



KS8997 Demo Board User Guide

10/26/2001

The KS8997 reference design board is a high performance stand alone unmanaged 8 port 10/100 Base-T Ethernet switch. All 8 port support AUTO-MDIX and can be use as up link or down link port, no cross over cable is required.

All 8 port default set up is Auto-Negotiation, and Full Duplex. KS8997 support rich set of LED strip in set up and external serial EEPROM interface, For more detail, please refer to the KS8997 data sheet or contact MICREL/KENDIN Field Application Engineer. Tel: USA (408) 735-1118.

LED indication

Each port has 3 LED to indicate the traffic activities. Upon power up, the KS8997 will go through a series of self-testing. The LED will flash a few seconds.

D1 – Port 1
D2 – Port 2
D3 – Port 3
D4 – Port 4
D5 – Port 5
D6 – Port 6
D7 – Port 7
D8 – Port 8

D10 -- 2.5V indicator
D11 – 3.3V indicator

The Demo board LED default setup is at MODE 0
Top LED -- "ON" is 100 Base, "OFF" is 10 Base
Mid LED – "ON" Collision, "OFF" no Collision
Bottom LED – "ON" Link, "OFF" no Link, "Toggle" is receiving or transmitting

External EEPROM interface:

KS8997 Demo Board support external serial EEPROM interface. A 25 pin DB25 male to male cable is required (NOT included in the package). Connect the cable between the demo board and the PC printer port. For detail programming information, please refer to the KS8997 data sheet or contact MICREL/KENDIN FAE. Sample program and data file is available upon request.

Power Requirement

5V DC 1.2Amp at JP1. A 5V DC power supply is included in the package.

