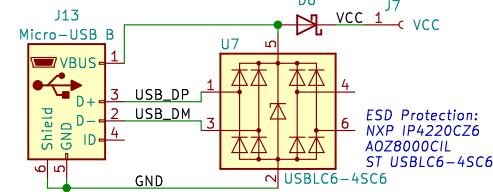


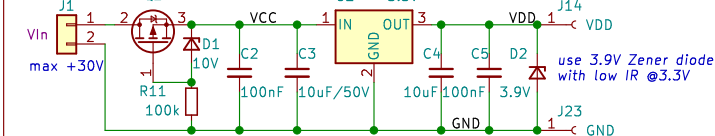
Socket Micro-USB B:
Amphenol 10103594-0001LF
Molex 105017-0001
GCT USB3076-30-A



High-voltage (>30V) SOT-223-3 LDO:
-MIC5239-3.3YS
-MIC5233-3.3YS (36V)
-LT1129CST-3.3
-LT1121CST-3.3
-SPX2954M3-1-3-3
-NCV4274AST33T3G (40V)
-NCV4264-2CST33T3G (45V)
-MCP1790-3302E
-MCP1799-3302H (45V)
U2 3.3V

reverse current protection

any P-CH SOT-223-3 Mosfet with $V_{gs(th)} \max < 2V$,
 $V_{ds} > 30V$, $I_d > 5A$, low $R_{ds(on)}$
-ZXMP4A16GTA

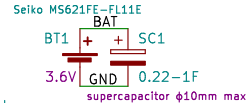
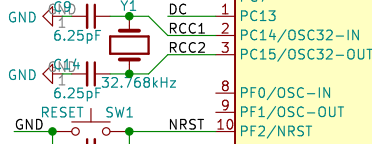


fixed terminal blocks:
CUI TB002-500-02BE
TE 1776244-2, 1776266-2, 1776504-2, 1776269-2
Degson DG301-5.0

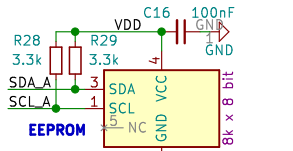
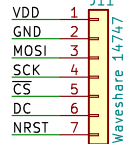
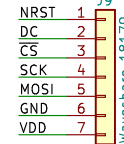
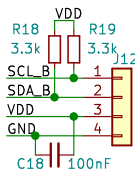
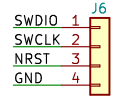
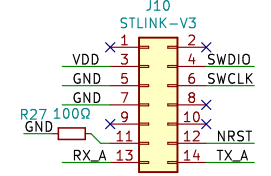
alternative, pin-compatible MPUs, min 64k flash, 44-10:

STM32G031C8Tx/Ux
STM32G041C8Tx/Ux
STM32G051C8Tx/Ux
STM32G061C8Tx/Ux
STM32G071C8Tx/Ux
STM32G081C8Tx/Ux (128k)
STM32G091C8Tx/Ux (128k)
STM32G0B1C8Tx/Ux (128k)
STM32G0B1CCTx/Ux (256k)
STM32G0B1CETx/Ux (512k)

Note: the required crystal capacitance is combined capacitance of two capacitors

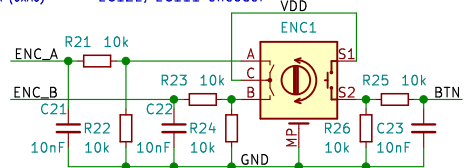


for Segger J-Link mini use pins 3-12



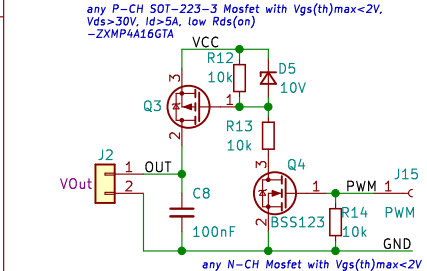
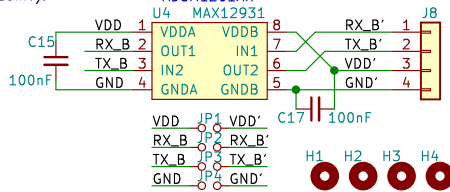
Note: 24CWxx EEPROM comes with preconfigured lower 3 bit address, '0' in p/n indicates address 1010_000X (0xA0)

Bourns PEC12R-4xxxK-Sxxxx
Bourns PEC12R-4xxxK-Sxxxx
Bourns PEC11R-4xxxK-Sxxxx
Bourns PEC11R-4xxxK-Sxxxx
or any popular single-channel Alps EC11E, G, M, N
EC12E, EC111 encoder



Note: Bourns encoders are preferred. Unlike most ALPS encodes (besides EC120). Bourns encoders have dent stability position between signal edges.

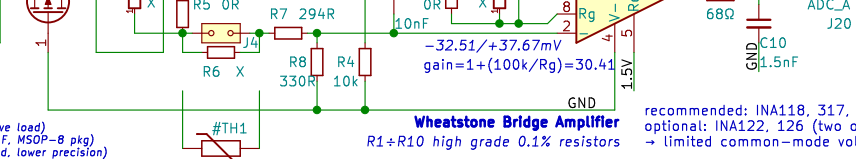
optoisolators: MAX12931, MAX22246, Si8422/26, ADuM1281/86, ISO7021, ISO6720?, ISO7720, iLE612-3E, ADuM1201AR



any low-offset (<0.1mV), high output current OpAmp
high Cload drive
OPA388, NCS2005 (light capacitive load)
OPA350EA/OP1177ARM (up to 1 μ F, MSOP-8 pkg)
LM8261 (unlimited capacitive load, lower precision)

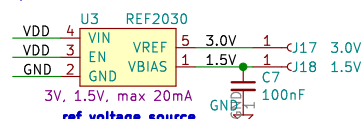
reverse current protection

any P-CH Mosfet with $V_{gs(th)} \max < 2V$, low $R_{ds(on)}$
-PMV100EPAR
-NXV90EPR
-Si2343CDS-T1-GE3
-Si2307CDS-T1-E3
-CPH3351-TL-W



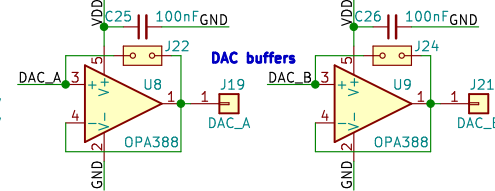
22+530 (21+450°C)
for WSP80 use socket: Amphenol T 3437 000

instead of REF2030 a) internal MPU 2.5V VREFBUF can be used with divider and buffers (OpAmps), b) DACs can be used as Vref sources as well



ref voltage source

consider driving EN from MPU



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))

To drive light capacitive load use OPA388, NCS2005, OPA350EA/OP1177ARM (up to 1 μ F, MSOP-8 pkg), OPA2350EA/OP2177ARM (up to 1 μ F, MSOP-8 pkg, double), LM8261 (unlimited capacitive load, lower precision)

recommended: INA118, 317, 333, 823
optional: INA122, 126 (two op-amp architecture → limited common-mode voltage range)

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Title: All-purpose Power Micro Controller, Copyright © 2022 Tomasz Jastrzębski	
Size: A4	Date:
KiCad E.D.A. kicad (5.1.6)-1	License: CC BY-NC-ND 4.0
Rev: 3.1	
Id: 1/1	