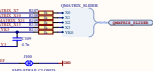
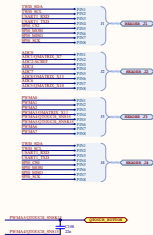


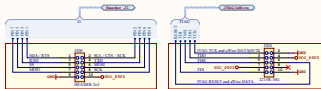
TABLE 1
Product identification
Serial number



Amel Group	+
Amel Group 74	+
Amel Group 75	+
Amel Group 76	+
Amel Group 77	+
Amel Group 78	+
Amel Group 79	+
Amel Group 80	+
Amel Group 81	+
Amel Group 82	+
Amel Group 83	+
Amel Group 84	+
Amel Group 85	+
Amel Group 86	+
Amel Group 87	+
Amel Group 88	+
Amel Group 89	+
Amel Group 90	+
Amel Group 91	+
Amel Group 92	+
Amel Group 93	+
Amel Group 94	+
Amel Group 95	+
Amel Group 96	+
Amel Group 97	+
Amel Group 98	+
Amel Group 99	+
Amel Group 100	+

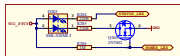






Spare Digital Signals

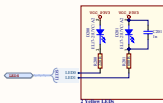
21a/21b Interface



Power LED and USB Status LED



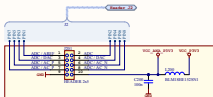
1 Push Button



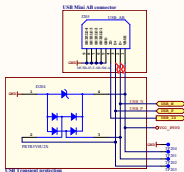
2 Yellow LEDs



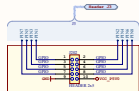
1 Push Button



ADC (VCC/VL) channels



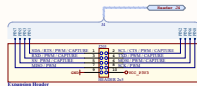
USB Transient protection



Spare Digital Signals

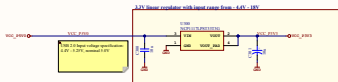


1 Push Button



ATMEL Storage	+	
Vector Revision 74	+	
0-TYPE RELEASE	+	
DATE	7/23/2013	1:05:44 PM
Document number	3	Revision 4
FILE: 003-00 RELEASED		
20-RevB		





This regulator can handle up to 10V input voltage and maximum 1.0A load current, with a maximum voltage drop of 1.0V. The output voltage is 3.3V \pm 0.7%. The maximum quiescent current is 700nA. NOTE1: the worst-case output voltage may drop down to 3.0V with 0.0V input voltage.

NOTE2: ESR on output capacitor should be larger than 20m Ω to maintain stable regulation. Higher value on the output capacitor will also improve loop stability and give better transient response which reduces output noise.

CPU Power Supply Measurement Header



0.0V

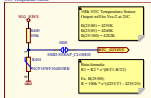
MCP1801

See on 0700 pin1.2

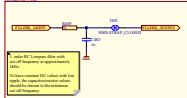
ATMEL Norway	+				
Vector Boston 76	+				
0-1076 011146	+				
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Document number:	4		Revision:	4	
07014-00-00 000000					
PowerManagement-00000					



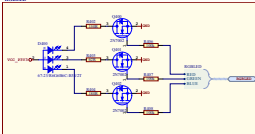
NTC Temperature Sensor



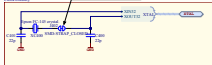
Lowpass RC Filter



RGBLED



Clock circuitry



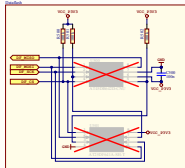
Crystal datasheet:
 Load capacitance $C_L = 12.5 \text{ pF}$
 Drive Level 0.1mW
 Frequency tolerance 50ppm
 Drive Level 0.1mW

AT24C16/AT24C16/AT24C16:
 Internal equivalent capacitance of the device is $C_1 = 2 \text{ pF}$
 The package and pin capacitance is negligible ($< 1 \text{ pF}$)
 $C = 2(C_L + C_1) = 2(12.5 + 2) \text{ pF} = 31 \text{ pF}$
 Selected value is 22pF

