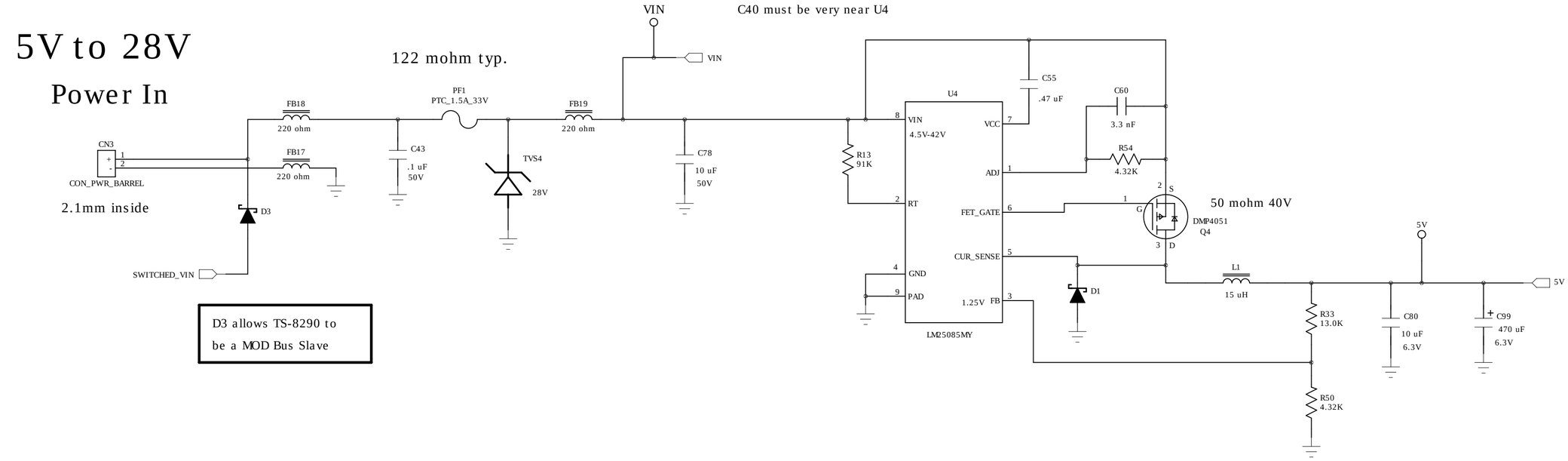
5V Power Supply (2.0 Amps)

