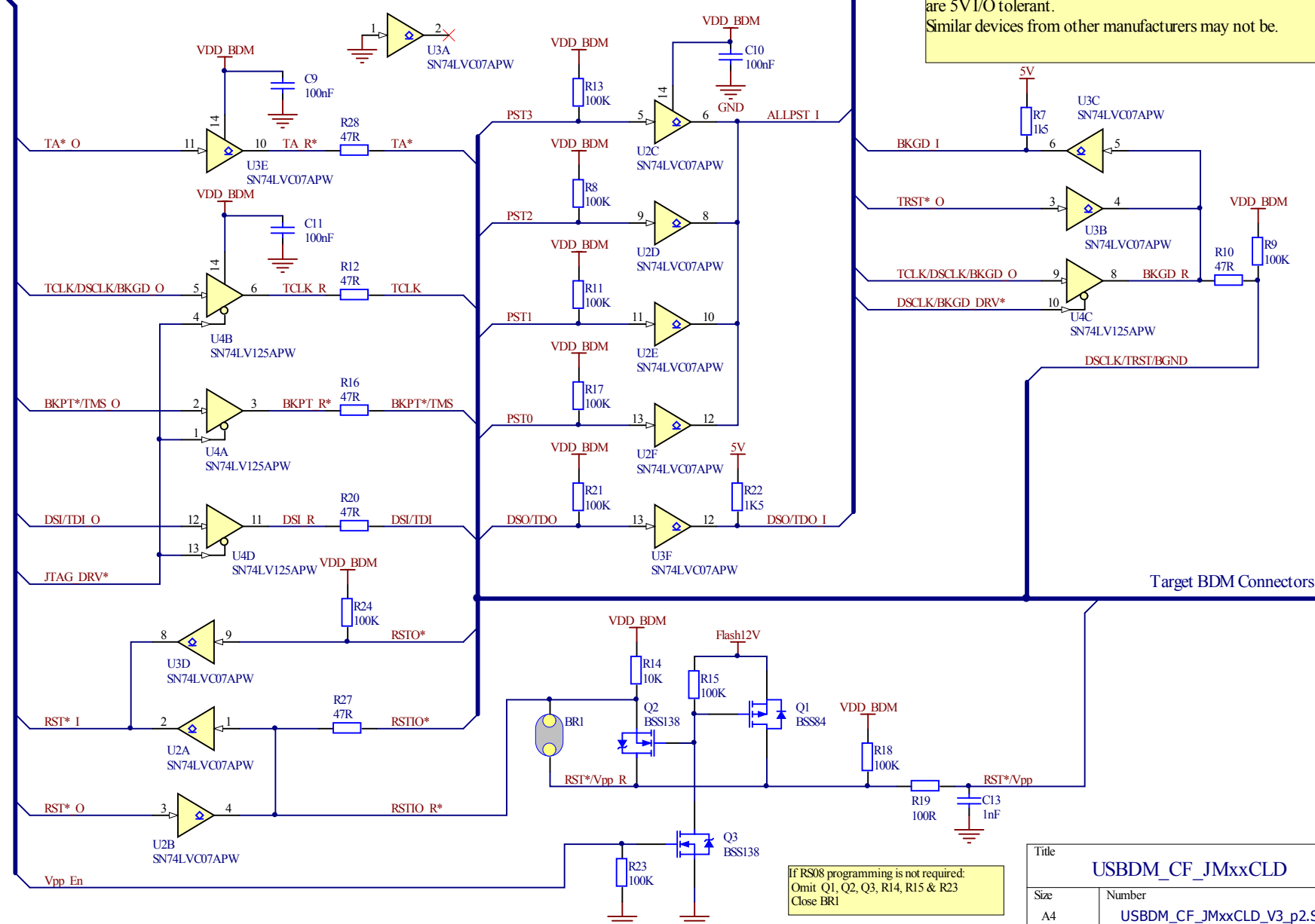


- Ver 1.1 - Initially built design
- Ver 1.2 -
 - Changed to 74LVC07AD to make interfaces more independent.
 - Adopted use of SPIs for Coldfire V2,3,4 and JTAG interfaces
 - Pin usage changes for above.
 - Added pull-up resistors to all BDM inputs.
 - Added series terminating resistors to high speed drivers.
 - Changed size of SOIC pad to make hand soldering easier.
- Ver 1.3 -
 - Added ALLPST* signal (U2) and used spare gates to reduce transistor count.
- Ver 1.4 -
 - Changed Target Voltage supply switching and regulation.
- Ver 1.5 -
 - Changed Coldfire BDM connector layout to accommodate keyed connector
 - Added PUP to RESET* line
 - Corrected Polyfuse name (no PCB change)
- Ver 1.6 -
 - Change R3 to 1M (no PCB change)
 - Added DSC usage labels (no PCB change)
 - Added DRC ignores on unused device pins
- Ver 3.0
 - Added multiple target connectors
 - Added R27
 - Added serial interface
- Ver 3.1
 - PCB redone for single-sided
 - Additional connectors

