/16W
R58 10K 1%_1/16W
R57 NL/100K 1%_1/16W
SOT-363
0.8A/60V
2N7002DW-7-F
[10,15] LVDS_DIS
LCD2_BKLT_PWM
LCD2_BKLT_EN
LVDS_DIS
A101-2.13
Q54
ADVANTECH
Title LVDS1
Size
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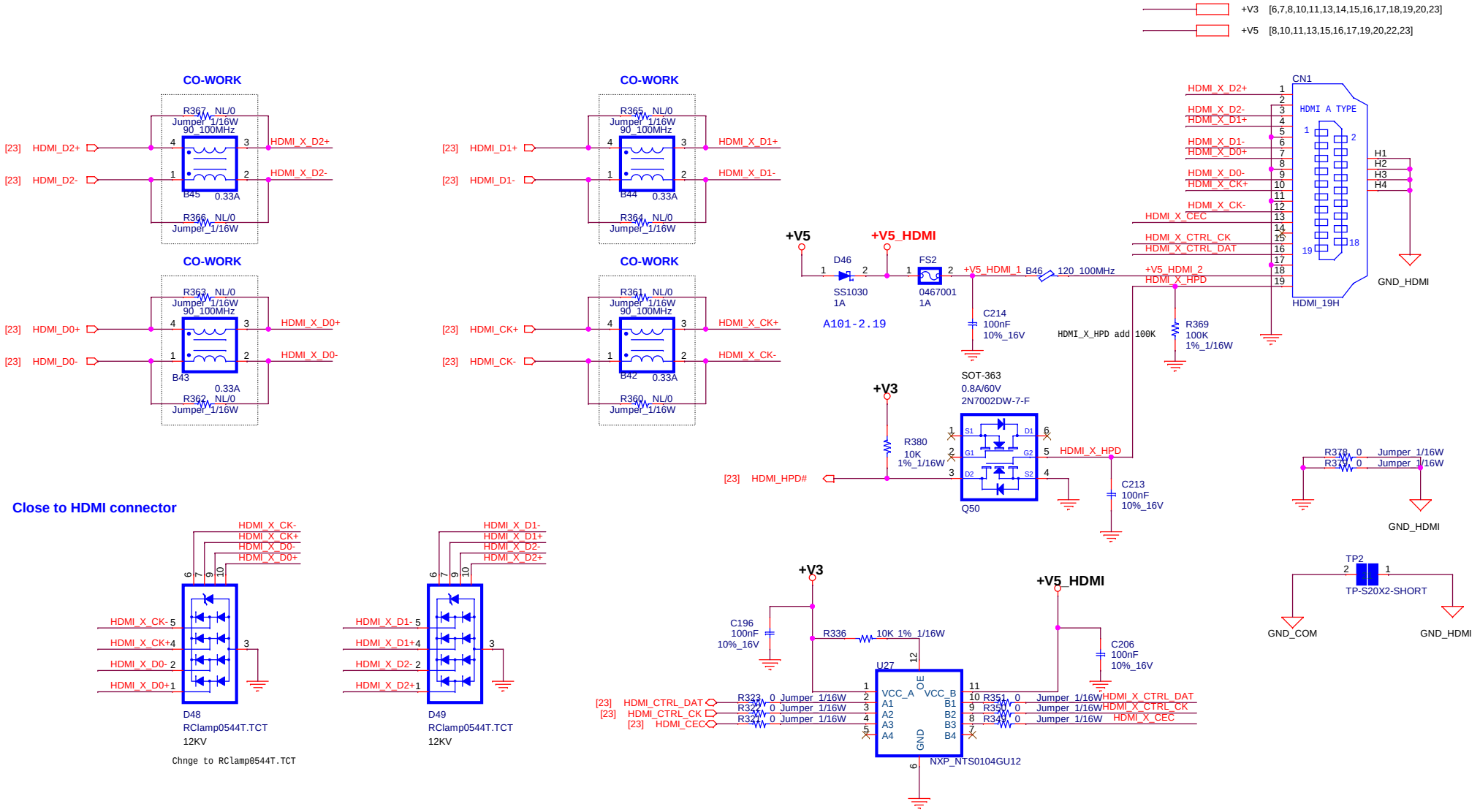