5V to 28V

Power In

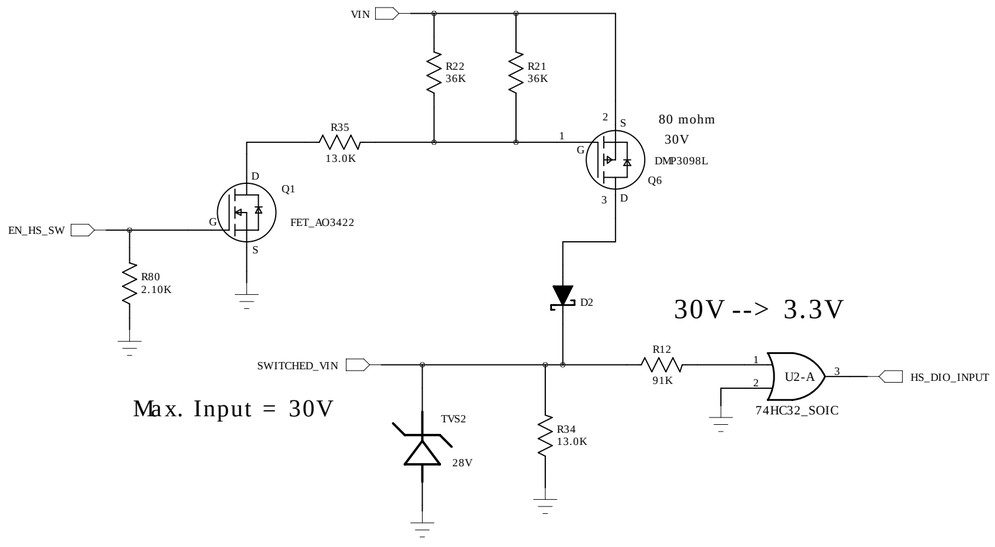


.063 hole

GND

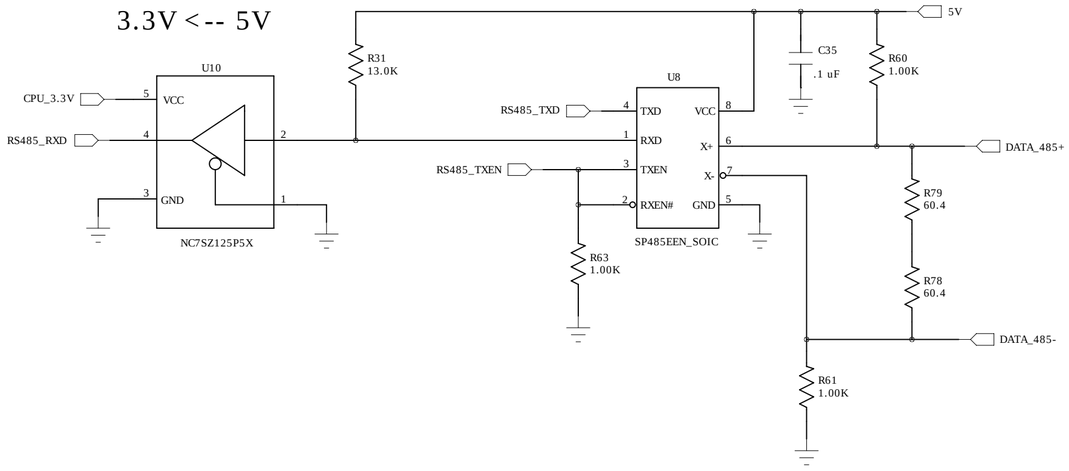
High-Side Switch

Source up to 1000 mA

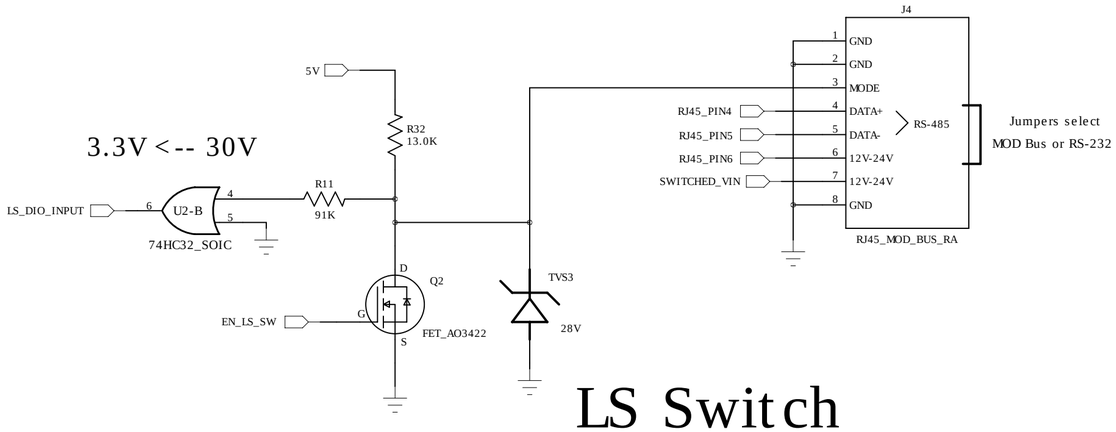


Technologic Systems	Date May 2, 2012	
Title: TS-8290 5V Reg. and HS switch		
Rev: A	Designer RLM	Sheet 1 of 6

RS-485 Driver



RJ45 Conn.