Title		
USBDM_CF_JMxxCLD		
Size	Number	Revision
A4	USBDM_CF_JMxxCLD_V3_p1.SchDoc	3.1
Date:	23/08/2011	Sheet 1 of 4
File:	C:\Peter\USBDM CF_JMxxCLD_V3_p1.SchDoc Drawn By:	

BDM Interface

NOTE:
 TI SN74LV125 & SN74LVC07 devices must be used since they are 5V I/O tolerant.
 Similar devices from other manufacturers may not be.

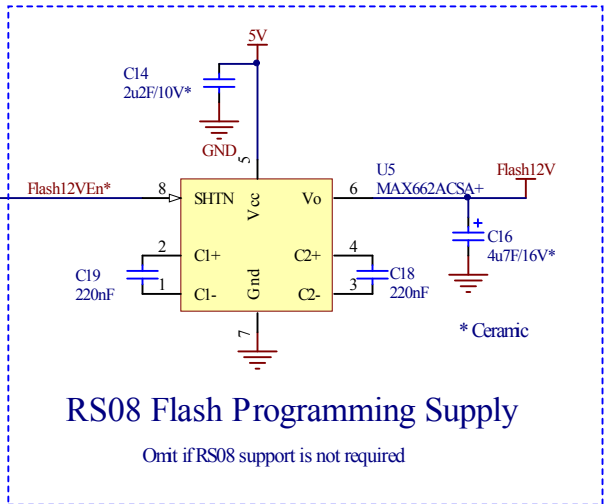


BDM Interfaces

If RS08 programming is not required:
 Omit Q1, Q2, Q3, R14, R15 & R23
 Close BR1

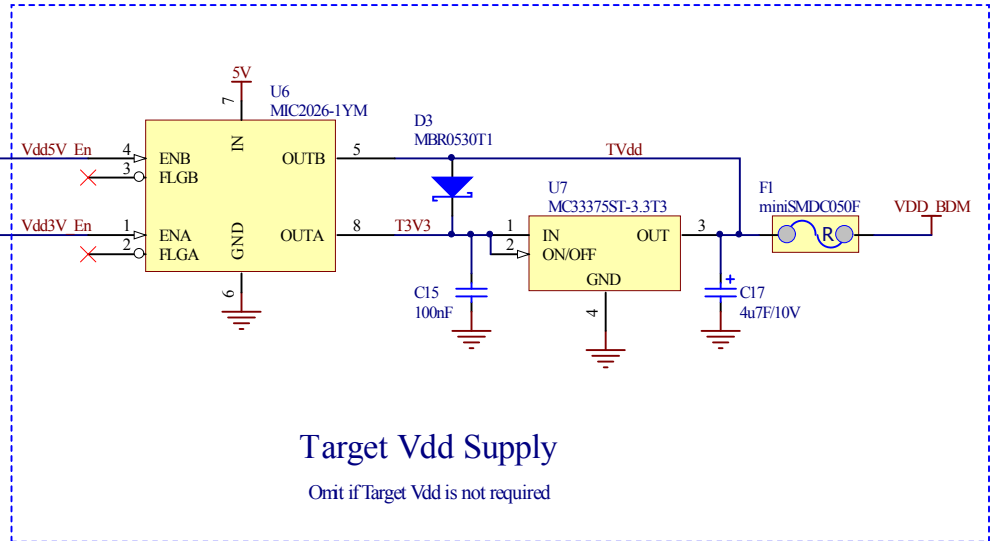
Title		
USBDM_CF_JMxxCLD		
Size	Number	Revision
A4	USBDM_CF_JMxxCLD_V3_p2.SchDoc	3.1
Date:	23/08/2011	Sheet 2 of 4
File:	C:\Peter\USBDM CF_JMxxCLD_V3_p2.SchDoc	

