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Page 2: Am186CC Microcontroller
Page 3: DRAM, FLASH
Page 4: ISDN Interface
Page 5: PC Interface - DCE, USB
Page 6: Power, Crystal, TIP, Misc.

NOTE: This schematic shows the S/T
ISDN interface population option.

ISDN Terminal Adapter Reference Design Schematics

Rev 1.0: Original design

Rev 2.0: Changed passive size to 0603
Removed test points (page 2)
Added series termination (page 2)
Changed Am29F200 to Am29F400 (page 3)
Corrected P1 pinout (page 4)
Removed 4 isolation resistors for P1 (page 4)
Changed SP211HCT to SP211ECT (page 5)
Added series resistors and increased caps (page 5)
Corrected USB+/- (page 5)
Added 100K PD to VUSB (page 5)
Corrected barrel connector (page 6)
Corrected SW2 pinout (page 6)
Terminated all unused gate inputs (page 6)


Rev 2.1: Routed PIO27, PIO0 to serial port (page2,5)
Changed R61, R62, R64, R66 value to 82 ohm
NC U1 pins 5, 57, 158, 101, 103 (page 2)
Changed some U1 decoupling cap values (page 2)
Removed filter caps from RJ45 (page 4)
Added R116, R117, C68, C69 for new serial PIOs (page 5)
Changed filter component values for serial port (page 5)
Changed SP211ECT to SP207HBEA (page 5)
Pulled up P5 pin 55 for TIP board (page 6)

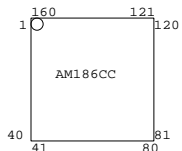
Rev 2.2: Routed INT6 to U4 (ISDN) instead of INT1 (page 2, 4)



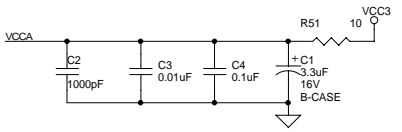
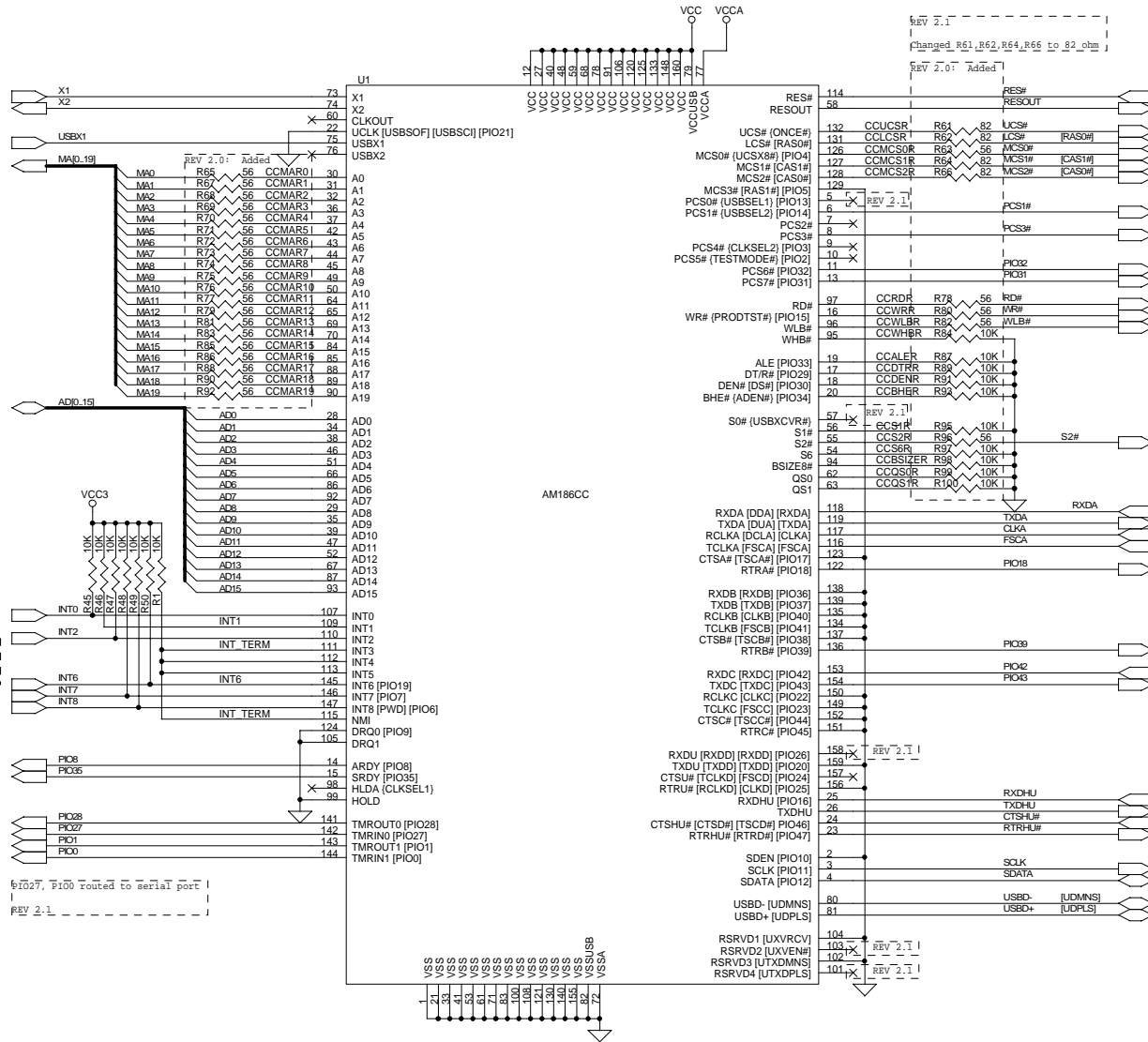
WARNING!