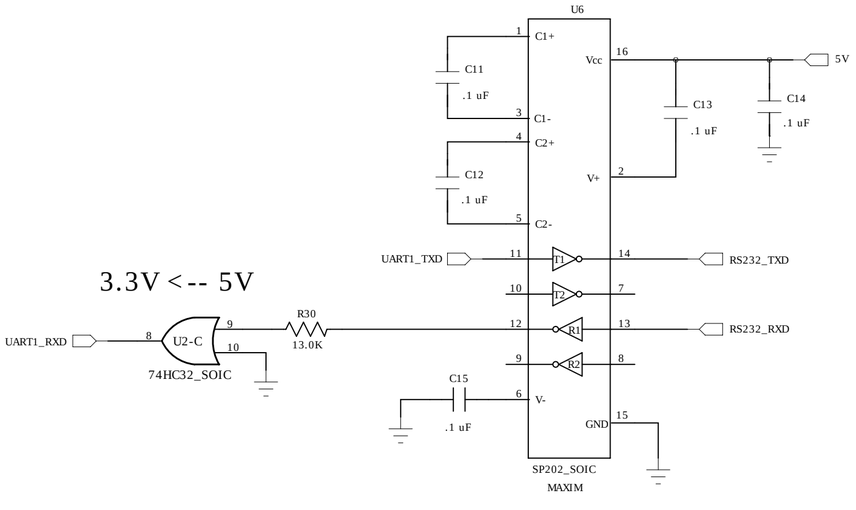


LS Switch

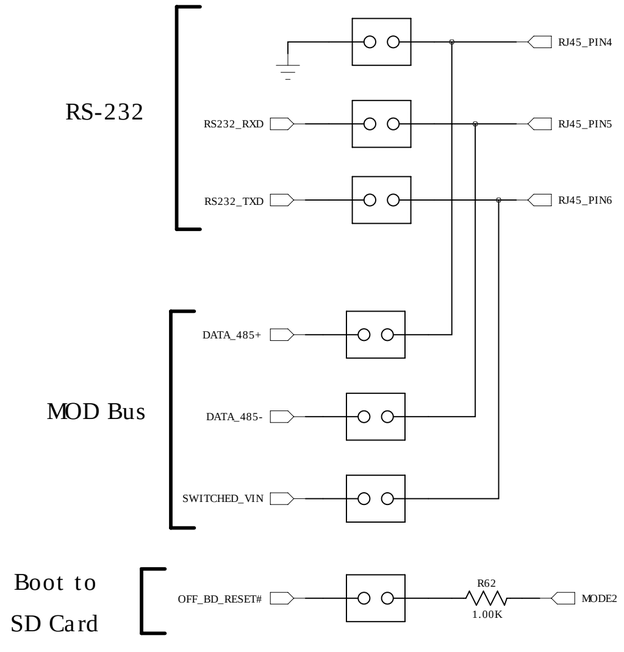
Sink 500 mA

30V Max

RS-232 Transceiver



Jumpers



The RS-232 jumpers makes COM port a RS-232 port

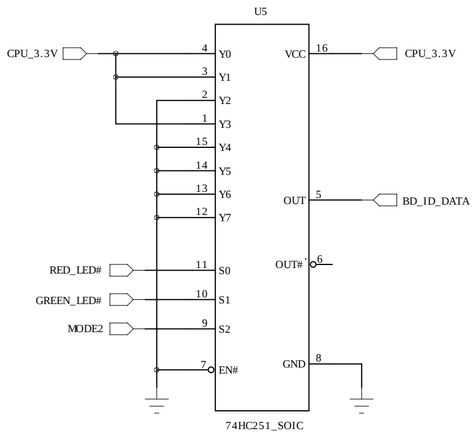
The MOD Bus jumpers allows TS-8520 to be a MOD Bus Master or Slave

Never install both RS-232 and MOD Bus jumpers

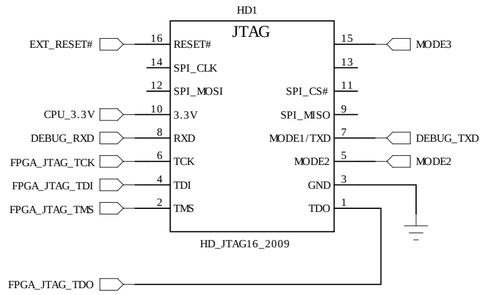
Technologic Systems	Date May 2, 2012	
Title: TS-8290 RS-232 and RS-485 / MOD Bus		
Rev: A	Designer RLM	Sheet 2 of 6

Misc.