ADVANTECH			
Title	HDMI		
Size	Document Number	ROM-DB7501	Rev A101-2
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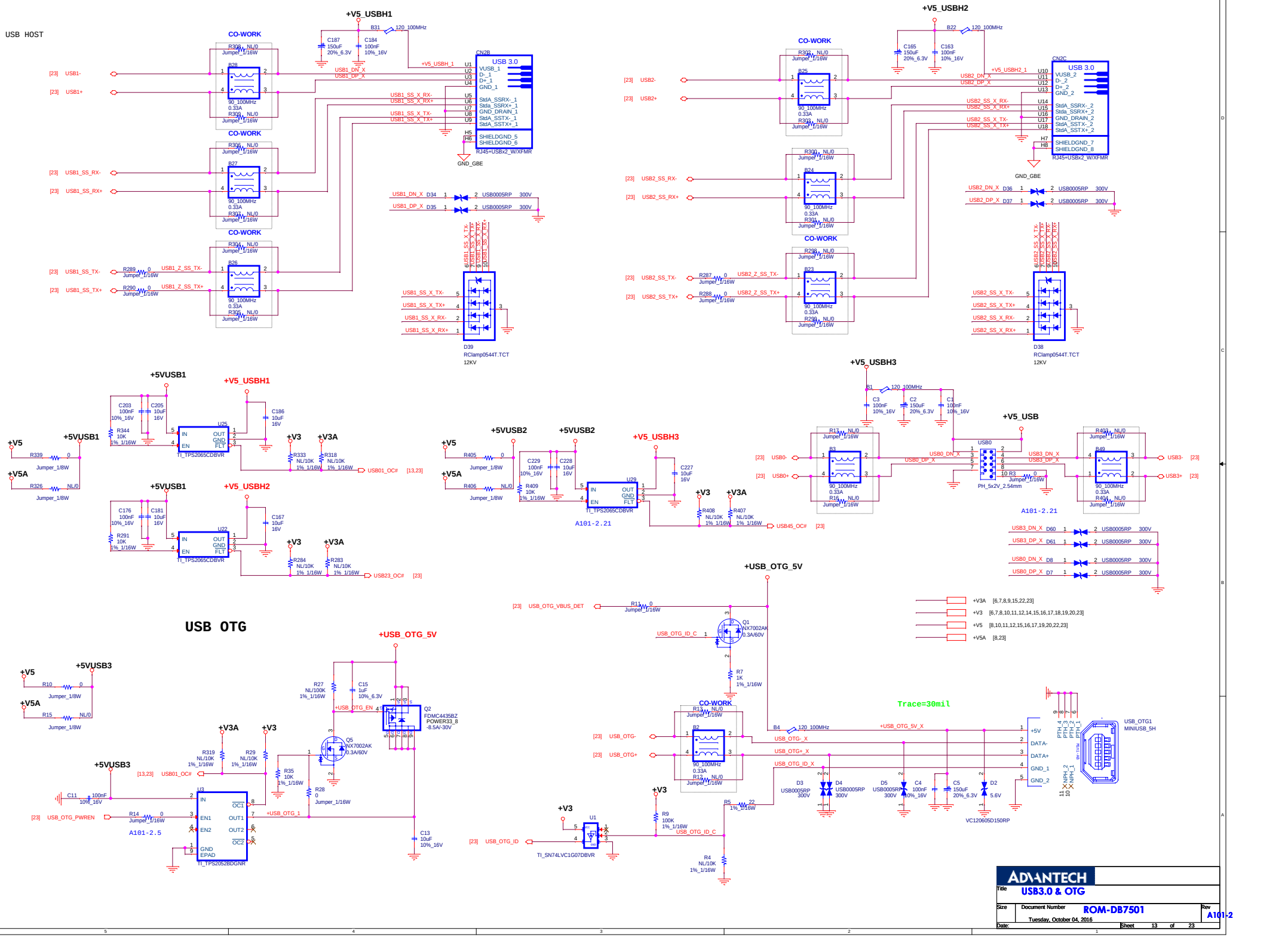
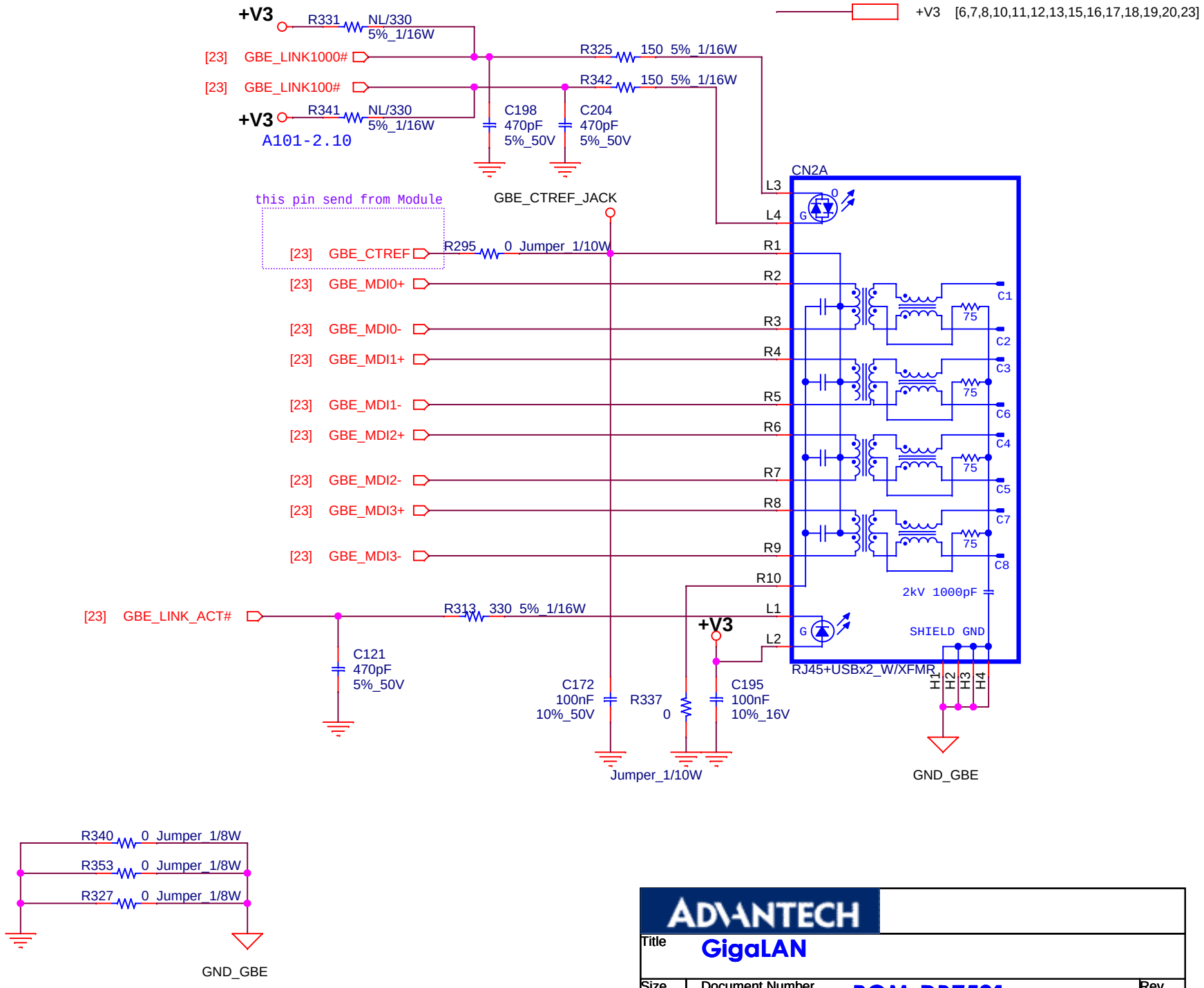

USB HOST
+V5_USBH1
CO-WORK
CN2B
USB 3.0
RJ45+USBx2_W/XFMR
GND_GBE
D39
RClamp0544T.TCT
12KV
+V5_USBH2
CN2C
D38
+5VUSB1
+5VUSB2
+5VUSB3
+V5_USBH3
+V5_USB
USB0
PH_5x2V_2.54mm
USB OTG
+USB_OTG_5V
TI_TPS2065CDBVR
TI_TPS2052BDGNR
TI_SN74LVC1G07DBVR
A101-2.21
A101-2.5
Trace=30mil
USB_OTG1
MINIUSB_5H
VC120605D150RP
ADVANTECH
Title
USB3.0 & OTG
Size
Document Number
ROM-DB7501
Rev
A101-2
Date:
Tuesday, October 04, 2016
Sheet 13 of 23



ADVANTECH		
Title	GigaLAN	
Size	Document Number ROM-DB7501	Rev A101-2
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PCIe Slot

+V3 [6,7,8,10,11,12,13,14,16,17,18,19,20,23]
+V12 [9,10,11,16,20,22]
+V3A [6,7,8,9,13,22,23]

+V12
C152 NL/100uF 20%_16V
C141 100nF 10%_16V
+V3
C131 10uF 10%_10V
C125 100nF 10%_16V

+V3A
C111 100nF 10%_16V
C119 10uF 10%_10V

CN16
B1 12V_1
B2 12V_2
B3 RSVD
B4 GND_1
B5 SMCLK
B6 SMDAT
B7 GND_2
B8 3p3V_1
B9 JTAG1
B10 3p3VAUX
B11 WAKE
KEY
B12 RSVD_1
B13 GND_3
B14 HSOP0
B15 HSON0
B16 GND_4
B17 PRSNT2_1
B18 GND_5
B19 HSOP1
B20 HSON1
B21 GND_6
B22 GND_7
B23 HSOP2
B24 HSON2
B25 GND_8
B26 GND_9
B27 HSOP3
B28 HSON3
B29 GND_10
B30 RSVD_2
B31 PRSNT2_2
B32 GND_11
PCIEXPRESS_64V
NPTH_1
NPTH_2

A1 PRSNT1
A2 12V_3
A3 12V_4
A4 GND_21
A5 JTAG2
A6 JTAG3
A7 JTAG4
A8 JTAG5
A9 3p3V_2
A10 3p3V_3
A11 PWRGD
A12 GND_20
A13 REFCLK+
A14 REFCLK-
A15 GND_19
A16 HSIP0
A17 HSIN0
A18 GND_18
A19 RSVD_4
A20 GND_17
A21 HSIP1
A22 HSIN1
A23 GND_16
A24 GND_15
A25 HSIP2
A26 HSIN2
A27 GND_14
A28 GND_13
A29 HSIP3
A30 HSIN3
A31 GND_12
A32 RSVD_3

+V3
R230 NL/10K 1%_1/16W
PCIE_A_X_PRSNT#

+V12
+V3
PCIEX_A_JTAG2 R225 NL/10K1% 1/16W
PCIEX_A_JTAG3 R218 NL/10K1% 1/16W
PCIEX_A_JTAG5 R217 NL/10K1% 1/16W
+V3
+V3
R173 NL/10K 1% 1/16W
PCIE_A_RST#
C105 100nF 10%_16V

+V3
R215 NL/3.3K 1%_1/16W
PCIEX_A_JTAG1
+V3A
PCIE_A_WAKE#

A101-2.15

R157 NL/10K 1%_1/16W
[23] PCIE_A_TX+
[23] PCIE_A_TX-
R158 0 Jumper 1/16W PCIE_A_X_TX+
R156 0 Jumper 1/16W PCIE_A_X_TX-

PCIE_A_X_RX+ R153 0 Jumper 1/16W PCIE_A_RX+ [23]
PCIE_A_X_RX- R152 0 Jumper 1/16W PCIE_A_RX- [23]
PCIE_REFCK+ [23]
PCIE_REFCK- [23]
NL/100 1%_1/16W R163
R169 NL/49.9 1%_1/16W
R160 NL/49.9 1%_1/16W