PRELIMINARY SCHEMATICS FOR REFERENCE PURPOSES ONLY NOT FCC OR CE TESTED

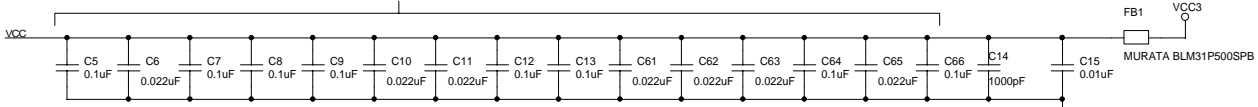
		(C) Advanced Micro Devices, Inc. (800) 222-9323 5204 E. Ben White Blvd. Austin, TX 78741 AMD Proprietary/All Rights Reserved
Title ISDN Terminal Adapter Reference Design - Cover Sheet		
Size	Document Number COVER.SCH	Rev 2.0
Date: Tuesday, October 12, 1999	Sheet 1	of 6



REV 2.0: Test points removed



NOTE: Decoupling capacitors each located next to a VCC pin



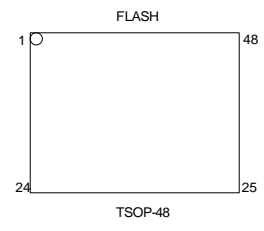
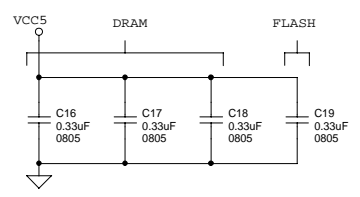
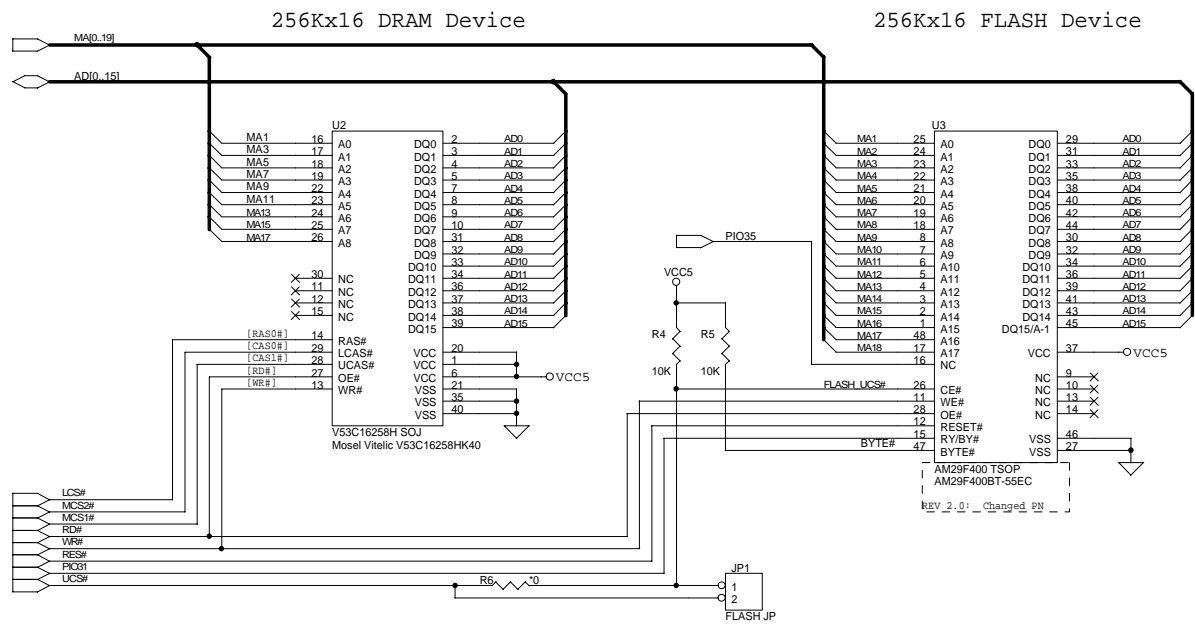
REV 2.1: C10, C11, C61, C62, C63, C65 changed to 0.022uF