Bill of Material

KS8997 16-port Ethernet Switch Demo Board Revised: Friday, October 26, 2001

SYSTEM - RESET&POWER&CLK

Revision: 3.1

MICREL / KENDIN OPERATIONS

Bill Of Materials

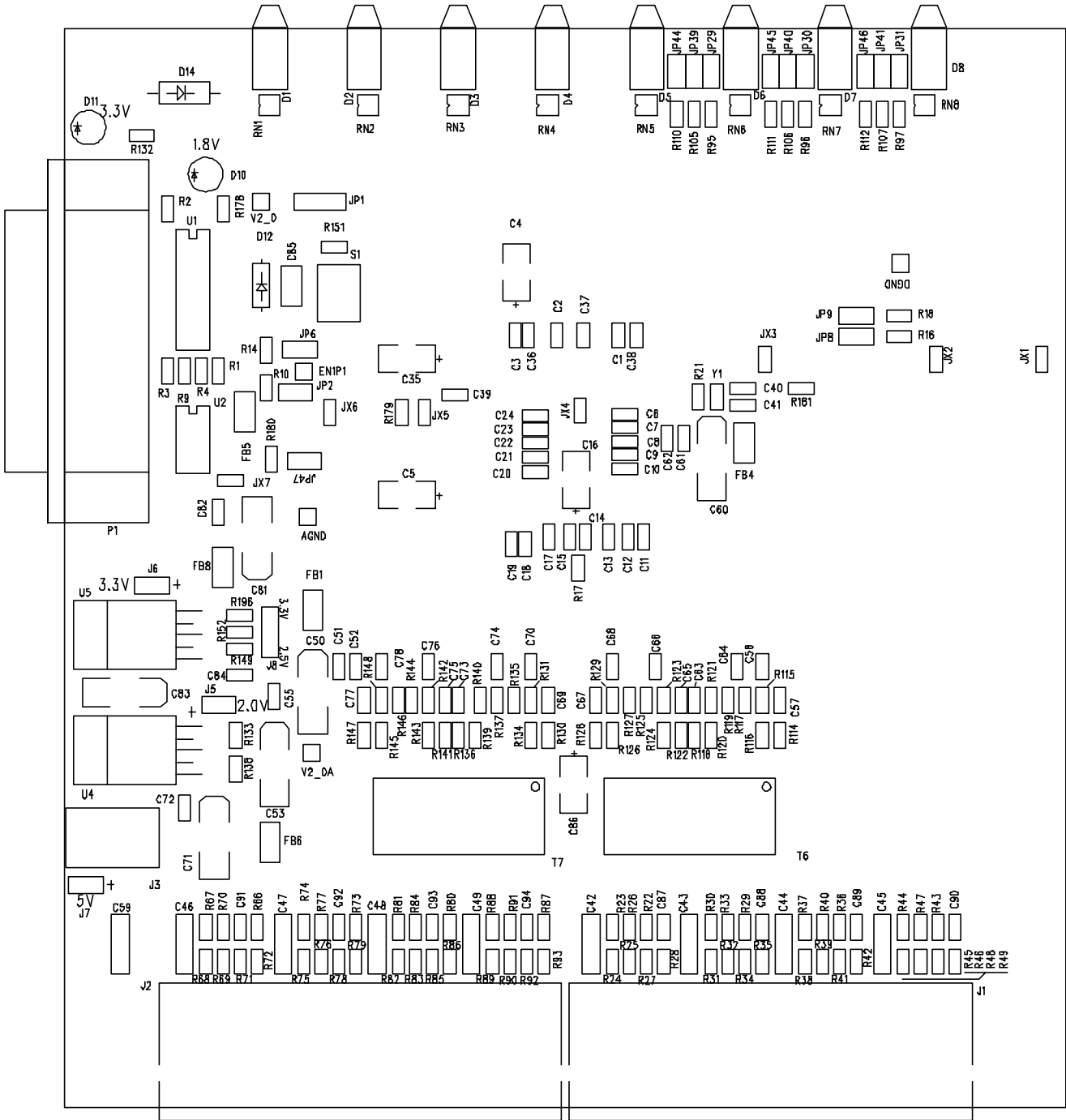
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Item	Quantity	Reference	Part
1	4	V2_0A,V2_0,DGND,AGND	TP
2	48	C1,C2,C3,C6,C7,C8,C9,C10, C11,C12,C13,C14,C15,C17, C18,C19,C20,C21,C22,C23, C24,C36,C37,C38,C39,C52, C55,C57,C58,C62,C63,C64, C65,C66,C67,C68,C69,C70, C72,C73,C74,C75,C76,C77, C78,C82,C84,C85	0.1UF
3	5	C4,C5,C16,C35,C86	10uf
4	2	C41,C40	22PF
5	9	C42,C43,C44,C45,C46,C47, C48,C49,C59	1000PF/2KV
6	2	C50,C60	22UF/16V
7	2	C51,C61	10NF
8	4	C53,C71,C81,C83	47UF/16V