BDM Interface



RS08 Flash Programming Supply

Omit if RS08 support is not required

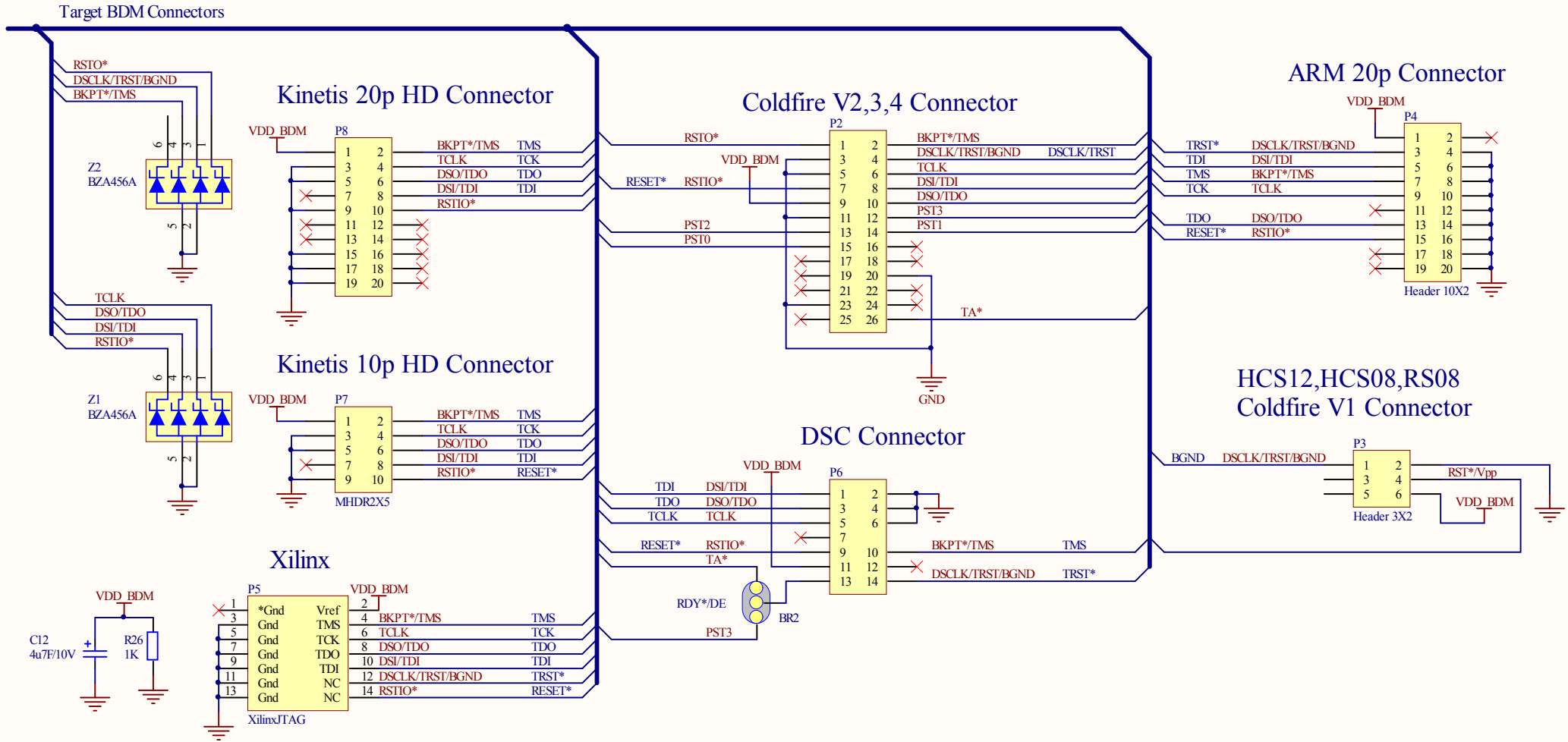


Target Vdd Supply

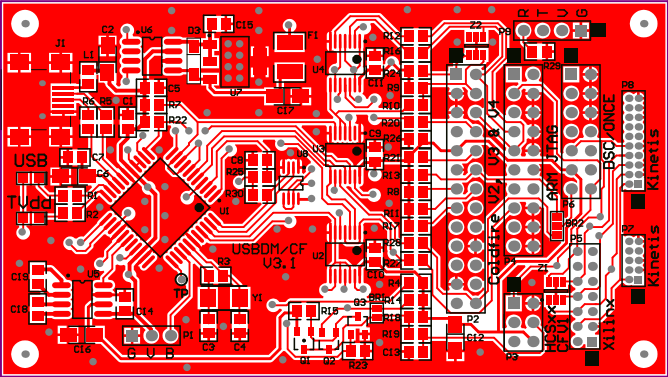
Omit if Target Vdd is not required

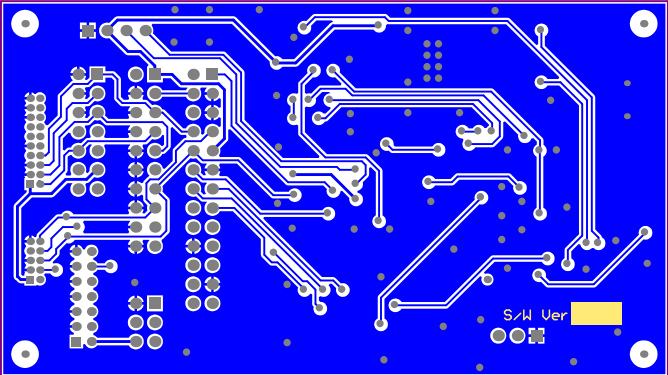
Signal	Port	Dir'n	Buffer	BDM	BDMCF	JTAG	EzPort	EONCE
TCLK/DSCLK/BKGD_O	PTE.7	Out	U4D Out/3-state	BKGD				
TCLK/DSCLK/BKGD_O	PTE.6/SPSCK1	Out	U4D Out		DSCLK			
TCLK/DSCLK/BKGD_O	PTE.6/SPSCK1	Out	U4B Out			TCLK	EZPCK	TCLK
TCLK/DSCLK/BKGD_O	PTB.2/SPSCK2	In	-					
DSCLK/BKGD_DRV*	PTF.5	Out	U4D_oe* (Tx)					
DSCLK/BKGD_DRV*	PTE.1	Out	U4D_oe* (Rx)					
TA_O*	PTF.4	Out	U3E Out (O/C)			TA*		DE*
TRST_O*	PTE.3	Out	U3B Out (O/C)			TRST*		TRST*
BKPT*/TMS_O	PTB.0	Out	U4A Out		BKPT*			
BKPT*/TMS_O	PTB.0/MISO2	Out	U4A Out			TMS		TMS