NOTE: All resistors are 5% 0603, and all capacitors are 10% 0603 unless otherwise noted.

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Design Name
 ISDN Terminal Adapter Reference Design - Am186CC Processor

Size 16x125	Schematic Sheet Name	Rev 2.0
PROCESSOR.SCH		
Date: Tuesday, October 12, 1999	Sheet 2 of 6	



NOTE: All resistors are 5% 0603, and all capacitors are 10% 0603 unless otherwise noted.

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Title: ISDN Terminal Adapter Reference Design - Memory: DRAM / FLASH

Size	Document Number	Rev
	MEMORY.SCH	2.0

Date: Tuesday, October 12, 1999 Sheet 3 of 6

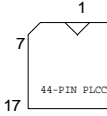
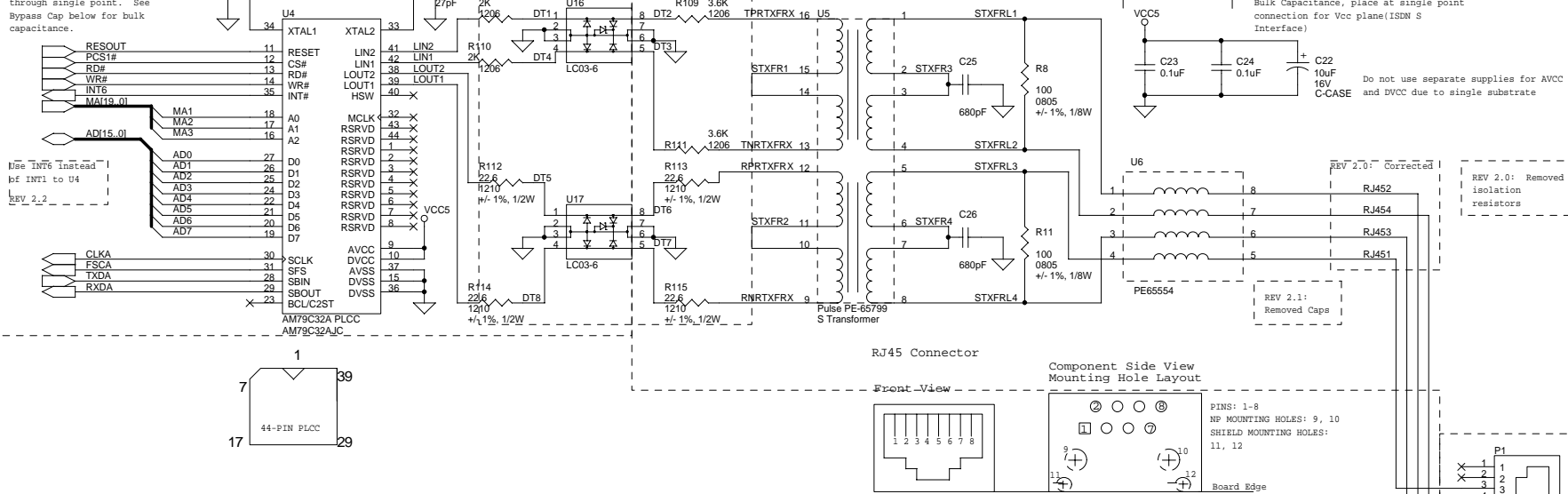
ISDN S Interface

