KSZ8051MNL Reference Schematic *

REVISION HISTORY

DATE	DESCRIPTION	REVISION
12/5/09	Initial Release	1.0
2/17/10	Added LDO regulator option to supply 1.8V and 2.5V for KSZ8051MNL VDDIO power.	1.1
3/1/10	Changed R18 (MDIO pull-up) from 4.7K to 1.0K. Changed reset circuit pull-up from 3.3V_NL to VDDIO_NL for 1.8V / 2.5V / 3.3V VDDIO support.	1.2
7/14/10	Added notes throughout schematics.	1.3

*** Schematic Notes:**

1. **Is based on the KSZ8041NL EVAL Board -- Schematic Rev2.0**
2. **Reflects the KSZ8041NL EVAL Board changes to populate the KSZ8051MNL.**
3. **Removes KSZ8041NL EVAL Board components that are not used by the KSZ8051MNL.**

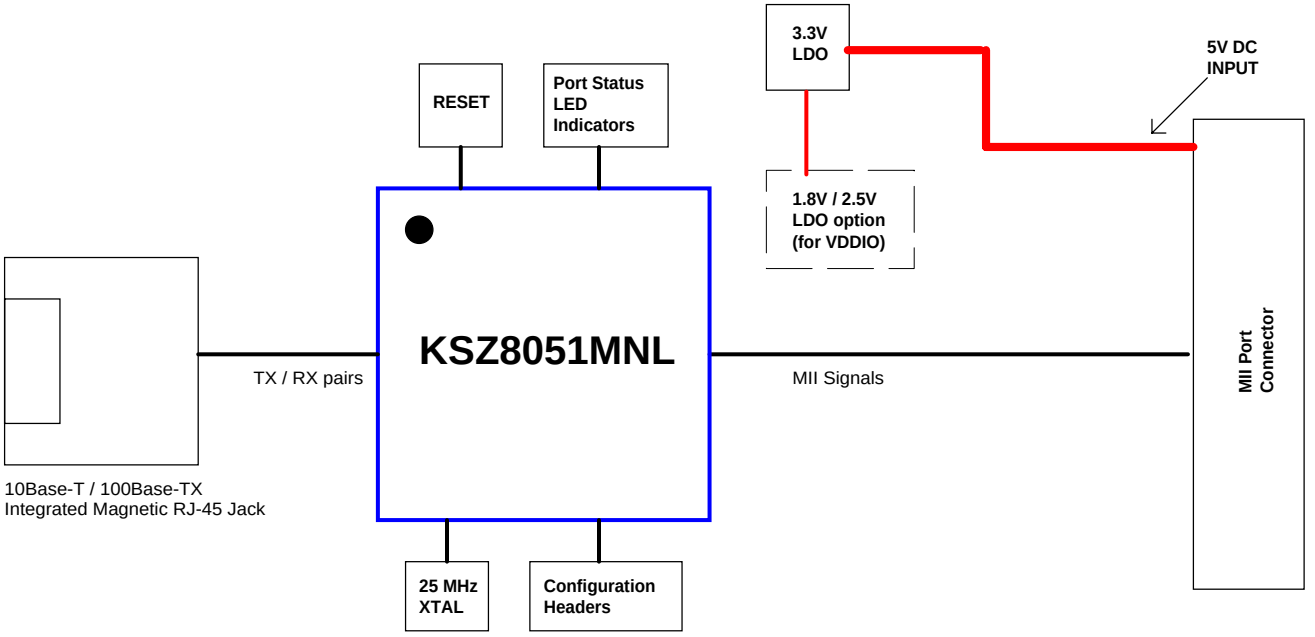
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KSZ8051MNL - BLOCK DIAGRAM



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Notes:

1. KSZ8051MNL has a Paddle Ground on bottom side of chip. Refer to data sheet for mechanical dimensions.
2. KSZ8051MNL provides the 1.2V supply for VDD_1.2 (pin 2). Decouple 1.2V power pin as shown.
3. Place components (Y1, C16, C17, C53, R15) close to respective pins of U1.
4. The 1.8V and 2.5V options for VDDIO are provided for reference only. The KSZ8041NL EVAL Board can only support 3.3V VDDIO for the KSZ8051MNL.

5V_NL +5V DC Power Input

Push Button Reset

Power_ON Reset

J1 TDK TLA-6T718

RJ-45 Magnetic Jack

U1 KSZ8051MNL

U2 MIC5216-3.3YM5

J2 Male MII Connector MII Port

Y1 25MHz

Place SIGNAL_GND return of FB7 close to SIGNAL_GND at 5V input power to board.

Route both traces of each differential pair as identical to each other as possible at 6mil width / 6mil parallel spacing, and at least 18 mils away from all other signals.

Requires re-work to modify KSZ8041NL EVAL Board

Strapping Options (Refer to Data Sheet for descriptions)

PHYAD0	RXD3_NL	J3	JUMPER	R23	1K
PHYAD1	RXD2_NL	J4	JUMPER	R25	4.7K
PHYAD2	RXD1_NL	J5	JUMPER	R26	4.7K
CONFIG0	COL_NL	J6	JUMPER	R27	4.7K
CONFIG1	CRS_NL	J7	JUMPER	R28	4.7K
CONFIG2	RXDV_NL	J8	JUMPER	R29	4.7K
ISO	RXER_NL	J9	JUMPER	R30	4.7K
NWAYEN	LED0_NL	J10	JUMPER	R31	1K
SPEED	LED1_NL	J11	JUMPER	R32	1K
DUPLEX	RXD0_NL	J12	JUMPER	R33	1K

1.8V / 2.5V VDDIO options

U7 MIC5207YM5

For Adjustable Voltage Regulator (MIC5207YM5), use following formula to set VOUT.

VOUT = 1.24 X [1 + (Rsel / R111)]

Rsel = R112 or R113

1.8V : close pins 1, 2
2.5V : close pins 2, 3

LED Mode	[00]	[01]
LED0	LINK/ACT	LINK
LED1	SPEED	ACT

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