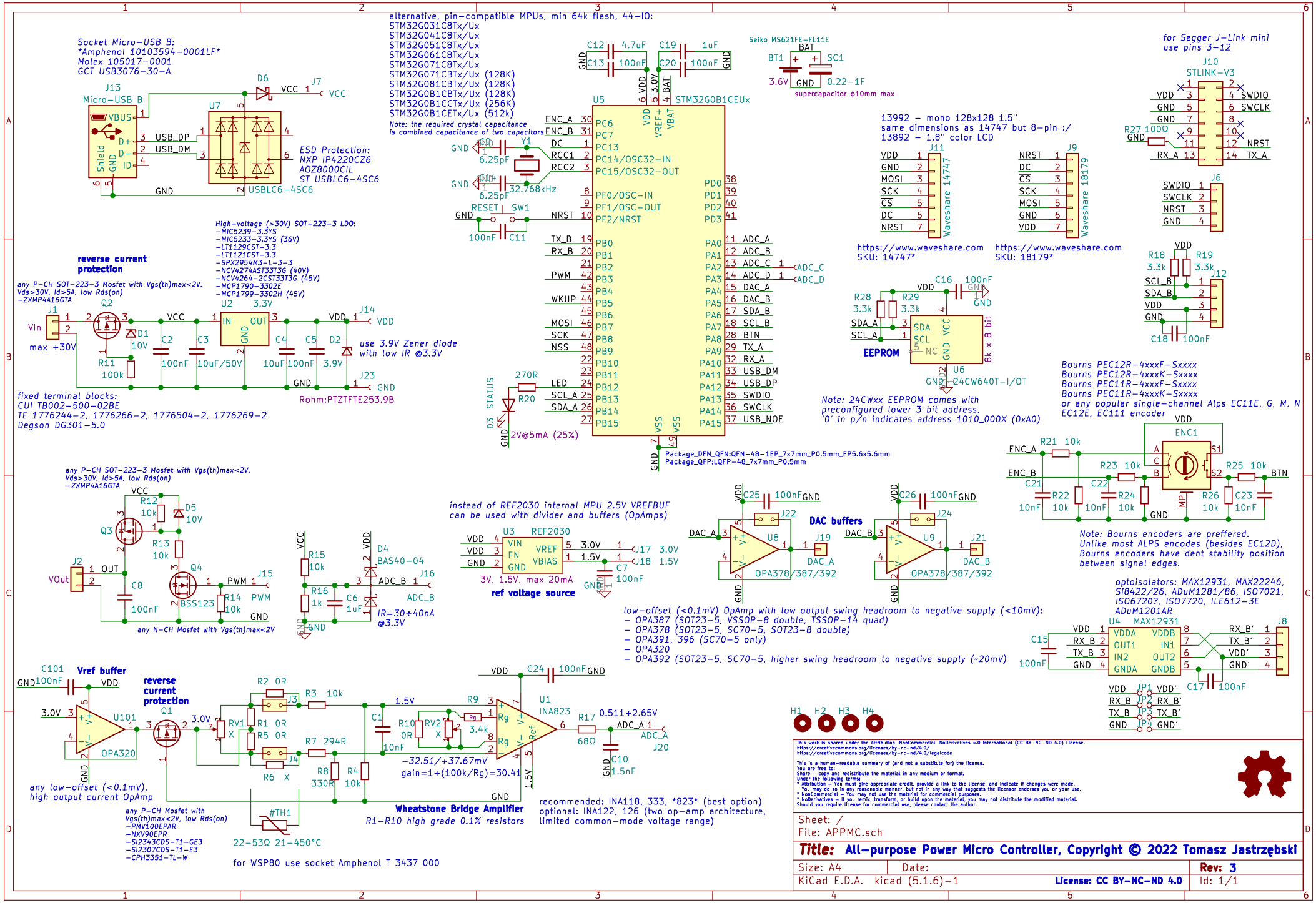
alternative, pin-compatible MPUs, min 64k flash, 44-IO:
STM32G031C8Tx/Ux
STM32G041C8Tx/Ux
STM32G051C8Tx/Ux
STM32G061C8Tx/Ux
STM32G071C8Tx/Ux
STM32G071CBTx/Ux (128K)
STM32G081CBTx/Ux (128K)
STM32G0B1CBTx/Ux (128K)
STM32G0B1CCTx/Ux (256K)
STM32G0B1CETx/Ux (512K)
Socket Micro-USB B:
Amphenol 10103594-0001LF
Molex 105017-0001
GCT USB3076-30-A
J13
Micro-USB B
ESD Protection:
NXP IP4220CZ6
AOZ8000CIL
ST USBLC6-4SC6
USBLC6-4SC6
U5
STM32G0B1CEUx
Note: the required crystal capacitance
is combined capacitance of two capacitors
6.25pF
32.768kHz
Seiko MS621FE-FL11E
supercapacitor ϕ10mm max
for Segger J-Link mini
use pins 3-12
J10
STLINK-V3
13992 - mono 128x128 1.5"
same dimensions as 14747 but 8-pin :/
13892 - 1.8" color LCD
J11
Waveshare 14747
J9
Waveshare 18179
https://www.waveshare.com
SKU: 14747*
https://www.waveshare.com
SKU: 18179*
reverse current protection
any P-CH SOT-223-3 Mosfet with Vgs(th)max<2V,
Vds>30V, Id>5A, low Rds(on)
-ZXMP4A16GTA
High-voltage (>30V) SOT-223-3 LDO:
-MIC5239-3.3YS
-MIC5233-3.3YS (36V)
-LT1129CST-3.3
-LT1121CST-3.3
-SPX2954M3-L-3-3
-NCV4274AST33T3G (40V)
-NCV4264-2CST33T3G (45V)
-MCP1790-3302E
-MCP1799-3302H (45V)
use 3.9V Zener diode
with low IR @3.3V
Rohm:PTZTFTE253.9B
fixed terminal blocks:
CUI TB002-500-02BE
TE 1776244-2, 1776266-2, 1776504-2, 1776269-2
Degson DG301-5.0
EEPROM
Note: 24CWxx EEPROM comes with
preconfigured lower 3 bit address,
'0' in p/n indicates address 1010_000X (0xA0)
Bourns PEC12R-4xxxF-Sxxxx
Bourns PEC12R-4xxxK-Sxxxx
Bourns PEC11R-4xxxF-Sxxxx
Bourns PEC11R-4xxxK-Sxxxx
or any popular single-channel Alps EC11E, G, M, N
EC12E, EC111 encoder
Note: Bourns encoders are preffered.
Unlike most ALPS encodes (besides EC12D),