Layout Note:

Am79C32A IDC is a single substrate device. Separate Vcc plane for this area, connected to System Vcc through single point. See Bypass Cap below for bulk capacitance.

Layout Note:

Keuptop Area, No Power or GND planes
Signal Trace = 20 mils, route all traces on top signal layer

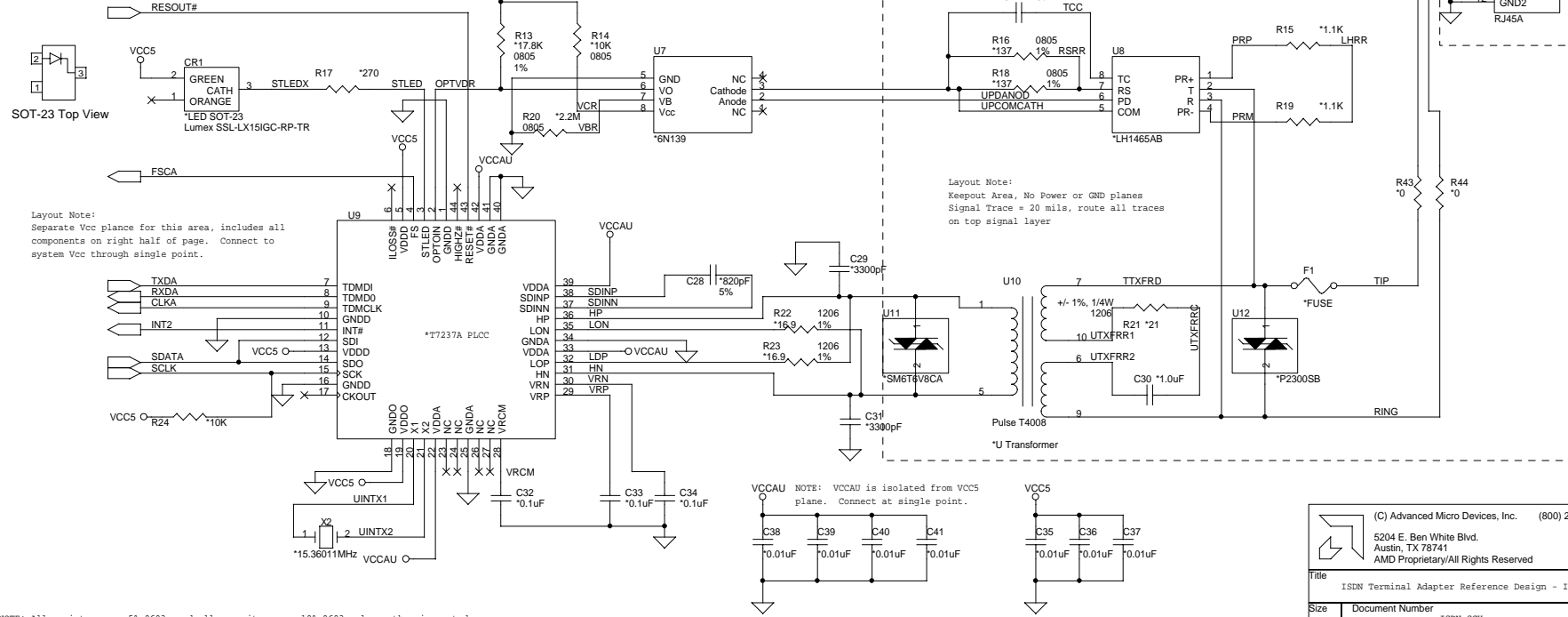


ISDN U Interface

Layout Note:

Separate Vcc plane for this area, includes all components on right half of page. Connect to system Vcc through single point.

