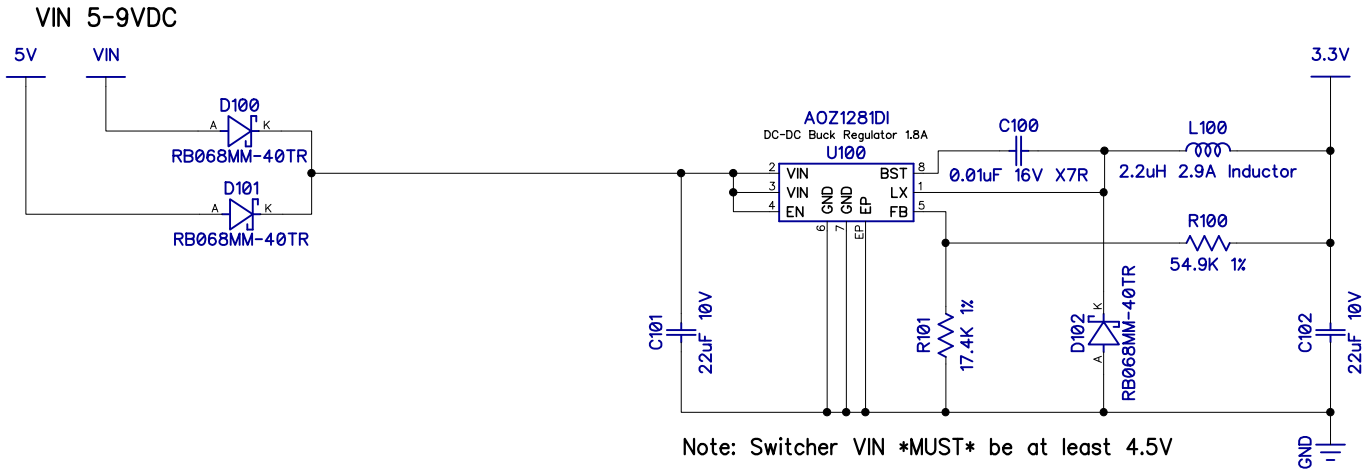
Power Supply (Switcher)



Parallax Inc.
599 Menlo Drive
Rocklin, CA 95765

(916) 624-8333
http://www.parallax.com/

Propeller FLiP

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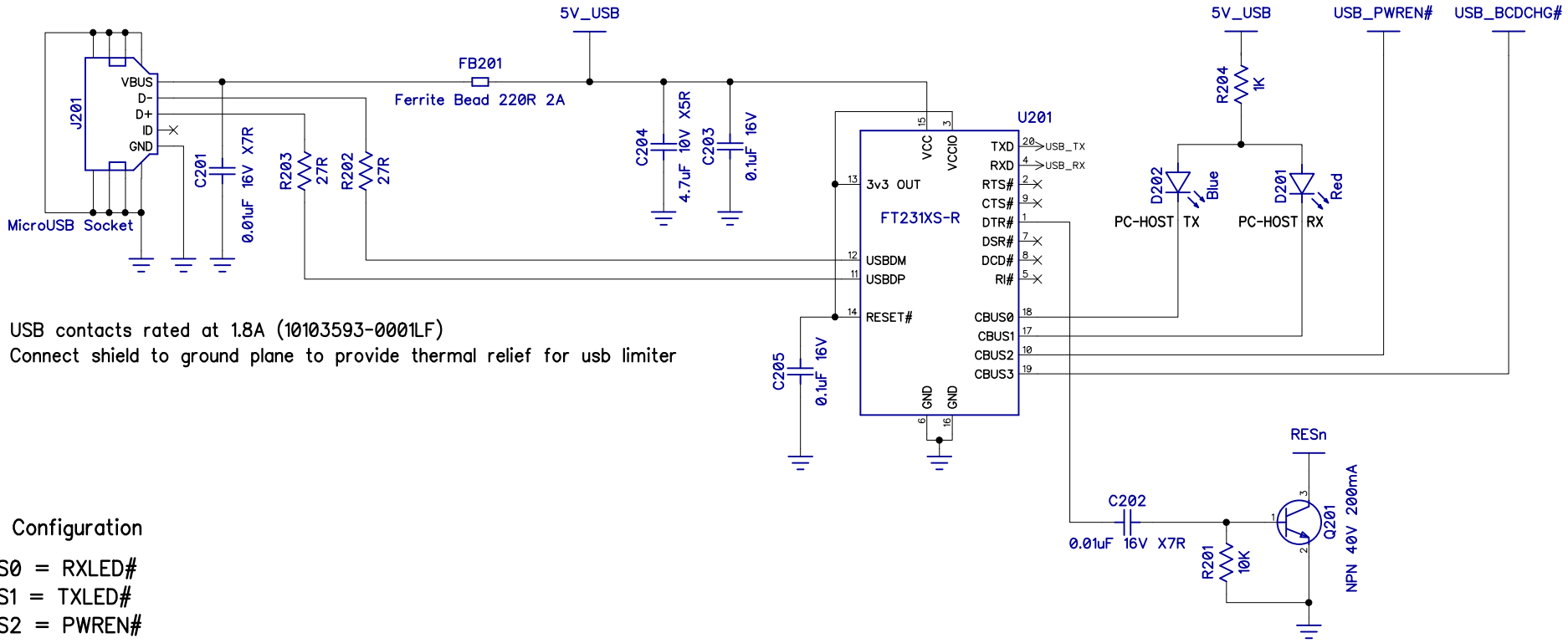
USB Interface