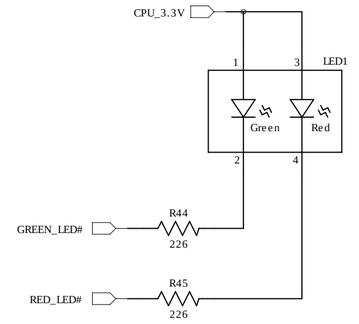
Board ID = 11



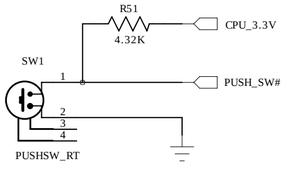
Console Header



Front Panel LEDs



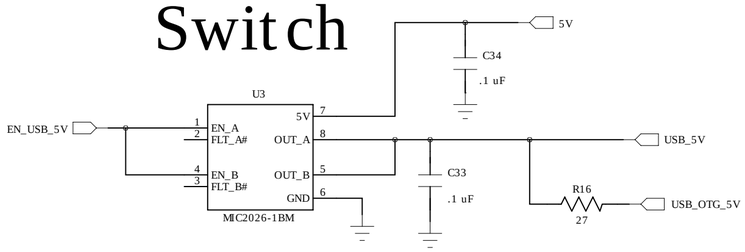
Push Switch



Technologic Systems		Date May 2, 2012
Title: TS-8290 Bd ID, LEDs, Switch, etc.		
Rev: A	Designer RLM	Sheet 3 of 6