ATMEL Storage	+		
Vector Revision 76	+		
0-1010 011111	+		
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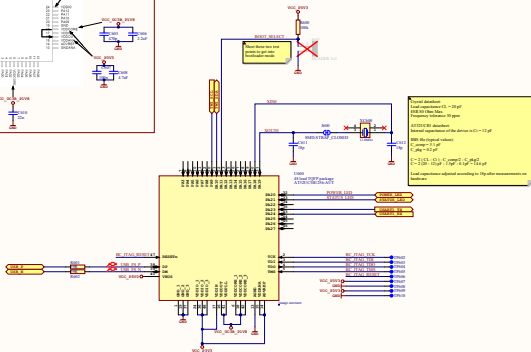
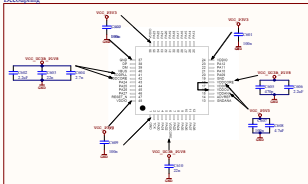
Feedback



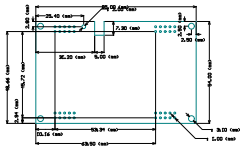
ATMEL Storage	+				
Vector Search 74	+				
8-TYPE 81144	+				
MODEL					
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Document number:	6		Revision:	6	
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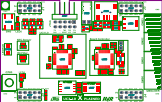


Decoupling

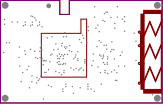


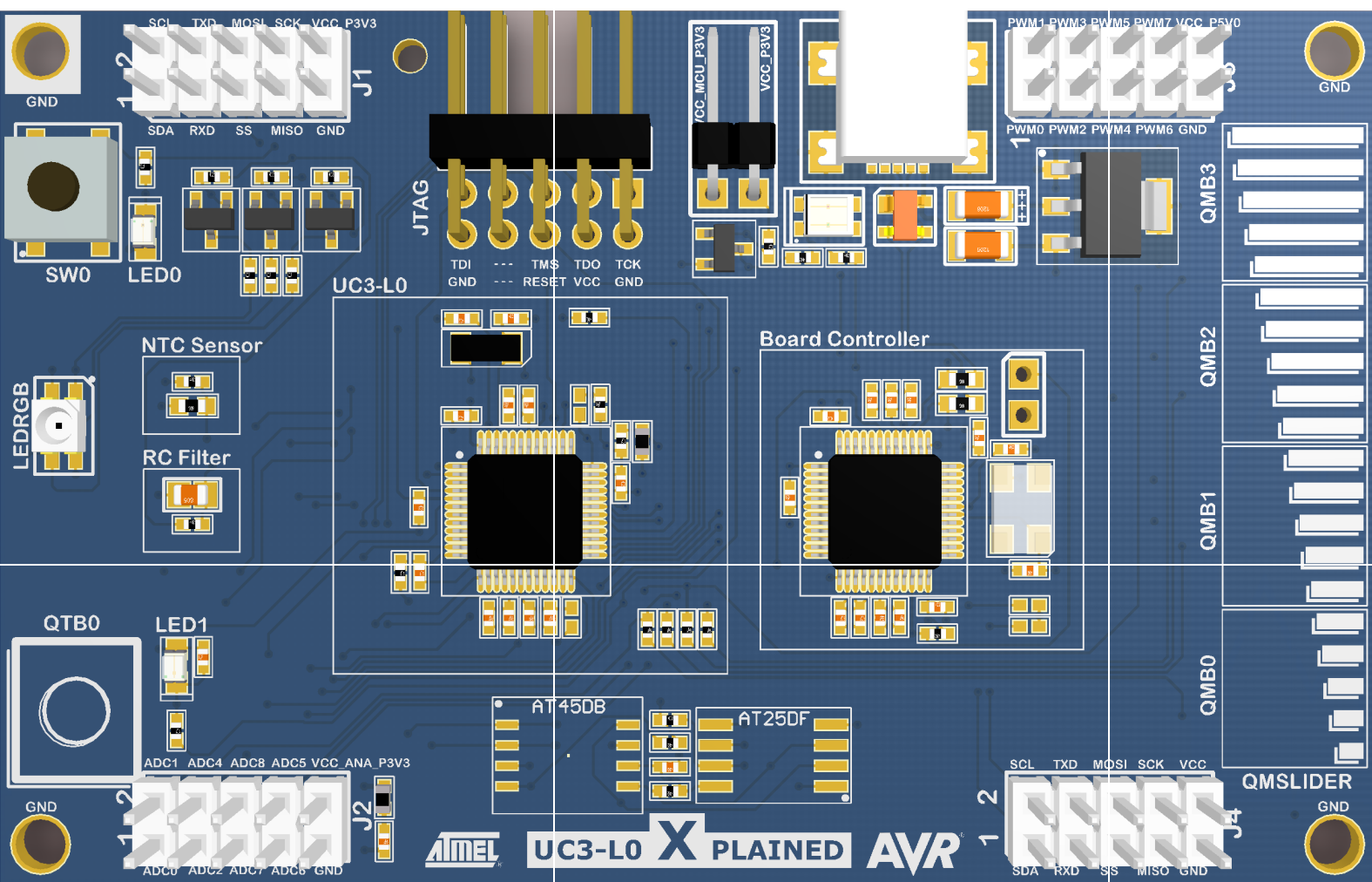
Mechanical Dimensions:











A08-0808, Rev 4
PCBA LABEL



Atmel Corp © 2010

VCC_P5V0 PA11 PB09 PA22 PA17
GND PB04 PB12 PA20 PA13

TP201 TP203
TP202 TP204

BC JTAG

GND	VCC	RESET	...	GND

TCK TDO TMS TDI

BC BOOTLOADER
SHORT TO ENTER
THE BOOTLOADER

XC TP

TP100
TP101
TP102

XC TP

ANALOG SIGNALS

CUT STRAP TO
DISCONNECT ONBOARD
ANALOG SIGNALS
FROM THE ADC

ADC4
ADC2
ADC0

VCC_P3V3 PB01 PB03 PB10 PB05
GND PB02 PA08 PB11 PA21

TP200

VCC_P3V3 PB01 PB03 PB10 PB05
GND PB02 PB00 PB11 PA21

VCC_ANA_P3V3 PA19 PB08 PA18 PA15
GND PB06 PB07 PA18 PA14



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Designator	Quantity	MPN	Manufacturer	Value	Description
C100, C602, C606	3	C0402C225M9PAC	Kemet	2.2uF	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-20%
C101, C103, C104, C105, C106, C200, C500, C600, C601, C607, C609	11	C0402C104K4RACTU	Kemet	100n	Ceramic capacitor, SMD 0402, X7R, 16V, +/-10%
C102, C107, C608	3	GRM155R60J475ME87D	Murata	4.7uF	Ceramic capacitor, SMD 0402, X5R, 6.3V, +/-20%
C108, C603, C610	3			22n	Ceramic capacitor, SMD 0402, X7R, 25V, +/-10%
C109	1			4.7n	Ceramic capacitor, SMD 0402, X7R, 25V, +/-10%
C201	1			1n	Ceramic capacitor, SMD 0402, X7R, 50V, +/-10%
C300	1	GRM31CR71C106KA12L	Murata	10u	Ceramic capacitor, SMD 1206, X7R, 16V, ±10 %
C301	1	TR3A106K016C1700	vishay	10u	SMD tantalum capacitor, ESR = 1.7, 3216-18 (EIA) 1206,
C400, C401	2			22p	Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
C402	1			1u	Ceramic capacitor, SMD 0805, X7R, 16V, ±10 %
C604	1			2.7n	Ceramic capacitor, SMD 0402, X7R, 25V, +/-10%
C605	1			470p	Ceramic capacitor, SMD 0402, X7R, 50V, +/-10%
C611, C612	2			18p	Ceramic capacitor, SMD 0402, NP0, 50V, +/-5%
D200, D201	2	EL17-21UYC/ A2	Everlight	EL17-21UYC/ A2	LED, Yellow, wave length=591nm, SMD 0805, ±70°
D204	1	PRTR5V0U2X	Philips	PRTR5V0U2X	Double rail-to-rail USB ESD protection diode
D205	1	SML-020MLT	ROHM	SML-020MLT	LED, 2 colour (RED/GREEN), transparent clear lens, SMD
D400	1	67-23/ R6G6B6C-B38/ 2T	Everlight	67-23/ R6G6B6C-B38/ 2T	RGB LED
J200, J201, J202, J203	4	CD075014 2X5	Freber	CD075014 2X5	2x5 pin header, 2.54 mm pitch, Pin-in-Paste THM