9	8	C87,C88,C89,C90,C91,C92, C93,C94	1000pf
10	8	D1,D2,D3,D4,D5,D6,D7,D8	LEDx3
11	2	D10,D11	LED
12	1	D12	1N4148
13	1	D14	1N4004
14	4	FB1,FB4,FB6,FB8	FBEAD
15	1	JP1	HEADER 3
16	14	JP2,JP6,JP8,JP9,JP29, JP30,JP31,JP39,JP40,JP41, JP44,JP45,JP46,JP47	JUMPER
17	2	J2,J1	RJ45x4
18	1	J3	HEADER 3x1
19	3	J5,J6,J7	CON2
20	1	J8	CON3
21	1	P1	CONNECTOR DB25
22	8	RN1,RN2,RN3,RN4,RN5,RN6, RN7,RN8	330
23	12	R1,R4,R9,R95,R96,R97, R106,R107,R110,R111,R112, R133	1K
24	2	R3,R2	47K
25	8	R10,R14,R16,R18,R151, R179,R180,R181	10K
26	1	R17	3K
27	1	R21	500K
28	8	R22,R29,R36,R43,R66,R73, R80,R87	75
29	48	R23,R24,R25,R26,R27,R28, R30,R31,R32,R33,R34,R35, R37,R38,R39,R40,R41,R42, R44,R45,R46,R47,R48,R49, R67,R68,R69,R70,R71,R72, R74,R75,R76,R77,R78,R79,	51