Layout Note:
Keuptop Area, No Power or GND planes
Signal Trace = 20 mils, route all traces on top signal layer

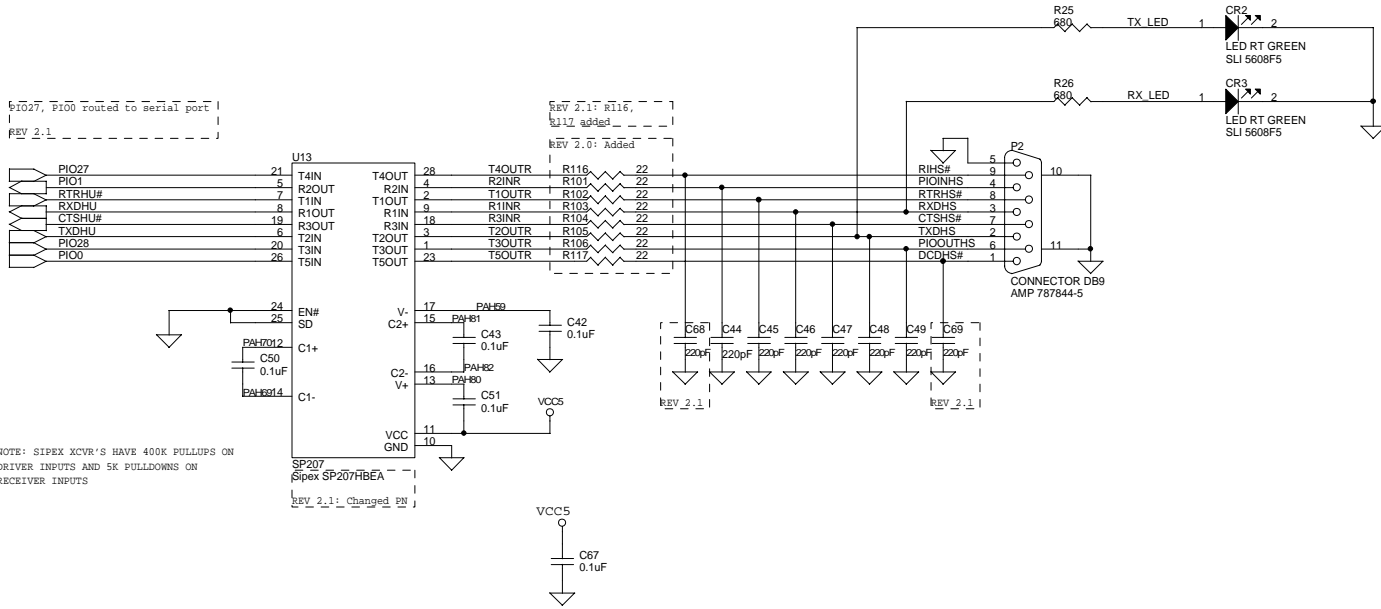


NOTE: All resistors are 5% 0603, and all capacitors are 10% 0603 unless otherwise noted.

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Title			ISDN Terminal Adapter Reference Design - ISDN Interface		
Size	Document Number		ISDN.SCH		Rev 2.0
Date:	Tuesday, October 12, 1999		Sheet	4	of 6