Bourns encoders have dent stability position
between signal edges.
optoisolators: MAX12931, MAX22246,
Si8422/26, ADuM1281/86, ISO7021,
ISO6720?, ISO7720, ILE612-3E
ADuM1201AR
any P-CH SOT-223-3 Mosfet with Vgs(th)max<2V,
Vds>30V, Id>5A, low Rds(on)
-ZXMP4A16GTA
any N-CH Mosfet with Vgs(th)max<2V
IR=30÷40nA
@3.3V
instead of REF2030 internal MPU 2.5V VREFBUF
can be used with divider and buffers (OpAmps)
3V, 1.5V, max 20mA
ref voltage source
DAC buffers
low-offset (<0.1mV) OpAmp with low output swing headroom to negative supply (<10mV):
- OPA387 (SOT23-5, VSSOP-8 double, TSSOP-14 quad)
- OPA378 (SOT23-5, SC70-5, SOT23-8 double)
- OPA391, 396 (SC70-5 only)
- OPA320
- OPA392 (SOT23-5, SC70-5, higher swing headroom to negative supply (~20mV)
Vref buffer
reverse current protection
any low-offset (<0.1mV),
high output current OpAmp
any P-CH Mosfet with
Vgs(th)max<2V, low Rds(on)
-PMV100EPAR
-NXV90EPR
-SI2343CDS-T1-GE3
-SI2307CDS-T1-E3
-CPH3351-TL-W
22-53Ω 21-450°C
for WSP80 use socket Amphenol T 3437 000
Wheatstone Bridge Amplifier
R1-R10 high grade 0.1% resistors
-32.51/+37.67mV
gain=1+(100k/Rg)=30.41
recommended: INA118, 333, *823* (best option)
optional: INA122, 126 (two op-amp architecture,
limited common-mode voltage range)
H1
H2
H3
H4
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* NoDerivatives - If you remix, transform, or build upon the material, you may not distribute the modified material.
Should you require license for commercial use, please contact the author.
Sheet: /
File: APPMC.sch
Title: All-purpose Power Micro Controller, Copyright © 2022 Tomasz Jastrzębski
Size: A4
Date:
Rev: 3
KiCad E.D.A. kicad (5.1.6)-1
License: CC BY-NC-ND 4.0
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