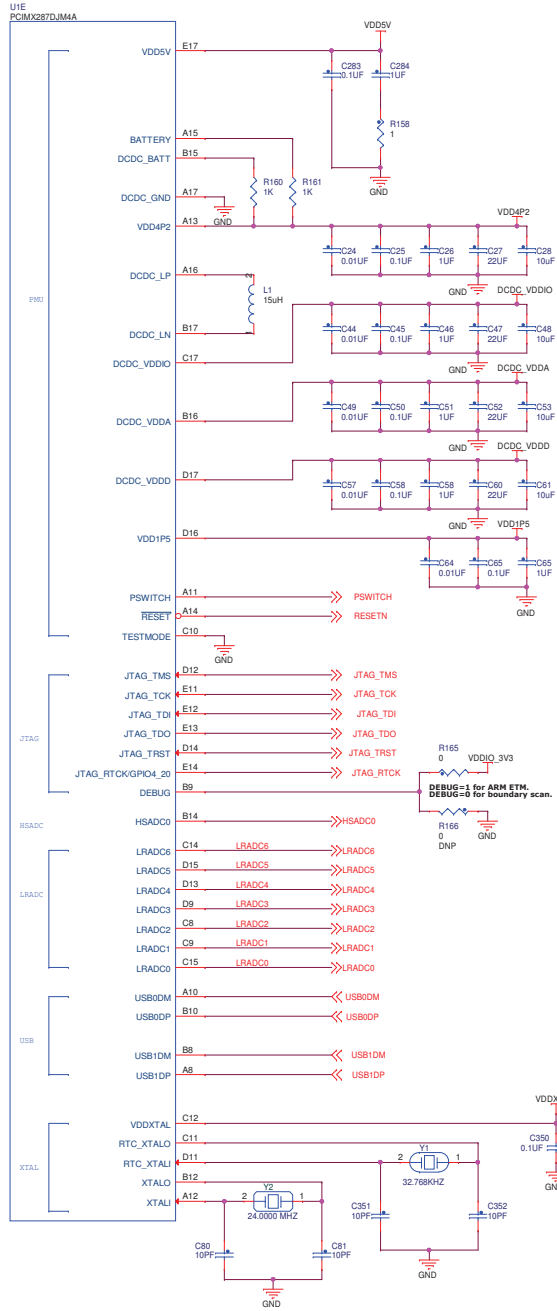


Permanent Power Supply using VDD5V Source Only

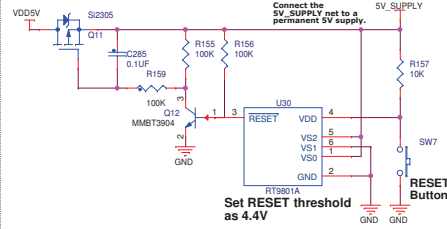
i.MX28 DC-DC / Power Management and Analog



RESET CIRCUIT OPTIONS

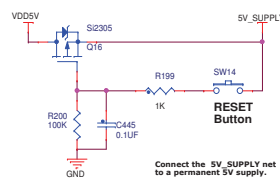
Preferred Option

This circuit uses a voltage supervisory IC to monitor the input 5V supply to disconnect the 5V supply to VDD5V pin when the voltage of the supply drops below 4.4V to ensure a robust operations under power intermittence.

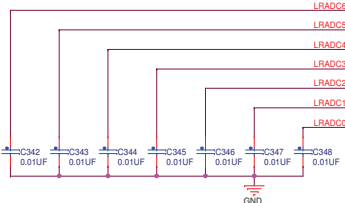


Alternative Option

This circuit should only be used when cost is extremely sensitive that the use of voltage supervisory IC is prohibited.



NOTE: If using a device with an impedance greater than a few kOhms (such as a Touchpanel), the filter capacitors on the LRADC channels may be reduced to 5pF. These smaller capacitors reduce the settling time, which reduces the amount of time the processor must wait to take an accurate reading. These filter capacitors should be placed close to the i.MX28.

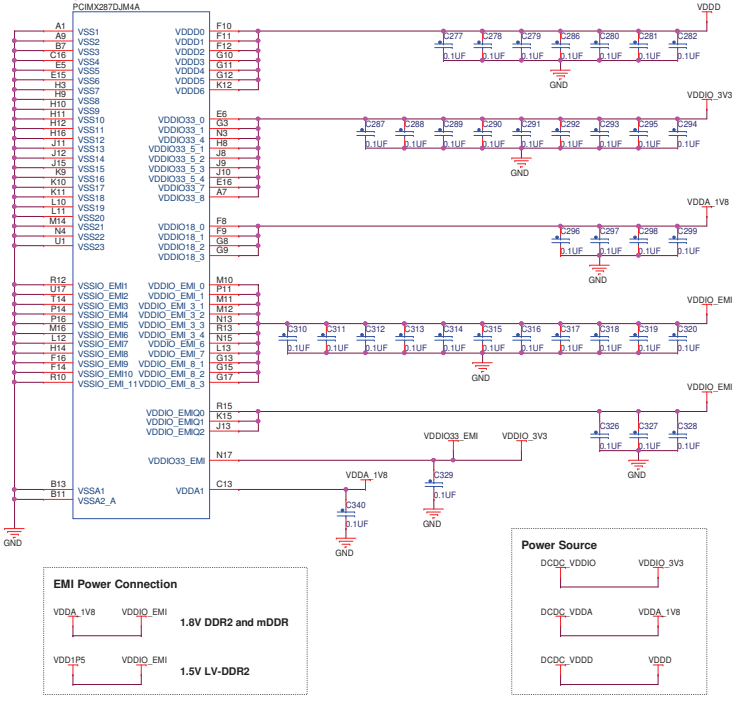


IMPORTANT CRYSTAL DESIGN NOTES

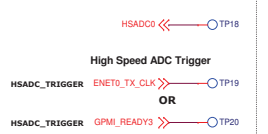
The 24 MHz crystal should be located close to the i.MX28. Consult crystal manufacturer datasheet for recommended load capacitor values (typically 10-18pF).

$C_{load} = [(C80 \cdot C81) / (C80 + C81)] + C_{stray}$
 where Cstray = stray PCB capacitance, typically 4 - 6 pF
Note: For Microsoft DRM applications use a 30 ppm crystal.

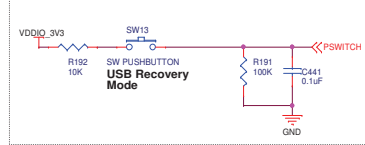
i.MX28 CPU Power Inputs



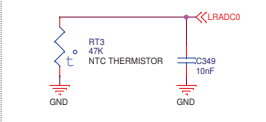
High Speed ADC Test Points



USB RECOVERY BUTTON



OPTIONAL TEMPERATURE SENSE



IMPORTANT LAYOUT DESIGN NOTES

- The crystals should be placed as close as possible to the i.MX28.
- For best USB jitter performance, the VDDXTAL capacitor and the crystal load capacitors should NOT connect to the ground planes near the DRAM bus routing and grounds. These ground connections should preferably be close to the VSSA1 ground pin.
- All DCDC input & output capacitors should be located close to the i.MX28.

		Microcontroller Solutions Group 6501 William Cannon Drive West Austin, TX 78755-8588	
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