Serial Interface



USB Interface

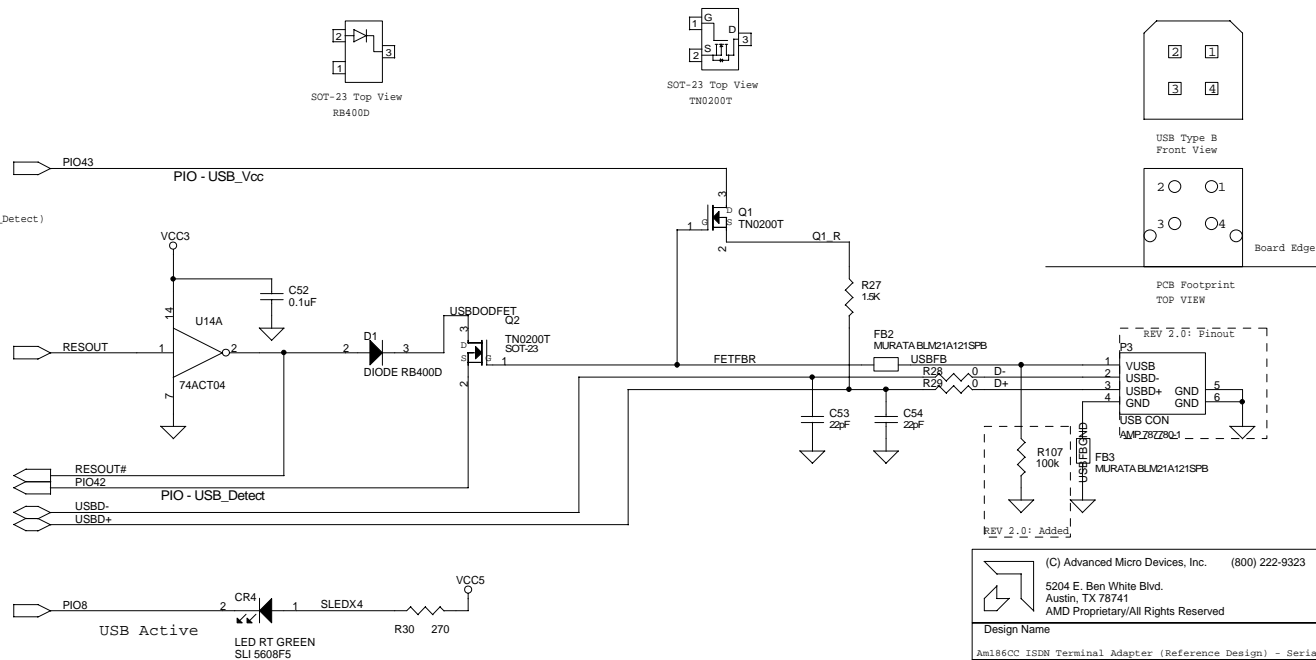
Aml86CC microcontroller USB Attach/Detach

Attach

- 1) Aml86CC microcontroller pulls USB_Detect for high logic level
- 2) Aml86CC microcontroller drives USB_Vcc to enable Q1

Detach

- 1) Aml86CC microcontroller pulls USB_Detect for low logic level
- 2) Aml86CC microcontroller Tri-states USBD+/-
- 3) Aml86CC microcontroller removes USB_Vcc to disable Q1 (Q2 isolates USB_Detect)

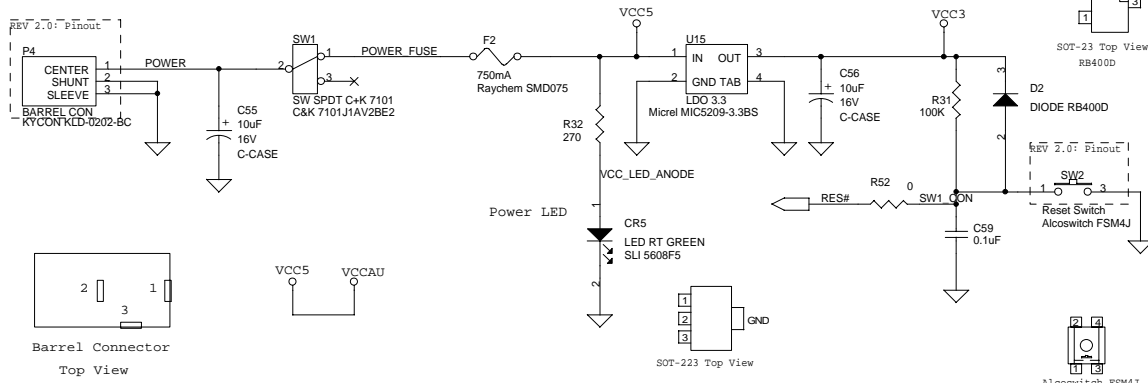


NOTE: All resistors are 5% 0603, and all capacitors are 10% 0603 unless otherwise noted.