DSI/TDI_O	PTE.5/MOSI1	Out	U4C Out		DSI	TDI	EZPD	TDI
BKGD_I	PTE.0	In	U3C In/OC	BKGD				
BKGD_I	PTE.2/TPM1CH0	In	U3C In/OC	BKGD				
DSO/TDO_I	PTE.4/MISO1	In	U3F Out		DSO	TDO	EZPQ	TDO
RST*_I	PTF.1/TPM1CH3	In	U3D In/OC		RSTO			
RST*_I	PTF.1/TPM1CH3	In	U2B In/OC		RSTIO			RST
RST*_O	PTC.4	Out	U2A Out (O/C)	RST	RSTIO			
ALLPST	PTC.5	In	U2x In/OC x 4		PST0-4			

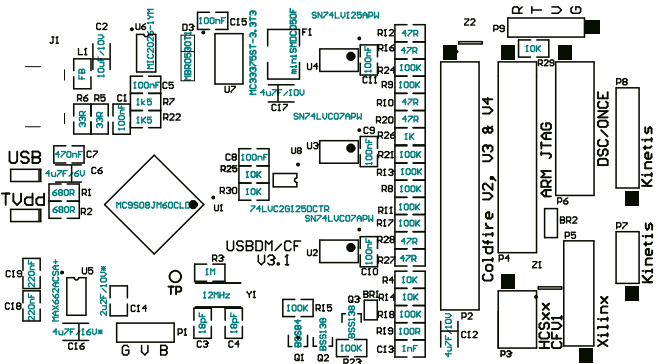
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USBDM_CF_JMxxCLD		
Size	Number	Revision
A4	USBDM_CF_JMxxCLD_V3_p3.SchDoc	3
Date:	23/08/2011	Sheet 3 of 4
File:	C:\Peter\USBDM CF_JMxxCLD_V3_p3.SchDoc	



Title USBDM_CF_JMxxCLD		
Size A4	Number USBDM_CF_JMxxCLD_V3_p4.SchDoc	Revision 3.1
Date:	23/08/2011	Sheet 4 of 4
File:	C:\Peter\USBDM CF_JMxxCLD_V3_p4.SchDoc Drawn By:	