USB contacts rated at 1.8A (10103593-0001LF)
Connect shield to ground plane to provide thermal relief for usb limiter

FTDI Configuration

CBUS0 = RXLED#
CBUS1 = TXLED#
CBUS2 = PWREN#
CBUS3 = BCD_Charger#

USB Config / MaxPower = 500mA
Enable "Battery Charger Enable" option
Manufacturer = Parallax Inc
Product Description = Propeller FLiP Rev A

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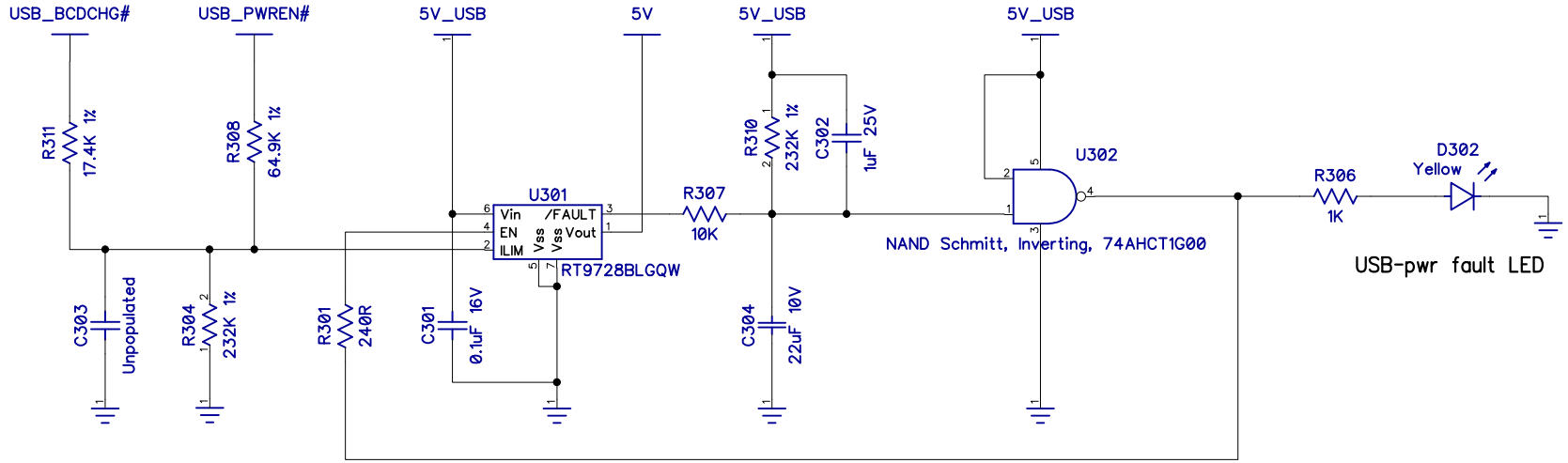
USB Current Limiting