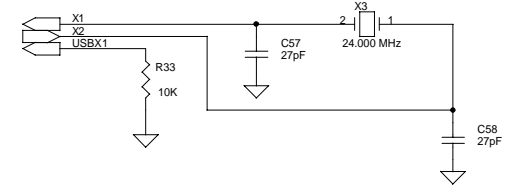
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Design Name
 Aml86CC ISDN Terminal Adapter (Reference Design) - Serial and USB Ports
 Size Schematic Sheet Name Rev 2.0
 16x125 SERIAL_USB.SCH
 Date: Tuesday, October 12, 1999 Sheet 5 of 6

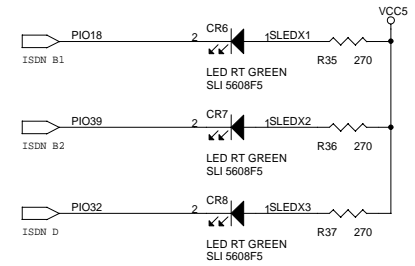
Power Supply



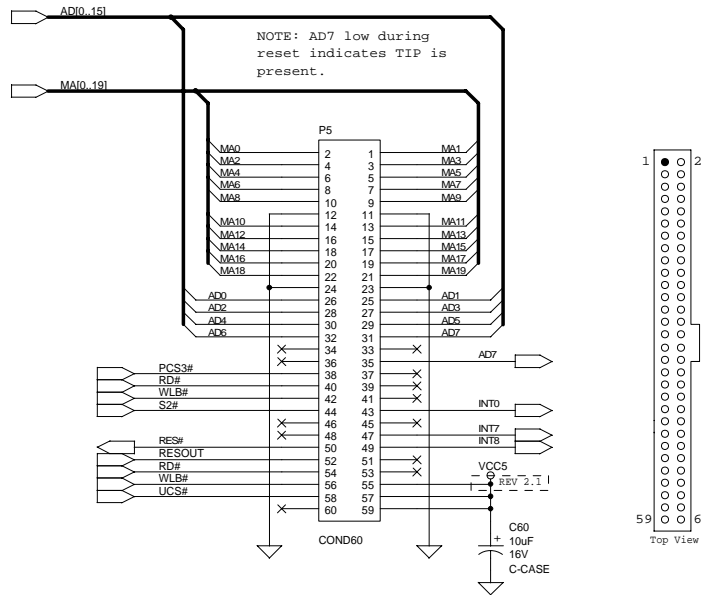
System Clock



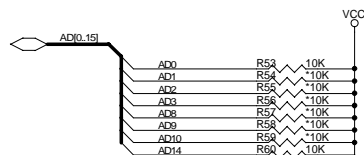
Status Indicator LEDs



TIP Connector

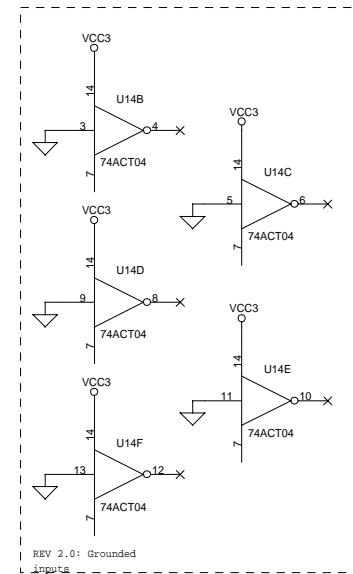


RESCON Configuration

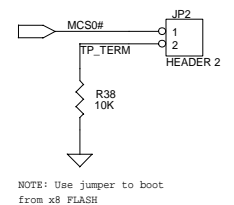


NOTE: All resistors are 5% 0603, and all capacitors are 10% 0603 unless otherwise noted.

Spare Gates



x8 FLASH Boot



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Title
ISDN Terminal Adapter Reference Design - Power, Crystal, TIP, Miac.

Size	Document Number	Rev
	POWER.SCH	2.0

Date: Tuesday, October 12, 1999 Sheet 6 of 6