[23] PCIE_B_TX+
[23] PCIE_B_TX-
R151 0 Jumper 1/16W PCIE_B_X_TX+
R144 0 Jumper 1/16W PCIE_B_X_TX-

PCIE_B_X_RX+ R142 0 Jumper 1/16W PCIE_B_RX+ [23]
PCIE_B_X_RX- R139 0 Jumper 1/16W PCIE_B_RX- [23]

+V3
[23] PCIE_C_TX+
[23] PCIE_C_TX-
R138 0 Jumper 1/16W PCIE_C_X_TX+
R137 0 Jumper 1/16W PCIE_C_X_TX-

PCIE_C_X_RX+ R136 0 Jumper 1/16W PCIE_C_RX+ [23]
PCIE_C_X_RX- R135 0 Jumper 1/16W PCIE_C_RX- [23]

R124 NL/10K 1%_1/16W
[23] PCIE_D_TX+
[23] PCIE_D_TX-
R134 0 Jumper 1/16W PCIE_D_X_TX+
R130 0 Jumper 1/16W PCIE_D_X_TX-

PCIE_D_X_RX+ R128 0 Jumper 1/16W PCIE_D_RX+ [23]
PCIE_D_X_RX- R126 0 Jumper 1/16W PCIE_D_RX- [23]

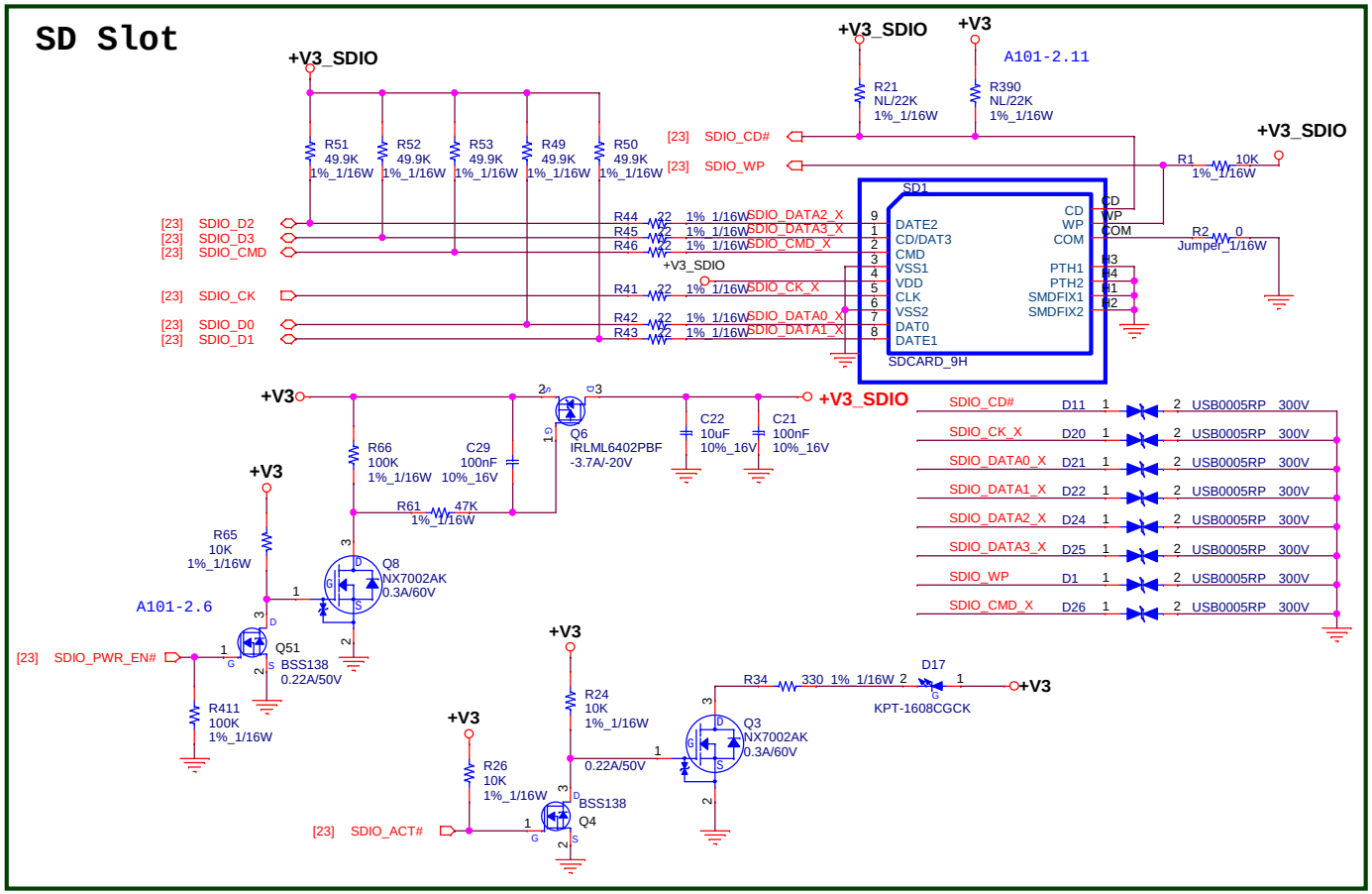
I/O Device Reset

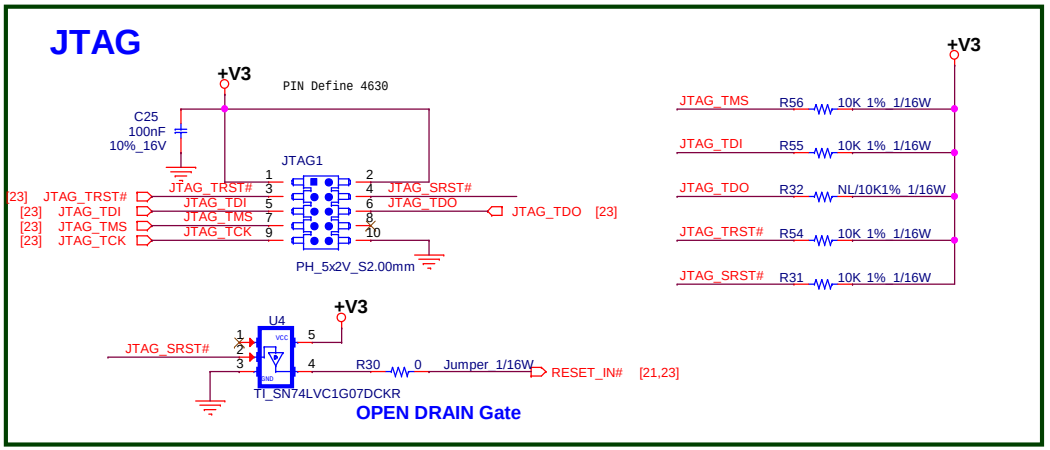
+V3
U16
[23] PCIE_RST#
C109 100nF 10%_16V
TI_SN74LVC2G14DCKR
DEVICE_RESET_OUT#
R185 22 1% 1/16W PCIE_A_RST#
R199 22 1% 1/16W EC_RESET_OUT# [22]
R198 22 1% 1/16W I2C2_RESET# [20]
LVDS_DIS [10,11]
R393 100K 1%_1/16W
+V5
R392 NL/0 Jumper_1/16W
Q52 BSS138 0.22A/50V
A101-2.13