Current limits:

Nom. 400mA - Connected to Computer

Nom. 1500mA - Connected to USB Charger

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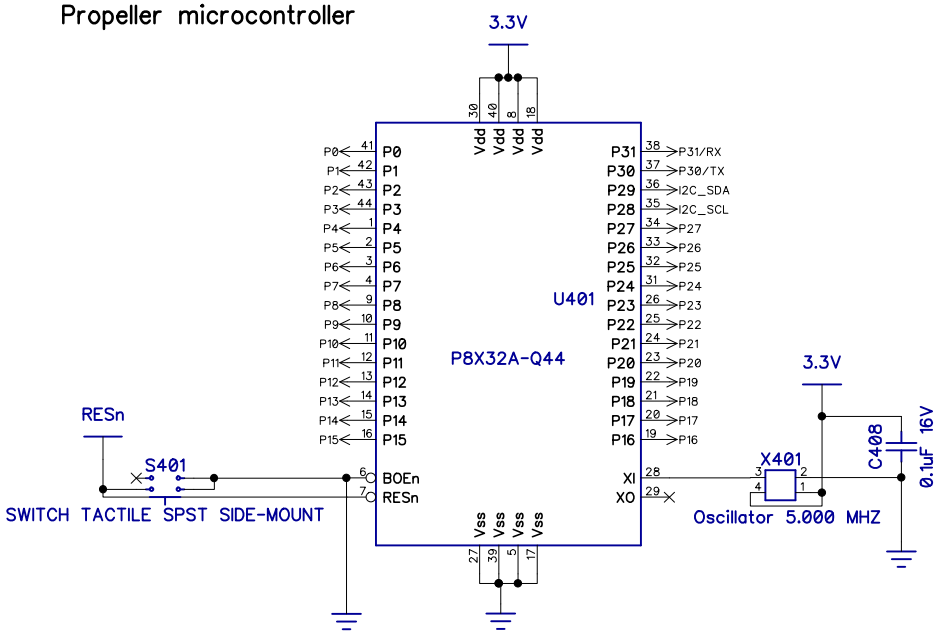
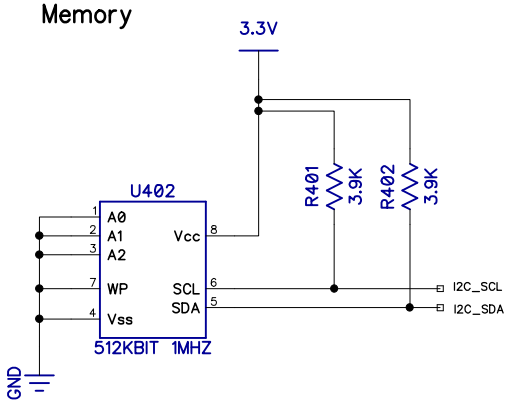
Microcontroller and Memory