		R81,R82,R83,R84,R85,R86, R88,R89,R90,R91,R92,R93	
30	1	R105 1K	
31	2	R114,R116 49.9 1%	
32	30	R115,R117,R118,R119,R120, R121,R122,R123,R124,R125, R126,R127,R128,R129,R130, R131,R134,R135,R136,R137, R139,R140,R141,R142,R143, R144,R145,R146,R147,R148	49.9 1%
33	1	R132 220	
34	1	R138 1.8K	
35	1	R149 2.4K	
36	2	R196,R152 1.5K	
37	1	R178 10	
38	1	S1 SW PUSHBUTTON	
39	2	T7,T6 H1164	
40	1	U1 74F125	
41	1	U2 AT24C02	
42	1	U3 KS8997	
43	2	U4,U5 MIC29302BT	
44	1	Y1 25 Mhz	

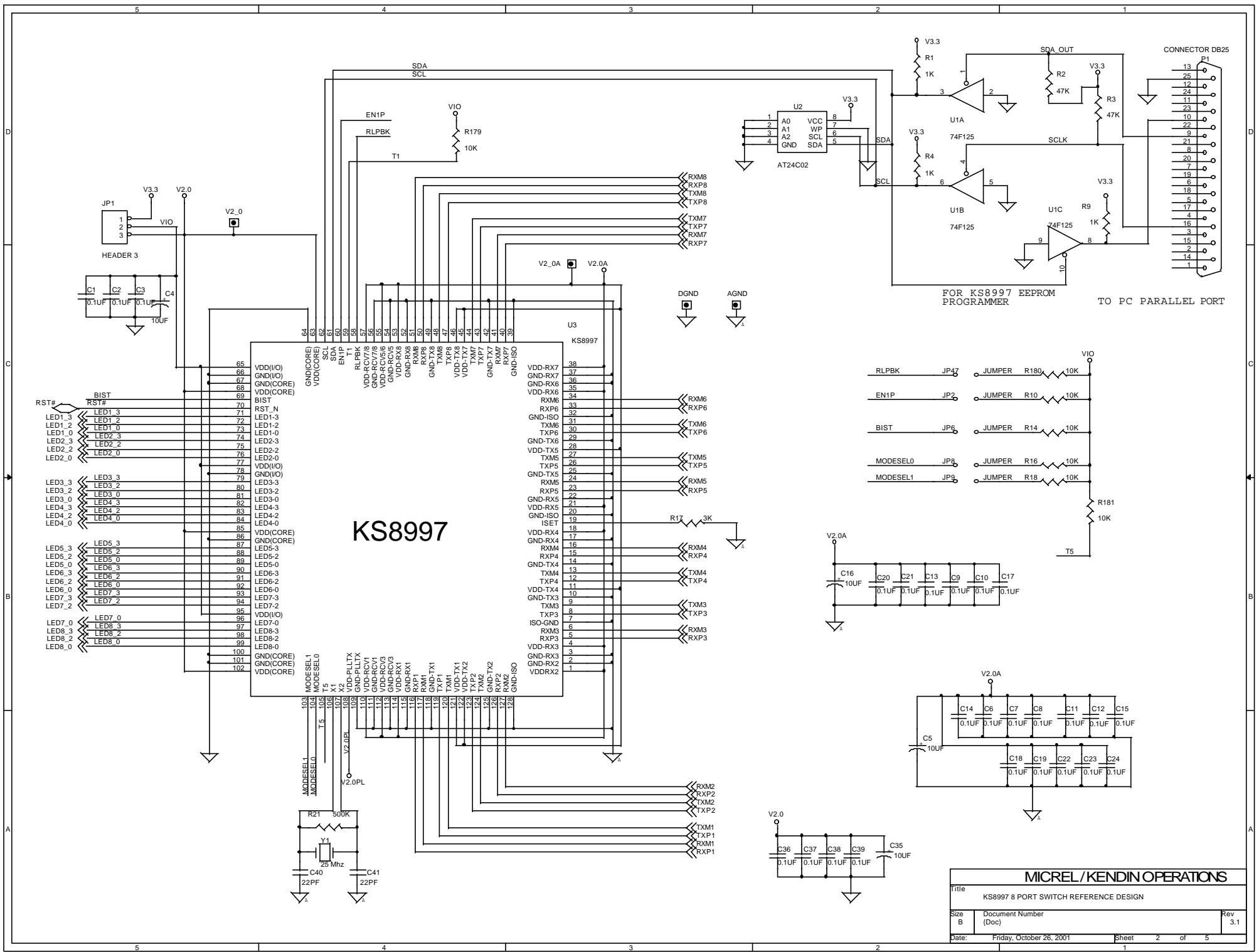


SILKSCREEN BOTTOM
K28007 DEMO BOARD REV 3.1

REVISION HISTORY

DATE	DESCRIPTION	REVISION
3/15/01	ADD D13,D14,R183,C86	2.0
6/18/01	DELETE D13,R183,R184-R199 RENAME V1.8A TO V2.0A RENAME VDDTX TO V2.0A RENAME V1.8 TO V2.0 CONNECT T6,T7 ALL CT TO V2.0A ADD 3.3V AND 2.5V OPTION FOR VIO	3.0
6/25/01	CHANGE U4,U5 FROM AS2815 TO MIC29302BT DELETE J4, R182 REMANE KS8997 T4 TO T5	3.1