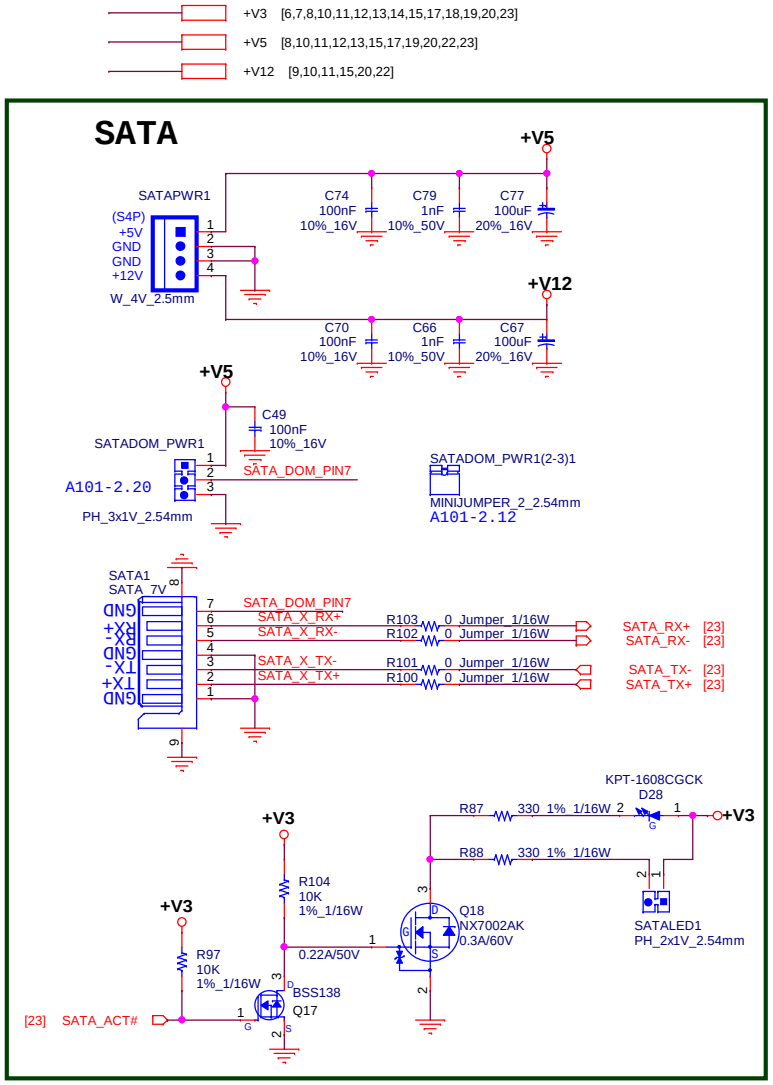
PCIE WAKE Signal To Module

+V3A
R187 10K 1%_1/16W
+V3A
R175 NL/10K 1%_1/16W
PCIE_A_WAKE# R177 0 Jumper 1/16W
U14
TI_SN74LVC1G07DCKR
PCIE_WAKE# [23]
OD output

Title	PCI-E	
Size	Document Number ROM-DB7501	Rev A101-2
Date: Tuesday, October 04, 2016	Sheet 15 of 23	







+V3 [6,7,8,10,11,12,13,14,15,17,18,19,20,23]
+V5 [8,10,11,12,13,15,17,19,20,22,23]
+V12 [9,10,11,15,20,22]

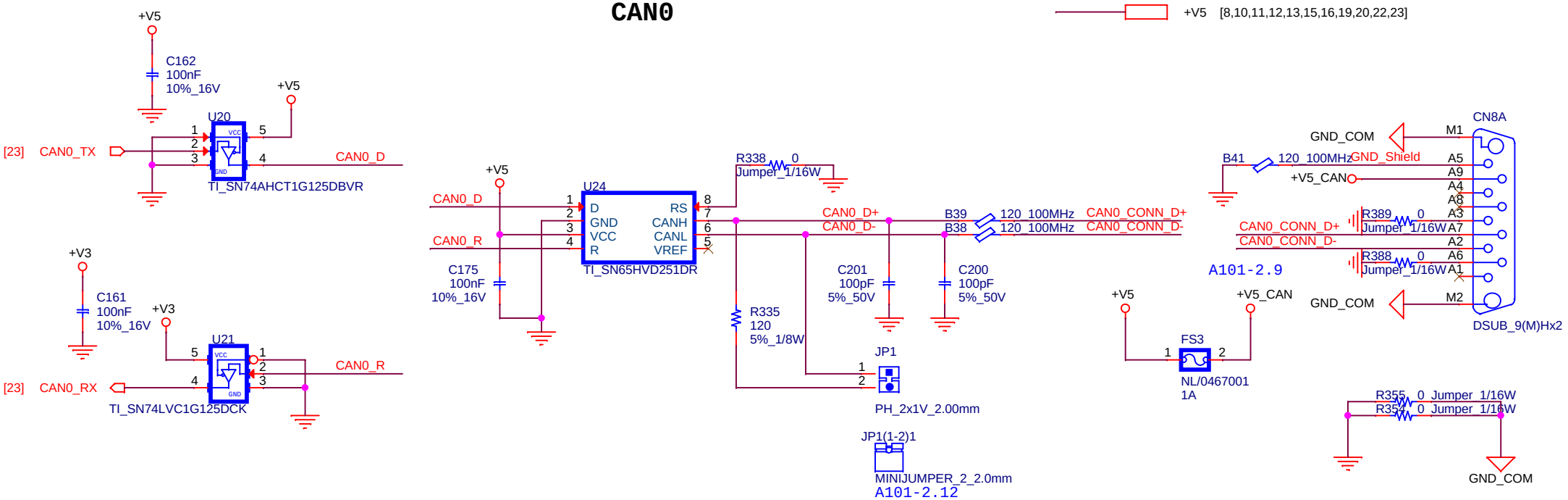
ADVANTECH

Title	SATA, SDIO, JTAG	
Size	Document Number ROM-DB7501	Rev A101-2
Date: Tuesday, October 04, 2016	Sheet 16 of 23	

CAN0

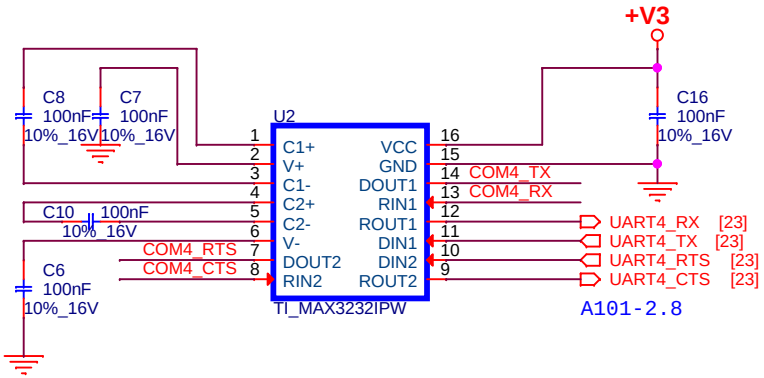
+V3 [6,7,8,10,11,12,13,14,15,16,18,19,20,23]

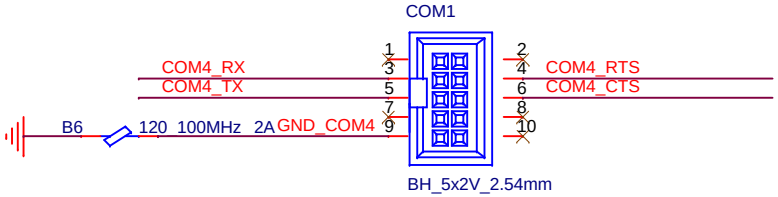
+V5 [8,10,11,12,13,15,16,19,20,22,23]

