Sheet 1/7 TMS320F28034PNT CHANGE: I2C pins on backpack header are different GPIO0 CAN-RX GPIO0/EPWM1A GPIO30/CANRXA1 68 32 CAN-TX GPIO1/EPWM1B/COMP1OUT GPIO31/CANTXA↑ 67 GPIO32/SDAA/EPWMSYNCI/ADCSOCAO 1 GPIO2/EPWM2A 66 CHANGE: GP_BUTTON is now on GPIO4 GPIO3/EPWM2B/SPISOMIA/COMP2OUT GPIO33/SCLA/EPWMSYNCO/ADCSOCBO 74 GPIO4/EPWM3A GPIO34/COMP2OUT/COMP3OUT TDI GPIO5/EPWM6B/LINRXA/HRCAP2 GPIO35/TDI TMS GPIO6/EPWM4A/EPWMSYNCI/EPWMSYNCO GPIO36/TMS 1 49 TDO GPIO7/EPWM4B/SCIRXDA GPI037/TD0 1 43 TCK GPIO8/EPWM5A/ADCSOCAO GPIO38/TCK/XCLKIN ↑ 39 TODO: choose new pin for LED1 GPIO9/EPWM5B/LINTXA/HRCAP1 GPIO39 ↑ CHANGE: MOVE GP BUTTON TO GPIO11 GPIO10/EPWM6A/ADCSOCBO GPIO40/EPWM7A1 61 GPIO11/EPWM6B/LINRXA/HRCAP2 GPIO41/EPWM7B↑ 47 ↑ GPIO12/TZ1/SCITXDA/SPISOMIB GPIO42/COMP1OUT↑ SPL_SOMI GPIO43/COMP42OUT 1 ↑ GPIO13/TZ2/SPISOMIB ↑ GPIO14/TZ3/LINTXA/SPICLKB GPIO44↑ SPL CS ↑ GPIO15/TZ1/LINRXA/SPISTEB ADCINA0 ADCINA0 ↑ GPIO16/SPISOMIA/TZ2 42 ADCINA1 ↑ GPIO17/SPISOMIA/TZ3 ADCINA1 ADCINA2 ADCINA2/COMP1A/AIO2 ↑ GPIO18/SPICLKA/LINTXA/XCLKOUT ADCINA3 ↑ GPIO19/XCLKIN/SPISTEA/LINRXA/ECAP1 ADCINA3 ADCINA4 ADCINA4/COMP2A/AIO4 ADCINA5 ↑ GPIO20/EQEP1A/COMP1OUT ADCINA5 79 CHANGE: remove 12V_SW_CTRL PWROUT_INT ↑ GPIO21/EQEP1B/COMP2OUT ADCINA6/COMP3A/AIO6 CHANGE: LED0 is now on GPIO22 ADCINA7 ↑ GPIO22/EQEP1S/LINTXA CHANGE: LED1 is now on GPIO23 ↑ GPIO23/EQEP1I/LINRXA CHANGE: CAN_RESET is deleted SPL SIMO ADCINB0 ↑ GPIO24/ECAP1/SPISIMOB ADCINB0 44 ADCINB1 ↑ GPIO25/SPISOMIB ADCINB1 ↑ GPIO26/HRCAP1/SPICLKB ADCINB2/COMP1B/AIO10 ADCINB2 31 ADCINB3 ↑ GPIO27/HRCAP2/SPISTEB ADCINB3 SERIAL RX/I2C SDA ADCINB4 ↑ GPIO28/SCIRXDA/SDAA/TZ2 ADCINB4/COMP2B/AIO12 SEDIAL TY/IOC SCI ↑ GPIO29/SCITXDA/SCLA/TZ3 ADCINB5 ADCINB6 ADCINB6/COMP3B/AIO14 ADCINB7 ADCINB7 VSS VREFHI VSS VREFLO VSS VSS XRS choke here VSSA TRST VDDA BLM21PG221SN1D X1 51 VDD VDD VDD **VREGENZ** C1 C3 C2 38 **VDDIO** TEST2 **VDDIO** ↑ symbol indicates pin is pulled up at boot C6

BETA F28035 power and signal connections



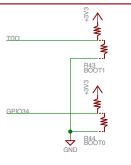
Board: Magic CAN Node

Drawn by Aaron Bonnell-Kangas

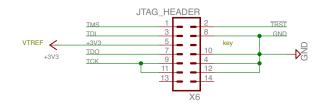
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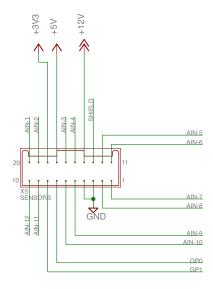
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BOOT1 BOOT0: bootloader select 00 Parallel IO 01 SCI 10 Wait 11 GetMode (usually flash boot)