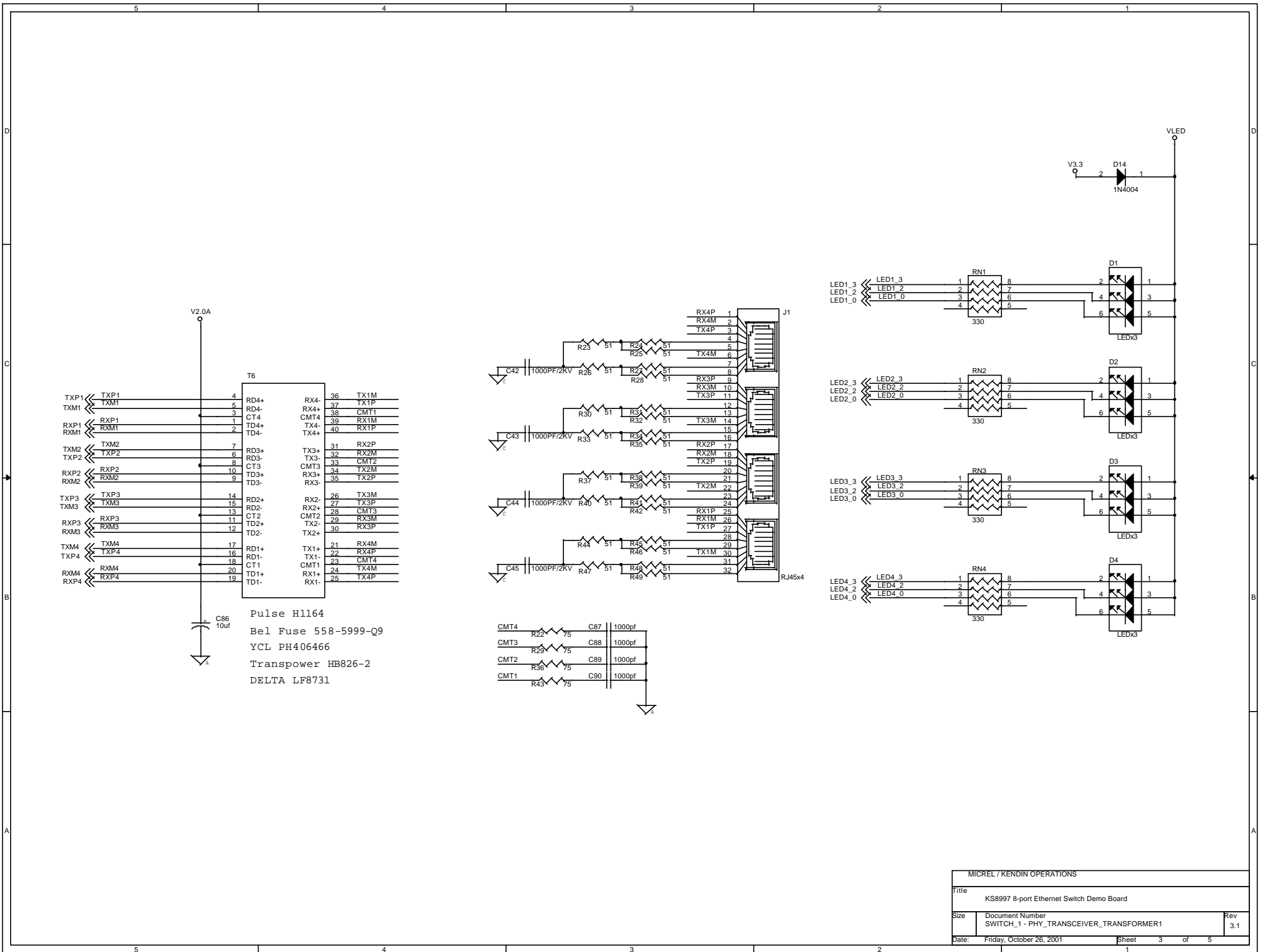
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Title KS8997 8 port switch reference design		
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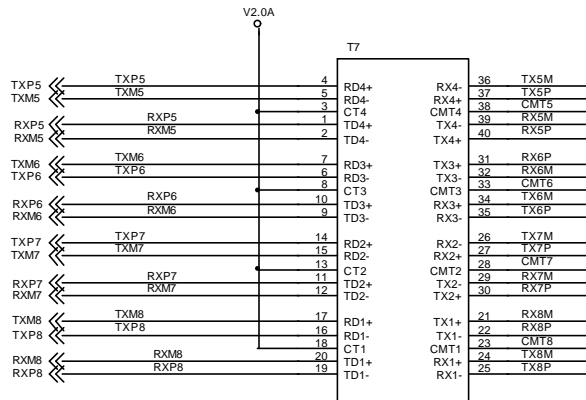