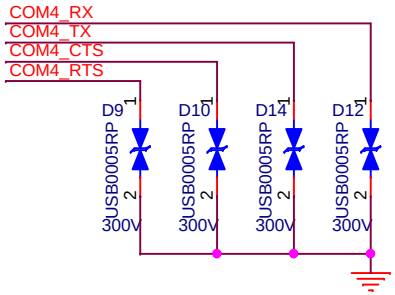


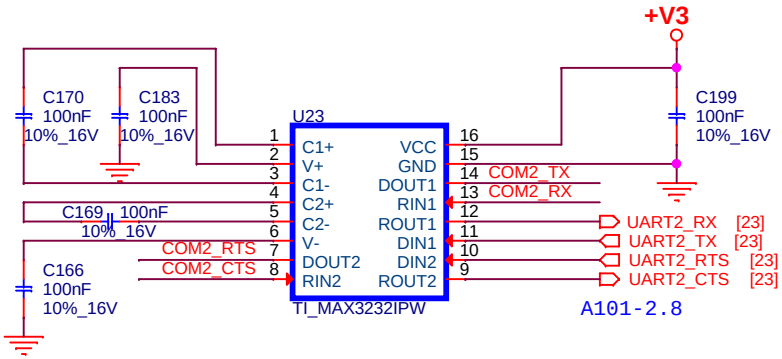
Title	CAN BUS	
Size	Document Number ROM-DB7501	Rev A101
Date: Tuesday, October 04, 2016	Sheet 17 of 23	

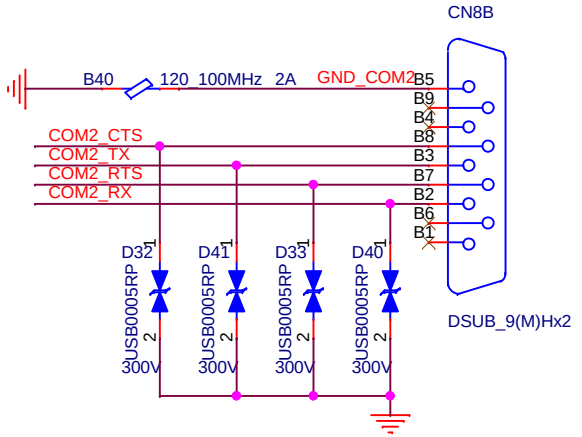
+V3 [6,7,8,10,11,12,13,14,15,16,17,19,20,23]





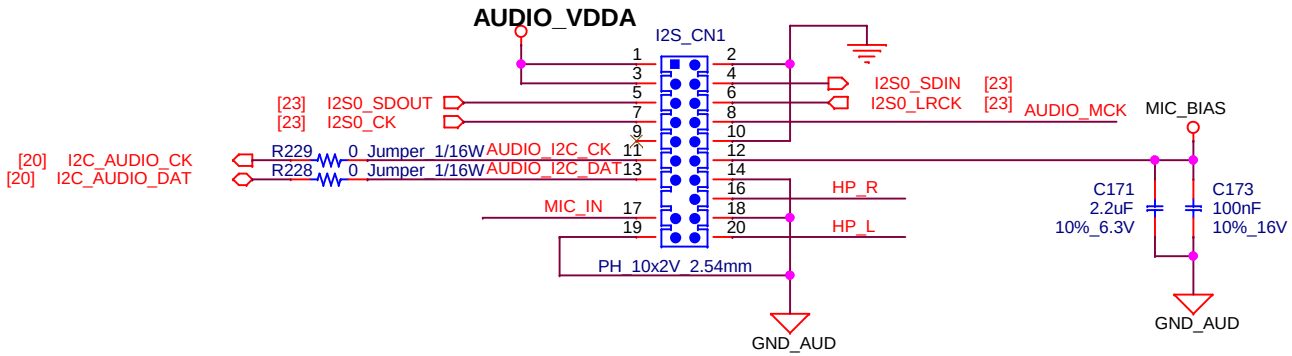


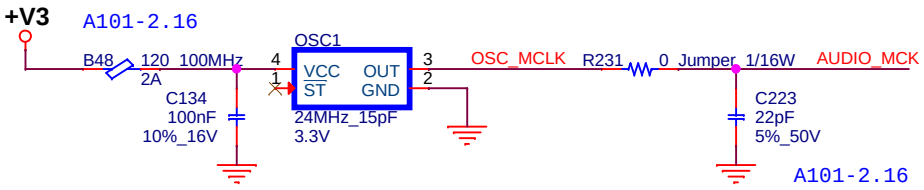


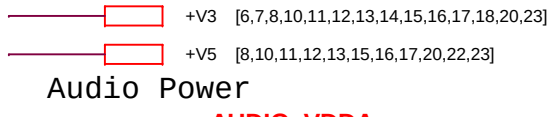


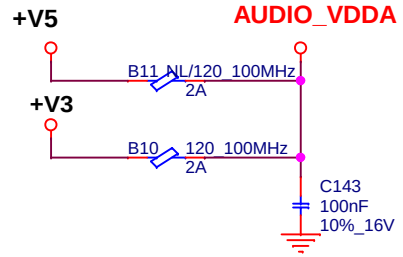
Title	COM	
Size	Document Number ROM-DB7501	Rev A101
Date: Tuesday, October 04, 2016	Sheet 18 of 23	