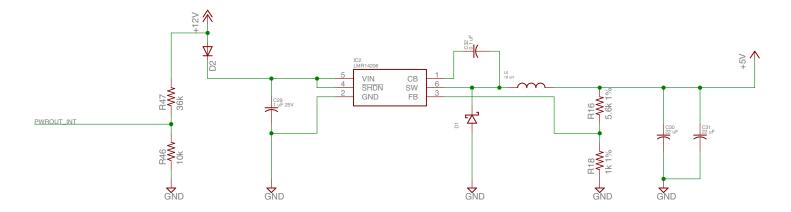




Board: Magic CAN Node
Drawn by Aaron Bonnell-Kangas
Revision date: v2.0.0-beta2 - 2014-12-04

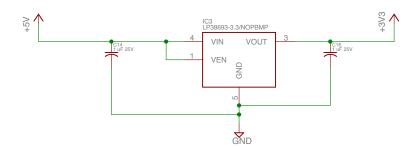
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given R2 = 1k R1 = R2*((5V / 0.765 V) -1) = 5535.9477 nearest std value 5.6k gives Vout = 5.049 V

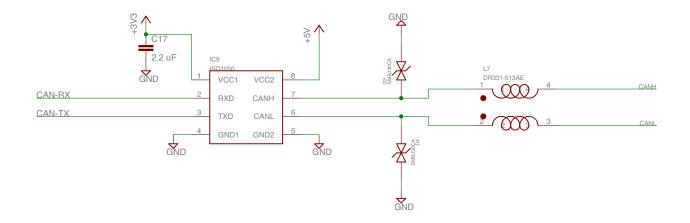
TODO: CHECK TOLERANCES



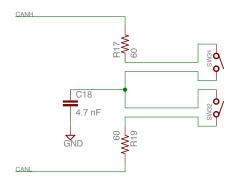


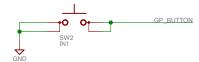
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Drawn by Aaron Bonnell-Kangas
Revision date: v2.0.0-beta2 - 2014-12-04
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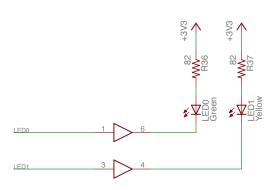
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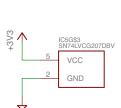


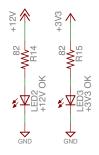












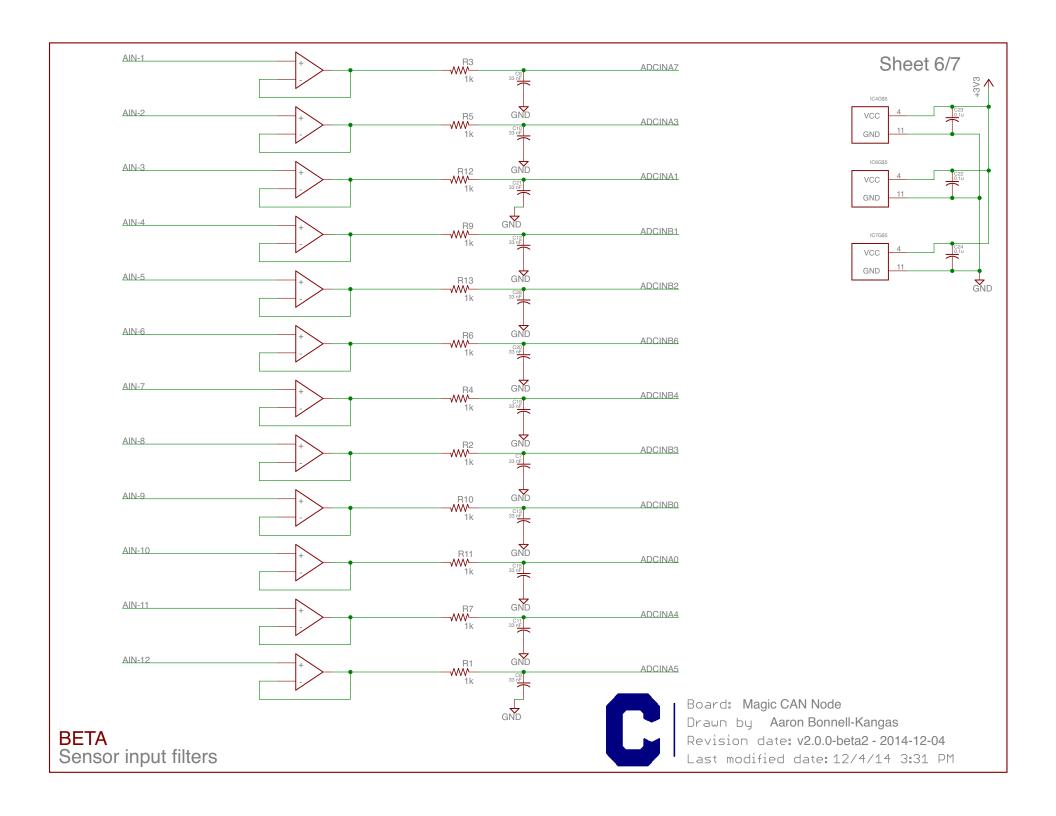


Board: Magic CAN Node

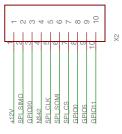
Drawn by Aaron Bonnell-Kangas

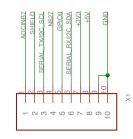
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