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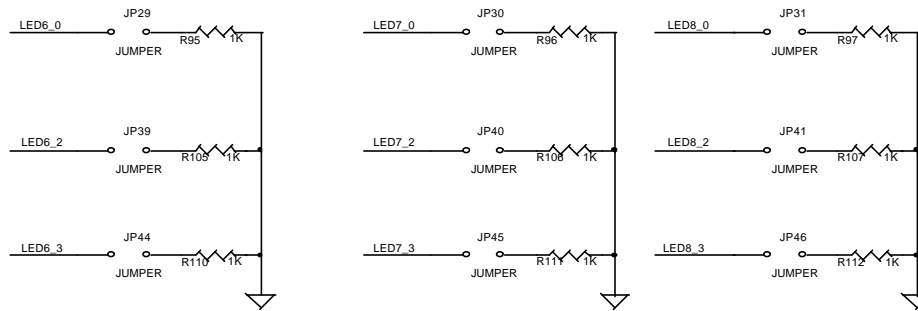
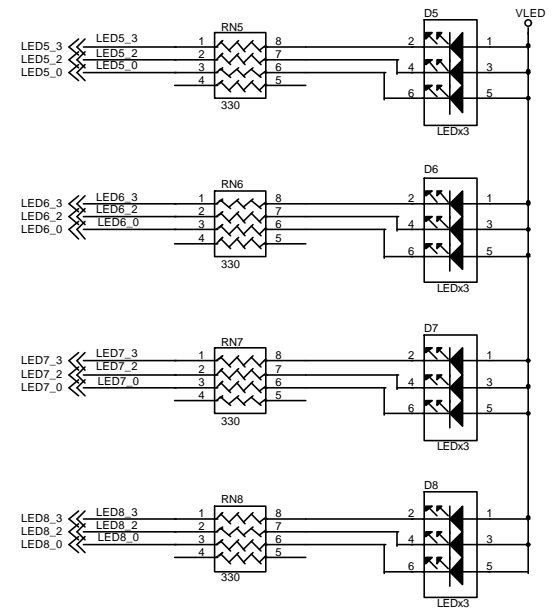
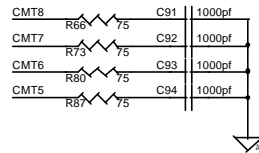
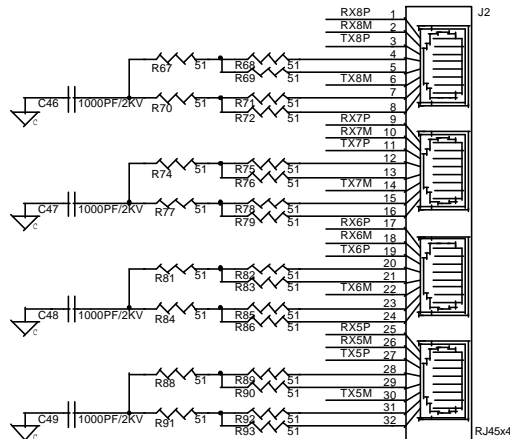
Pin	Function	Pin	Function
64	GND(CORE)	38	VDD-RX7
65	VDD(I/O)	37	GND-RX7
66	GND(I/O)	36	VDD-RX6
67	GND(CORE)	35	GND-RX6
68	VDD(CORE)	34	VDD-RX5
69	VDD(CORE)	33	RXM6
70	BIST	32	RXP6
71	RST_N	31	GND-ISO
72	LED1-3	30	TXM6
73	LED1-2	29	TXP6
74	LED1-0	28	GND-TX6
75	LED2-3	27	VDD-TX5
76	LED2-2	26	TXM5
77	LED2-0	25	TXP5
78	GND(I/O)	24	GND-TX5
79	LED3-3	23	RXM5
80	LED3-2	22	RXP5
81	LED3-0	21	GND-RX5
82	LED4-3	20	VDD-RX5
83	LED4-2	19	GND-ISO
84	LED4-0	18	ISSET
85	VDD(CORE)	17	VDD-RX4
86	GND(CORE)	16	GND-RX4
87	VDD(CORE)	15	RXM4
88	GND(CORE)	14	RXP4
89	VDD(CORE)	13	GND-TX4
90	VDD(CORE)	12	TXM4
91	VDD(CORE)	11	TXP4
92	VDD(CORE)	10	VDD-TX4
93	VDD(CORE)	9	GND-TX3
94	VDD(CORE)	8	TXM3
95	VDD(I/O)	7	TXP3
96	VDD(I/O)	6	ISO-GND
97	VDD(I/O)	5	RXM3
98	VDD(I/O)	4	RXP3
99	VDD(I/O)	3	VDD-RX3
100	VDD(I/O)	2	GND-RX3
101	VDD(I/O)	1	VDD-RX2
102	VDD(I/O)		VDDRX2