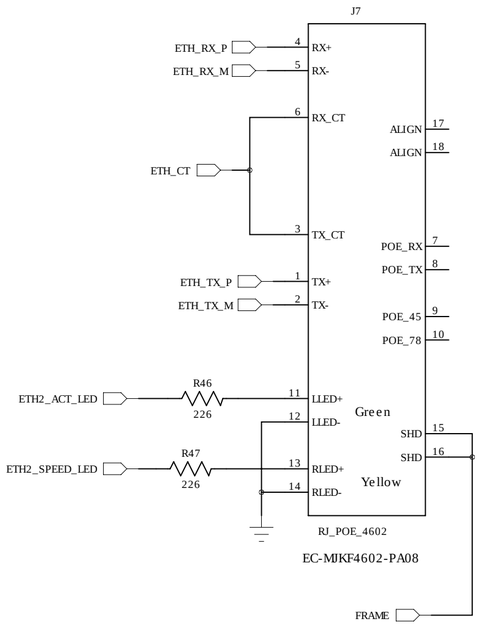
USB and Ethernet Ports

USB Power Switch

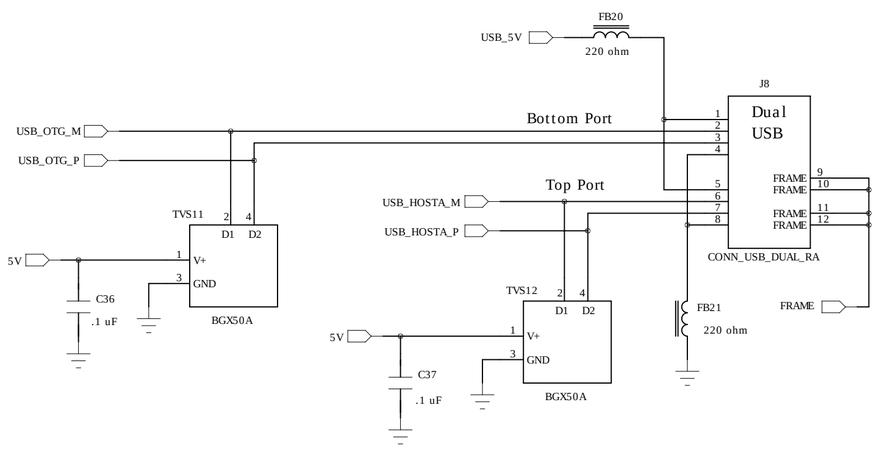


1400 mA typ. current limit

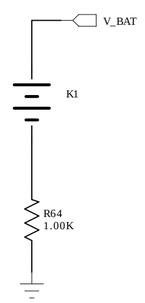
SBC 10/100 Ethernet



External Dual USB



RTC Battery



Technologic Systems	Date May 2, 2012	
Title: TS-8290 USB, Battery, and Ethernet		
Rev: A	Designer RLM	Sheet 4 of 6

HDMI

TMDS pairs do not need to have matched lengths

100 ohm impedance

BGX50A TVS14 / TVS15 / TVS16 / TVS17 (GND, V+, D2, D1)

5V

C28 .1 uF, C29 .1 uF, C30 .1 uF, C31 .1 uF

U7-D
Video Out

TMDS Data Pairs: TX2+ 68, TX2- 67, TX1+ 65, TX1- 64, TX0+ 62, TX0- 61
Clock Pair: TXC+ 59, TXC- 58
EXT_SWING 56

R53 4.32K

SIL9022A

4.32K correct if Internal termination resistors enabled

Internal termination required for > 100 MHz

HDMI Connector

J15

TX2+	1	5V_POWER	18
TX2-	3	NC	14
TX1+	4	TX0_SHIELD	8
TX1-	6	TX1_SHIELD	5
TX0+	7	TX2_SHIELD	2
TX0-	9	TXC_SHIELD	11
TXC+	10	GND	17
TXC-	12		
CEC	13		
DDC_CLOCK	15		
DDC_DATA	16		
HOT_PLUG_DETECT	19		

FB10 220 ohm

R55 4.32K, R56 4.32K

Mounting Tabs: 20, 21, 22, 23

CONN_19_HDMI_10029449_FCI

FB11 220 ohm

FRAME

U7-C
SIL9022A

CEC_A	71	CEC_A — HDMI COMPLIANT CEC INTERFACE
HDMI_CEC	50	CEC_D
HOT_PLUG	54	HPD HOT PLUG DETECT
HDMI_INT	52	INT INTERRUPT OUTPUT HAS INTERNAL PULLUP
OFF_BD_RESET#	51	RESET#
I2C_CLK	1	CSCL LOCAL I2C CLOCK
I2C_DAT	2	CSDA LOCAL I2C DATA
	72	CI2CA I2C ADDRESS SELECT
	69	IO_SEL I/O SELECT