I2S0 connect to CODEC

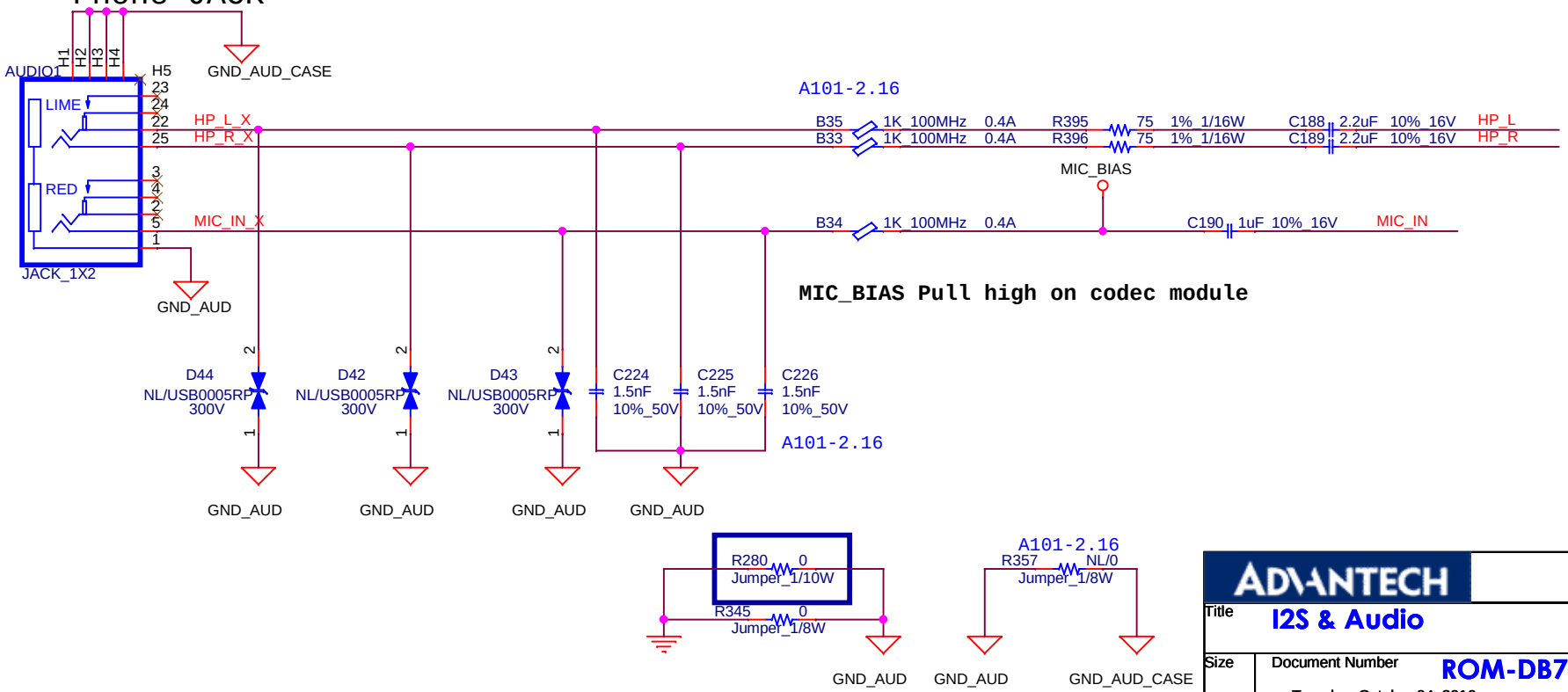








Phone JACK



ADVANTECH		
Title	I2S & Audio	
Size	Document Number ROM-DB7501	Rev A101-2
	Tuesday, October 04, 2016	
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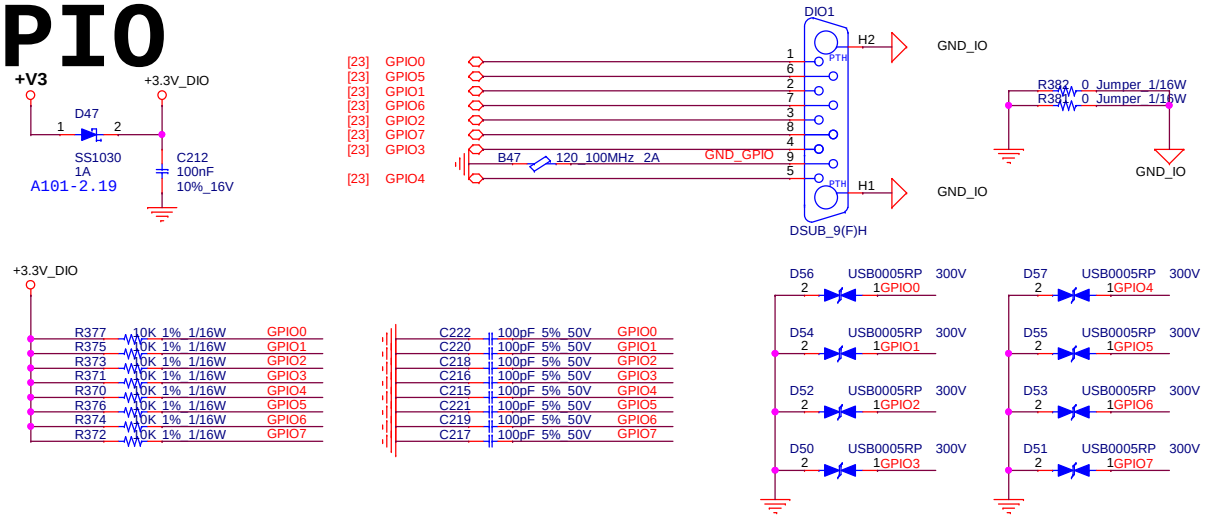
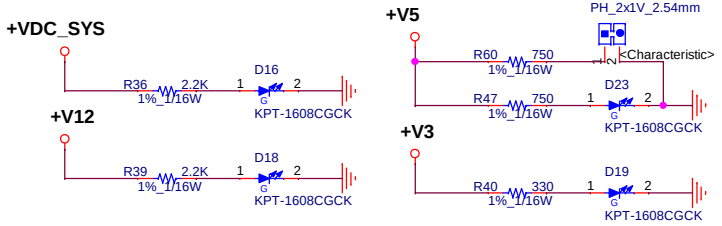
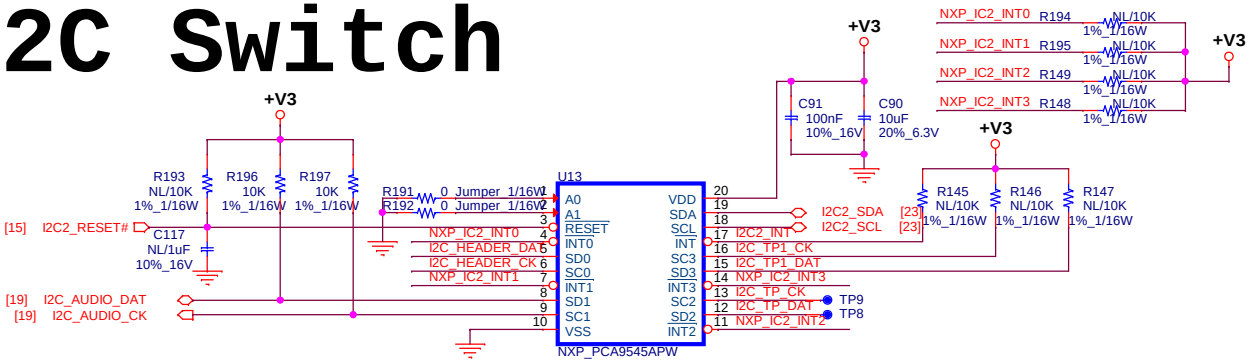
GPIO



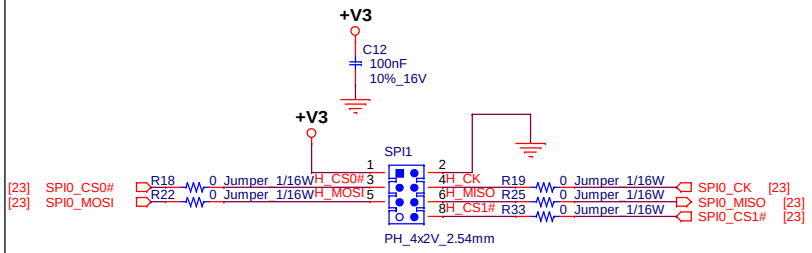
POWER LEDs



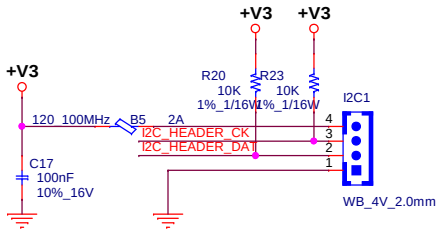
I2C Switch



SPI CONNECTOR



I2C Header



+V3 [6,7,8,10,11,12,13,14,15,16,17,18,19,23]

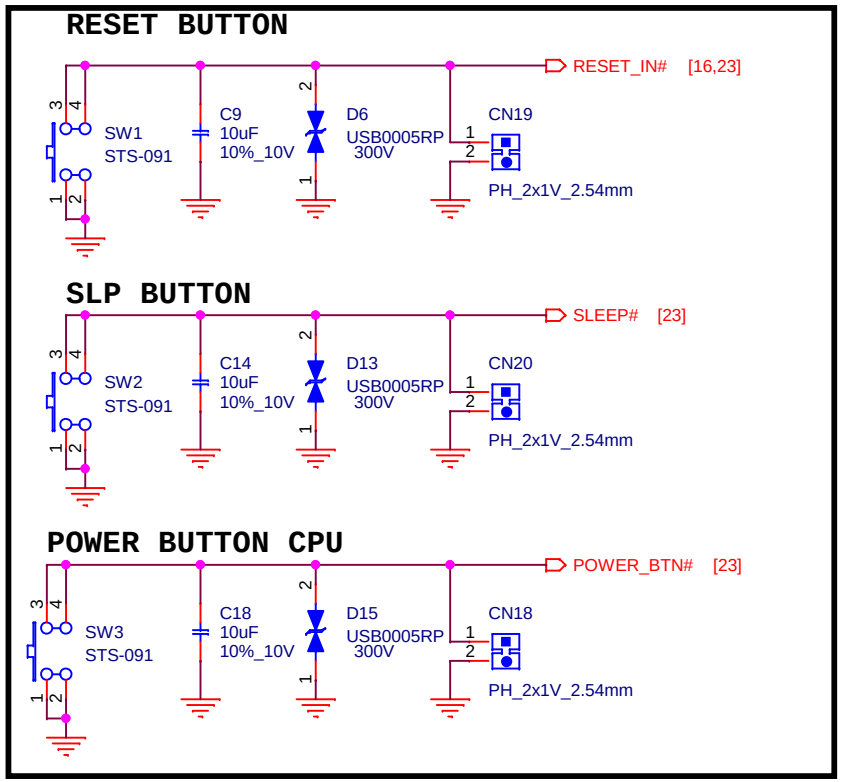
+V5 [8,10,11,12,13,15,16,17,19,22,23]