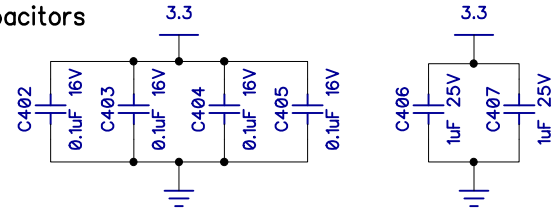
Propeller microcontroller

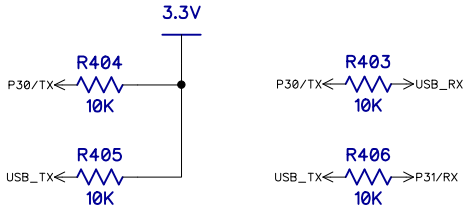


Memory



Decoupling Capacitors





Pull-up serial bus to prevent floating-state terminal chars

Include 10K series to prevent parasitic power in either direction

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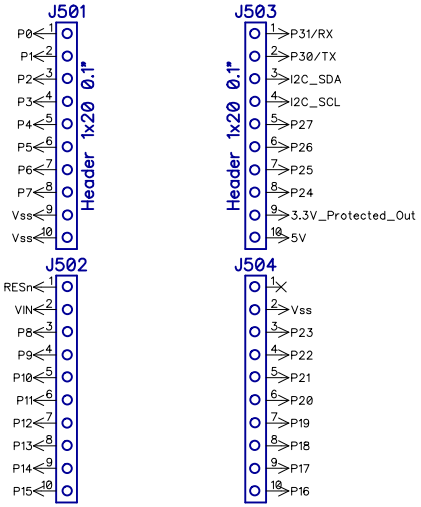
Headers and LEDs

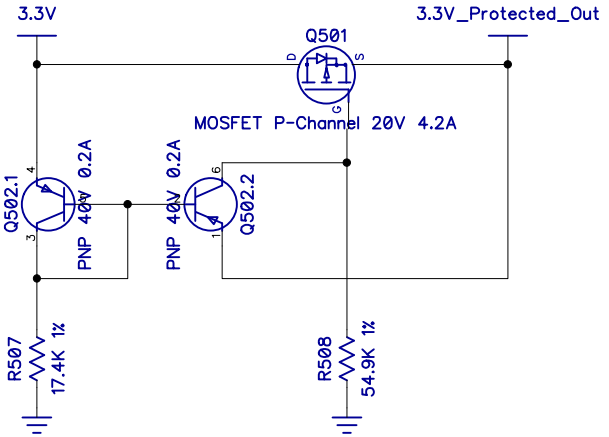
40 pin 0.1" pitch header, suitable for breadboard

Spacing 600 mil (15.24mm)

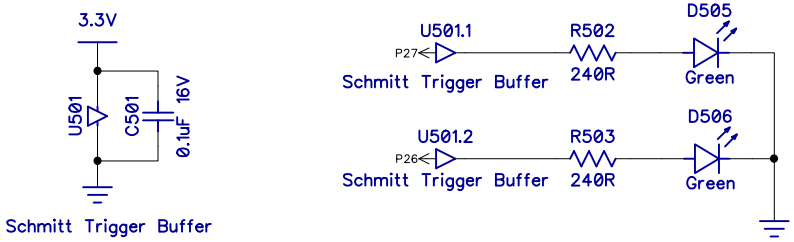


(Assembled with four 10pin headers or two 20pin headers)