LOW = 3.3V levels
HIGH = 1.8V levels

5V — R82 2.10K

DDC_CLK — DSCL 49 I2C BUS CLOCK
DDC_DAT — DSDA 48 I2C BUS DATA

PU between 1.8K and 2.2K

R81 2.10K

5V

TVS13 (D1, D2, 2, 4) BGX50A: 1 V+, 3 GND

5V — C27 .1 uF

I2C pins are 4V tolerant if all HDMI chip power rails are on

U7-B
AUDIO INPUT

AUDIO_CLK	45	SCK
AUDIO_FRM	44	WS
AUDIO_TXD	41	SD0
NC	40	SD1
NC	39	SD2
NC	37	SD3
	38	MCLK
	36	SPDIF

These signals have weak internal PU

SIL9022A

U7-A
VIDEO INPUT

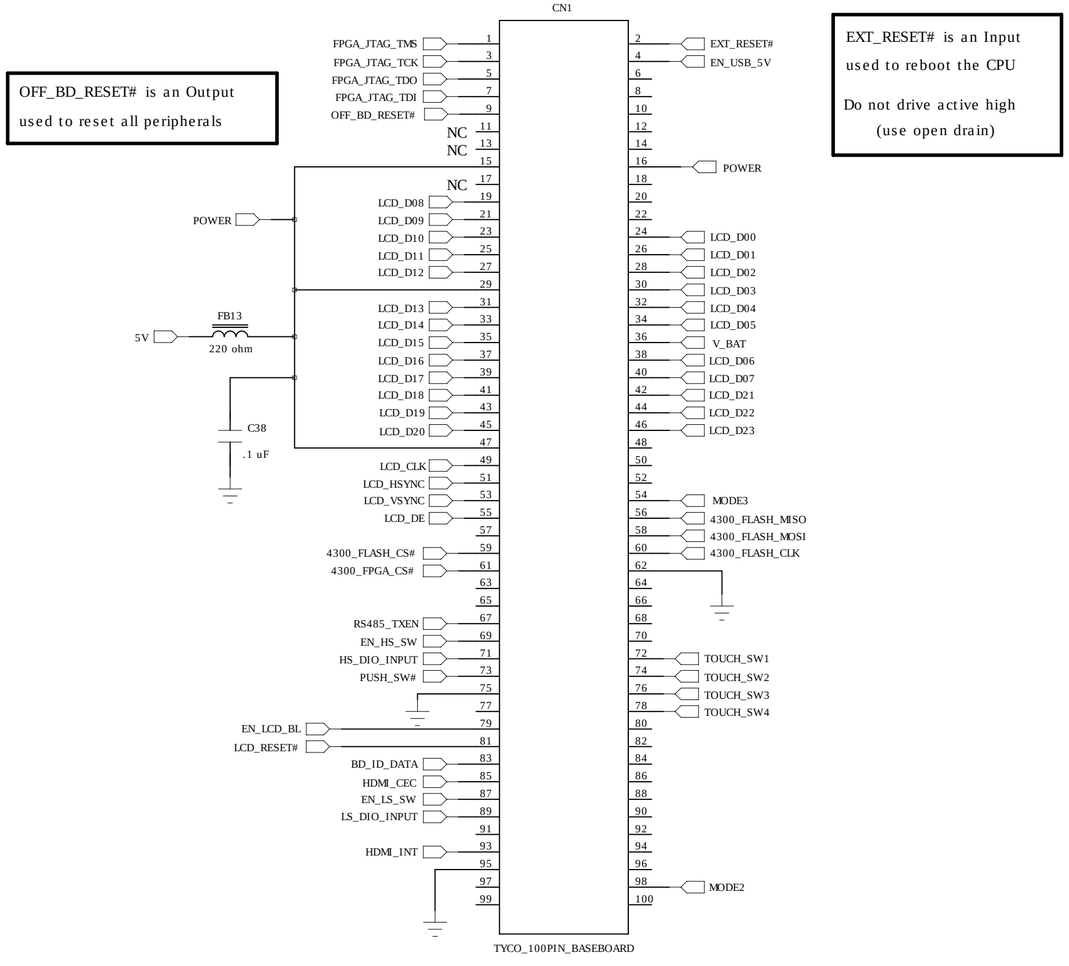
LCD_D00	32	D0
LCD_D01	31	D1
LCD_D02	30	D2
LCD_D03	29	D3
LCD_D04	28	D4
LCD_D05	27	D5
LCD_D06	25	D6
LCD_D07	24	D7
		Blue
LCD_D08	23	D8
LCD_D09	20	D9
LCD_D10	19	D10
LCD_D11	18	D11
LCD_D12	17	D12
LCD_D13	16	D13
LCD_D14	15	D14
LCD_D15	14	D15
		Grn
LCD_D16	13	D16
LCD_D17	11	D17
LCD_D18	10	D18
LCD_D19	9	D19
LCD_D20	8	D20
LCD_D21	7	D21
LCD_D22	6	D22
LCD_D23	4	D23
		Red
LCD_CLK	22	CLK
LCD_DE	33	DE
LCD_HSYNC	34	HSYNC
LCD_VSYNC	35	VSYNC