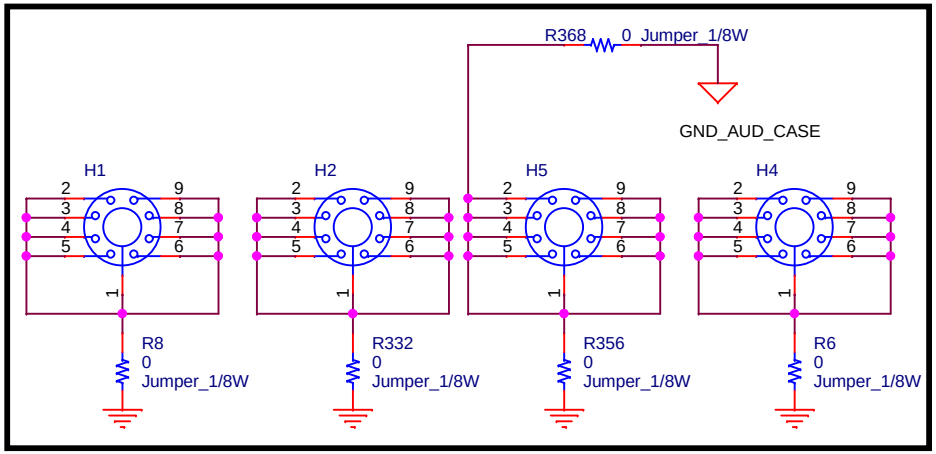
+V12 [9,10,11,15,16,22]

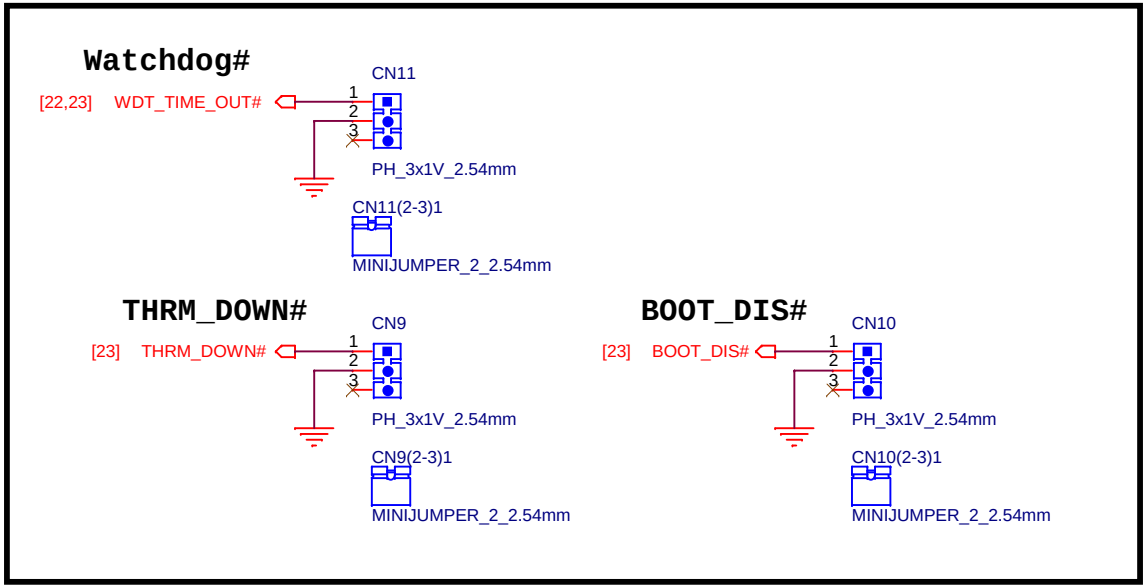
+VDC_SYS [7,8,9]

ADVANTECH

Title	SPI, I2C,LED, GPIO	
Size	Document Number ROM-DB7501	Rev A101-2
Date: Tuesday, October 04, 2016	Sheet 20 of 23	







ADVANTECH

Title	BUTTON	
Size	Document Number ROM-DB7501	Rev A101
Date: Tuesday, October 04, 2016	Sheet 21 of 23	

+V3A [6,7,8,9,13,15,23]
+V5 [8,10,11,12,13,15,16,17,19,20,23]
+V3 [6,7,8,10,11,12,13,14,15,16,17,18,19,20,23]
+V1.8A [6]
+V1.8 [6]
+V12 [9,10,11,15,16,20]
+V12_DC_SRC [6]

+V3A
+AVCC
B29 80_100MHz 4.5A
C180 100nF 10%_16V
C146 100nF 10%_16V
C147 100nF 10%_16V
C185 1nF 10%_50V
C179 100nF 10%_16V
GND_EC

+V1.8A
C174 100nF 10%_16V
C177 100nF 10%_16V
C159 100nF 10%_16V
C155 100nF 10%_16V
C148 100nF 10%_16V
B9 80_100MHz 4.5A
C142 10uF 10%_10V

+V1.8A
R276 100K 1%_1/16W
C156 1uF 10%_16V
WRST#
[15,22] EC_RESET_OUT# R250 NL/0 Jumper_1/16W

U19
VCORE 55
VSTBY18_1 54
VSTBY18_2 51
VSTBY18_3 30
VSTBY33_1 38
VSTBY33_2 16
VSTBY33_3 6
AVCC33 45
VSTBY18_PLL 5

+V3A
R239 10K 1%_1/16W
[21,23] WDT_TIME_OUT#
[6] +V1.8A_PGOOD
[8] +V3_5A_PGOOD
[15,22] EC_RESET_OUT#
[7] CHG_PUMP_ON
[8] 3_5V_EN
[9] BOOST_EN
TP16
[7] ACOK
TP40
R226 0 Jumper_1/16W
CHARGING_EC
CHG_PRSNT_EC
BATLOW_EC
TP18
TP19
[7] BAT_ID_CN
[7] BAT_THER
R310 0 Jumper_1/16W
R311 0 Jumper_1/16W
TP20
TP21
TP22
TP26
TP27
TP28
TP30
TP32
TP33
TP34
TP35

WRST 23
KSO0/PD0/GPE0 18
KSO1/PD1/GPE1 19
KSO2/PD2/GPE2 20
KSO3/PD3/GPE3 58
KSO4/PD4/GPE4 1
KSO5/PD5/GPE5 2
KSO6/PD6/GPE6 11
KSO7/PD7/GPE7 12
KSO8/ACK/GPF0 13
KSO9/BUSY/GPF1 14
KSO10/PE/GPF2 15
KSO11/ERR/GPF3 31
KSO12/SLCT/GPF4 32
KSO13/GPF5 33
KSO14/GPF6 34
KSO15/GPF7 35
KSO16/GPG0 63
KSO17/GPG1 17
KSI0/STB/GPD0 36
KSI1/AFD/GPD1 37
KSI2/INIT/GPD2 49
KSI3/SLIN/GPD3 50
KSI4/GPD4 59
KSI5/GPD5 60
KSI6/GPD6 61
KSI7/GPD7 62

Keyboard

IT8566E
LQFP-64

SMBUS
SMCLK0/GPB0 27
SMDAT0/GPB1 28
SMCLK1/GPB2 52
SMDAT1/GPB3 53
SMCLK2/GPB4 22
SMDAT2/GPB5 21
SMCLK3/PS2CLK2/GPB6 3
SMDAT3/PS2DAT2/GPB7 4
TP11
TP12