J204	1	2213R-10G	Multicomp	2213R-10G	Header, 2 Row, R/Angle, 10 Way
J205	1	MUSB-05-F-AB-SM-A	SAMTEC	MUSB-05-F-AB-SM-A	USB Mini-AB Connector, SMD
J300	1	2213R-2G	Pro-data International Corp	Pin header 1x2 right angle	1x2 pin header, right angle, 2.54 mm pitch, through-hole
JS300	1	SNT-100-BK-G	SAMTEC	SNT-100-BK-G	Jumper cap for 2.54mm pinheader
L100, L200	2	BLM18HE152SN1	Murata	BLM18HE152SN1	SMD RF inductor 0603, Z=1500Ohm (@100MHz), Max R(dc)=0.50Ohm, Max current=500mA
LABEL1	1	505462	ACT Logimark AS	Label PCBA	PCBA identification label PP Top White Gloss
PCB1	1			A08-0808	UC3-L0 XPLAINED PCB, 4-layer, size 54mm x 85mm
Q200, Q400, Q401, Q402	4	2N7002	Fairchild	2N7002	N-Channel MOSFET. 60V, 0.115A continuous, 0.8A Peak. RDS(ON) = 7.5Ohm@VGS=5.0V, VGS(th)<3V
R102, R104	2			0R	Thick film resistor, SMD 0402, 1/16W, 1%
R105, R201	2			680R	Thick film resistor, SMD 0402, 1/16W, 1%
R107, R108, R109, R110, R111, R405	6			1k	Thick film resistor, SMD 0402, 1/16W, 1%
R200, R204, R205	3			220R	Thick film resistor, SMD 0402, 1/16W, 1%
R206	1	RK73H1ETTP1004F	KOA	1M	Thick film resistor, SMD 0402, 1/16W, 1%
R400, R406, R407, R408, R500, R501, R502, R600	8			100k	Thick film resistor, SMD 0402, 1/16W, 1%
R401	1	NCP18WF104J03RB	Murata	NCP18WF104J03RB	NTC thermistor 100kOhm @ 25deg, 1/10W, 5%, SMD 0603
R402	1			150R	Thick film resistor, SMD 0402, 1/16W, 1%
R403	1			62R	Thick film resistor, SMD 0402, 1/16W, 1%
R404	1			180R	Thick film resistor, SMD 0402, 1/16W, 1%
R601, R602	2	RK73H1JTDD39R0F	KOA	39R	Thick film resistor, SMD 0603, 1/10W, 1%
SW200	1	SKRAAKE010	ALPS	SKRAAKE010	6.2x6.2mm SMD tact switch, same as A08-0091 but less force is needed
U100	1	AT32UC3L064-AUT	ATMEL	AT32UC3L064-AUT	AVR32 UC3L 48 pins
U300	1	NCP1117LPST33T3G	ON Semiconductor	NCP1117LPST33T3G	The low power version of the popular NCP1117
U600	1	AT32UC3B1256-AUT	ATMEL	AT32UC3B1256-AUT	AVR 32-bit RISC MCU
XC400	1	FC-145 32.7680KA-A0 / Q13FC1450000614	Epson Toyocom	Q13FC1450000614	32KHz crystal, SMD, 4.1 x 1.5 mm, FC-145
XC600	1	FQ5032B-12-C-C-C-200-1 / 738B-	Fox Electronics	12.0MHz	Fox FQ5032B 12.0MHz SMD crystal