SIL9022A

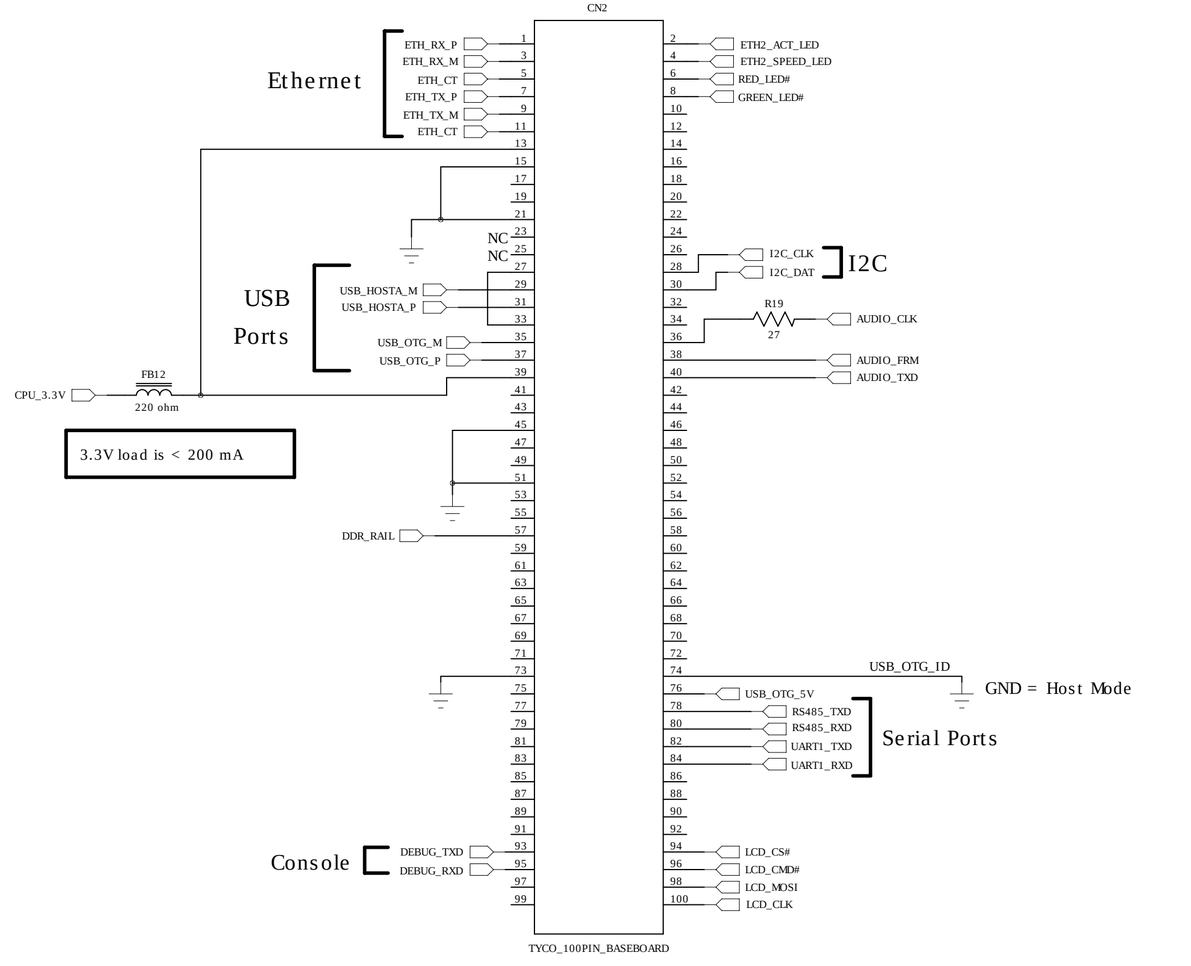
Technologic Systems		Date May 2, 2012
Title: TS-8290 HDMI		
Rev: A	Designer RLM	Sheet 5 of 6

Two 100-pin Module Connectors

Left



Right



Boot Strap

Mode 2	SBC Boots from
1	NAND Flash
0	SD Card

MODE1 and MODE2 states are latched prior to OFF_BD_RESET# deasserted

MODE1 and MODE2 have PU resistors on the SBC module

Technologic Systems	Date May 2, 2012	
Title: TS-8290 TS-Socket Connectors		
Rev: A	Designer RLM	Sheet 6 of 6