PWM
PWM0/CEC/SSCE/GPA0 57
PWM1/PS2CLK0/SMISO/GPA1 25
PWM2/PS2DAT0/SMOSI/GPA2 26
PWM3/SSCK/GPA3 10
TP13
TP14
TP15
TP17

UART
RXD/GPA4 24
TXD/GPA5 56
EC_RXD
EC_TXD

ADC
ADC0/GPC0 39
ADC1/GPC1 40
ADC2/GPC2 41
ADC3/GPC3 42
ADC4/GPC4 43
ADC5/GPC5 44
TP23
TP24
TP25

DAC
DAC0/CTX/PS2CLK1/GPC6 47
DAC1/CRX/PS2DAT1/GPC7 48
TP29
TP31

CLOCK
CK32KE/GPA7 9
CK32K/GPA6 7
RTC_XTALI
RTC_XTALO
R233 10M 5%_1/16W
Y1
32.768KHz_12.5pF
C145 15pF 5%_50V
C144 15pF 5%_50V

VSS_1 64
VSS_2 29
VSS_3 8
AVSS 46
GND_EC
R314 0 Jumper_1/16W
GND_EC

ITE_IT8566E/AX
Part_Number_Value = 1410024292-01

+V1.8
R234 10K 1%_1/16W
0.22A/50V BSS138
Q41
I2C3_SCL [23]
R240 NL/0 Jumper_1/16W

+V3A
R245 10K 1%_1/16W
R275 10K 1%_1/16W
R235 0 Jumper_1/16W
R292 0 Jumper_1/16W
R249 0 Jumper_1/16W
R246 0 Jumper_1/16W
I2C_EC_CK_3V3 [7]
I2C_EC_DAT_3V3 [7]

+V1.8A
R286 10K 1%_1/16W
R294 10K 1%_1/16W

+V1.8
R244 10K 1%_1/16W
Q43 BSS138 0.22A/50V
I2C3_SDA [23]
R243 NL/0 Jumper_1/16W

CN13
PH_3x1V_2.54mm

+V12_DC_SRC
+V12
+V5
R315 100K 1%_1/16W
R329 51K 1%_1/16W
R312 100K 1%_1/16W
R330 49.9K 1%_1/16W
R328 20K 1%_1/16W
R316 20K 1%_1/16W

CN17
B30 NL/0.1A
B32 NL/0.1A
B31
NL/120_100MHz
NL/PH_3x1V_2.54mm
C153 NL/100pF 5%_50V
C160 NL/100pF 5%_50V

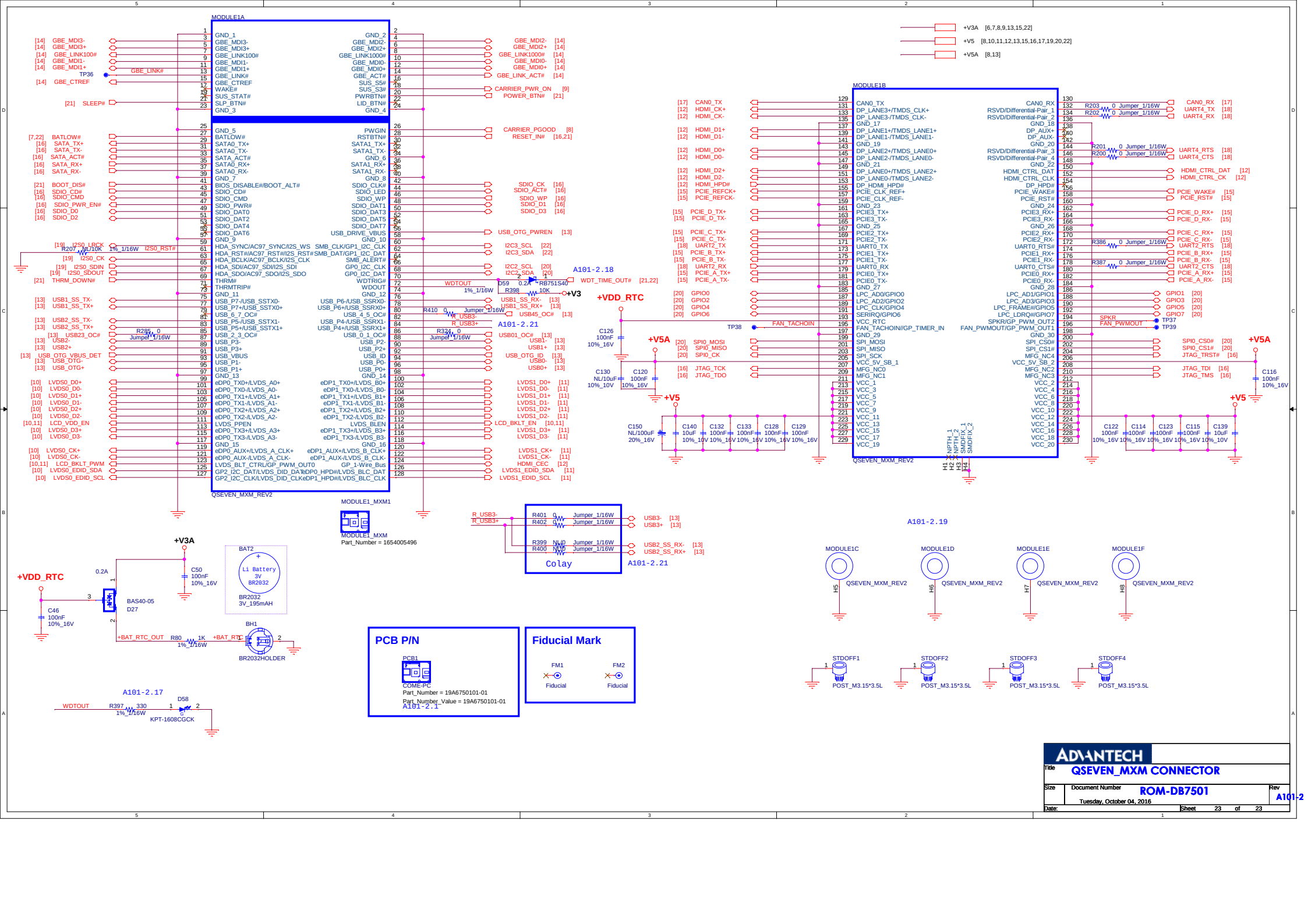
GPC0 detect DC IN
GPC1 detect Module IN
+VMOD Change to +V5

IT8566E Image for ROM-DB7501
Programmable through CN13
IMAGE-U19
Image for ITE_IT8566E/AX
Part_Number = 2056750100
Part_Number_Value = 2056750100

+V3A
R216 10K 1%_1/16W
[7,23] BATLOW#
Q38 NX7002AK 0.3A/60V
R222 0 Jumper_1/16W
BATLOW_EC

CHARGEING_EC: High Charging, Low without charging
CHG_PRSNT_EC: High Charger inserted, Low No charger inserted
BATLOW_EC: High Battery low

ADVANTECH
Title: EC
Size: Document Number: ROM-DB7501 Rev: A101-2
Date: Tuesday, October 04, 2016
Sheet 22 of 23


MODULE1A
QSEVEN_MXM_REV2
MODULE1B
QSEVEN_MXM_REV2
MODULE1_MXM1
MODULE1_MXM
Part_Number = 1654005496
Colay
A101-2.18
A101-2.19
A101-2.21
A101-2.17
+V3A [6,7,8,9,13,15,22]
+V5 [8,10,11,12,13,15,16,17,19,20,22]
+V5A [8,13]
+VDD_RTC
+V3
+V5A
+V5
BAT2
Li Battery 3V BR2032
BR2032 3V_195mAH
BR2032HOLDER
BAS40-05
D27
D58
KPT-1608CGCK
PCB P/N
PCB1
COME-PC
Part_Number = 19A6750101-01
Part_Number_Value = 19A6750101-01
A101-2.1
Fiducial Mark
FM1
FM2
Fiducial
MODULE1C
MODULE1D
MODULE1E
MODULE1F
STDOFF1
STDOFF2
STDOFF3
STDOFF4
POST_M3.15*3.5L
ADVANTECH
Title
QSEVEN_MXM CONNECTOR
Size
Document Number
ROM-DB7501
Rev
A101-2
Date:
Tuesday, October 04, 2016
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