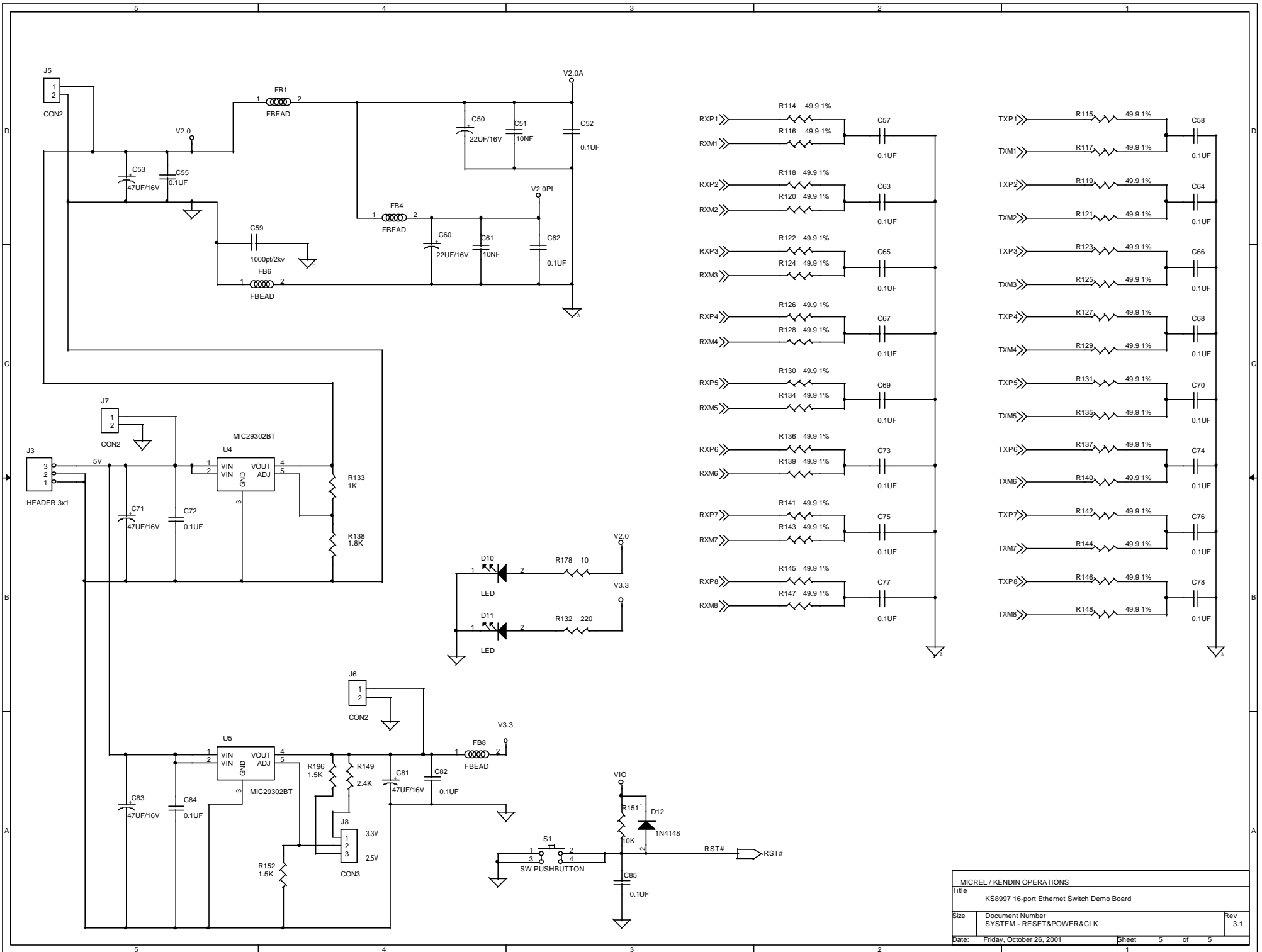
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Pulse H1164
 Bel Fuse 558-5999-Q9
 YCL PH406466
 Transpower HB826-2
 DELTA LF8731





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