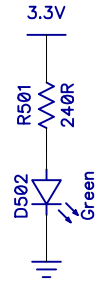
3.3Vout Reverse Polarity Protection



Buffered I/O LED's



Power-On LED



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BOM

RefDes	Quantity	Value	Name	Manufacturer
C100, C201, C202	3	0.01uF 16V X7R	200-10504 : CAP-CER,0.01uF,10%,16V,0402	AVX : 0402YC103KAT2A
C101, C102, C304	3	22uF 10V	200-11541 : CAP-CER,22uF,10V,X5R,0603	Samsung : CL10A226MPCNUBE
C203, C205, C301, C402, C403, C404, C405, C408, C501	9	0.1uF 16V	200-11203 : CAP-CER,0.1uF,X7R,16V,0402	Murata : GRM155R71C104KA88J
C204	1	4.7uF 10V X5R	200-11202 : CAP-CER,4.7uF,10V,X5R,0603	Samsung : CL10A475MP5LNNC
C302, C406, C407	3	1uF 25V	213-01011 : Cap-Cer,1uF,25V,X5R,0402	Taiyo Yuden : TMK105BJ105MV-F
C303	1	Unpopulated	Unpopulated	Unpopulated
D100, D101, D102	3	RB068MM-40TR	501-10037 : Diode,Schottky,40V,2A,SOD-123F	Rohm : RB068MM-40TR
D201	1	Red	350-10025 : LED RED CLEAR 0603 R/A	Lite-On : LTST-S270KRKT
D202	1	Blue	350-10026 : LED BLUE CLEAR 0603 R/A	Lite-On : LTST-S270TBKT
D302	1	Yellow	350-10030 : LED YELLOW CLEAR 0603 R/A	Lite On : LTST-S270KSKT
D502, D505, D506	3	Green	350-10029 : LED GREEN CLEAR 0603 R/A	Lite-On : LTST-S270KGKT
FB201	1	Ferrite Bead 220R 2A	275-10004 : FerriteBead,2A,220OHM,0603,SMT	TDK : MPZ1608S221ATA00
J201	1	MicroUSB Socket	452-10028 : MicroUSB SMT, RA Connector	Amphenol FCI : 10118194-0001LF
J501, J503	2	Header 1x20 0.1"	451-00111 : CON-HDR,1X120,0.1,TH, 2xSP	Samtec : ZW-20-17-F-S-200-075
L100	1	2.2uH 2.9A Inductor	275-10007 : 2.2uH 2.9A Inductor	Bourns : SRN4018-2R2M
Q201	1	NPN 40V 200mA	500-00009 : BJT,NPN,200mA,40V,SOT-416	On Semi : MMBT3904TT1G
Q501	1	MOSFET P-Channel 20V 4.2A	500-10037 : MOSFET P-CH 20V 4.2A SOT23	Diodes Inc : DMG2305UX-13
Q502	1	PNP 40V 0.2A	500-10030 : TRANS 2PNP 40V 0.2A SOT-363	ON Semi : MBT3906DW1T1G
R100, R508	2	54.9K 1%	172-10222 : Res,54.9K,1%,0402	Stackpole : RMCF0402FT54K9
R101, R311, R507	3	17.4K 1%	172-10221 : Res,17.4k,1%,0402	Panasonic : ERJ-2RKF1742X
R201, R307, R403, R404, R405, R406	6	10K	150-11022 : RES,10K,5%,0402	Panasonic : ERJ-2GEJ103X
R202, R203	2	27R	150-11038 : RES,27,5%,0603	Panasonic : ERJ-3GEYJ270V
R204, R306	2	1K	173-10002 : RES,1K,5%,0402	Stackpole : RMCF0402JT1K00
R301, R501, R502, R503	4	240R	150-12023 : RES,240,5%,0402	Yageo : RC0402JR-07240RL
R304, R310	2	232K 1%	172-16012 : RES,232K,1%,0402	Yageo : RC0402FR-07232KL
R308, R509, R510	3	64.9K 1%	172-10226 : RES,64.9K,1%,0402	Yageo : RC0402FR-0764K9L
R401, R402	2	3.9K	150-11051 : Res,3.9k,0402	Yageo : RC0402JR-073K9L
S401	1	SWITCH TACTILE SPST SIDE-MOUNT	400-10013 : Switch, tactile side mount	C&K : PTS840 GMP SMTR LFS
U100	1	AOZ1281DI	601-10341 : IC-REG,1.8A,8-DFN,AOZ1281DI	Alpha & Omega : AOZ1281DI
U201	1	FT231XS-R	604-00065 : IC-FTDI, FT231X	FTDI : FT231XS-R
U301	1	RT9728BLGQW	604-10022 : IC-SW,Power,1.8A,6WDFN,RT9728B	RICHTEK : RT9728BLGQW
U302	1	NAND Schmitt, Inverting, 74AHCT1G00	604-10028 : IC,NAND,SOT-353,74AHCT1G00	Diodes Inc : 74AHCT1G00SE-7
U401	1	P8X32A-Q44	P8X32A-Q44 : IC-P8X32A-Q44 (QFP)	Parallax : P8X32A-Q44
U402	1	512KBIT 1MHZ	602-10001 : IC SRL EEPROM 512K 2.7V	STMicro : M24512-RDW6TP
U501	1	Schmitt Trigger Buffer	603-10024 : IC,Buff,Dual,6TSSOP,NC7WZ17P6X	Fairchild Semi : NC7WZ17P6X
X401	1	Oscillator 5.000 MHZ	252-10005 : 5MHz CMOS Oscillator	SISTIME : SIT8918BE-13-33E-5.000000E

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