Bill of Materials

USBDM_CF_JMxxCLD

Source Data From:	USBDM_CF_JMxxCLD_V3.PRJPCB
Project:	USBDM_CF_JMxxCLD_V3.PRJPCB
Variant:	None
Creation Date:	23/08/2011 9:13:05 PM
Print Date:	23-Aug-11 9:13:14 PM

Footprint	Comment	Farnell PN	#Column Name Error:Digit	Designator	Description	Quantity
HEADER_2x7_2mm	XilinxJTAG			P5		1
SO-G8/E2.9	MAX662ACSA+	9724605		U5	12V Charge Pump for Flash Memory	1
CCNP2012-0805	100nF	1186187		C1, C5, C8, C9, C10, C11, C15	Capacitor SMT	7
CCNP2012-0805	18pF	1414673		C3, C4	Capacitor SMT	2
CCNP2012-0805	1nF	1362553		C13	Capacitor SMT	1
CCNP2012-0805	220nF	8820139		C18, C19	Capacitor SMT	2
CCNP2012-0805	2u2F/10V*	9402152		C14	Capacitor SMT	1
CCNP2012-0805	470nF	1288279		C7	Capacitor SMT	1
XTAL_SMT - 5x3.2	12MHz	1368769		Y1	Crystal (Low profile SMT)	1
TSSO3x5-G8/X4	74LVC2G125DCTR	1470883		U8	Dual 3-state Buffer 1.65V-5.5V	1
CR2012-0805	FB	1515661		L1	Ferrite Bead (0805)	1
QFP80P1320X1320-44M	MC9S08JM60CLD	1562859		U1	HCS08 CPU with USB, 44p QFP (0.8mm)	1
HDR1X3	Header 3			P1	Header, 3-Pin	1
HDR2X3	Header 3X2			P3	Header, 3-Pin, Dual row	1
HDR1X4	Serial			P9	Header, 4-Pin	1
MHDR2X5	MHDR2X5			P7	Header, 5-Pin, Dual row	1
HDR2X7	Header 7X2	3816266		P6	Header, 7-Pin, Dual row	1
HDR2X10	Header 10X2			P4	Header, 10-Pin, Dual row	1
MHDR2X10	MHDR2X10			P8	Header, 10-Pin, Dual row	1
HDR2X13	Header 13X2			P2	Header, 13-Pin, Dual row	1
PW014_M	SN74LVC07APW	1236302		U2, U3	Hex open-drain buffer/driver	2
LED-SMT-2	LED Green	5790852		D1	LED (Green SMT)	1
LED-SMT-2	LED Red	5790839		D2	LED (Red SMT)	1
318E-04	MC33375ST-3.3T3	1150444		U7	Low Dropout 300mA Voltage Regulator with ON/OFF Control	1
SOT23-1	BSS138	1467960		Q2, Q3	N-Channel Enhancement Mode Vertical DMOS FET	2
SOT23	BSS84	1094997		Q1	P-channel Enhancement Mode Vertical D-MOSFET	1
SMT_CaseA	10uF/10V	1288264		C2	Polarized Capacitor	1
SMT_CaseA	4u7F/10V	9527737		C12, C17	Polarized Capacitor	2
SMT_CaseA	4u7F/16V*	1358506		C16	Polarized Capacitor	1
SMT_CaseA	4u7F/6V	9527737		C6	Polarized Capacitor	1
CR4532-1812	miniSMD050F	1175839		F1	Polyswitch	1
SO-G8/E2.9	MIC2026-1YM	4461964,1517242		U6	Power Switch	1
PW014_M	SN74LV125APW	9592512		U4	Quad 3-state Buffer - 5V tolerant	1
SOT457_M	BZA456A	F8735069		Z1, Z2	Quad Unipolar Protection Device (5V6)	2
CR2012-0805	100K	9332405		R8, R9, R11, R13, R15, R17, R18, R21, R23, R24	Resistor SMT	10
CR2012-0805	100R	1632456		R19	Resistor SMT	1
CR2012-0805	10K	1638463		R4, R14, R25, R29, R30	Resistor SMT	5
CR2012-0805	1K	1638463		R26	Resistor SMT	1
CR2012-0805	1k5	1632464		R7, R22	Resistor SMT	2
CR2012-0805	1M	?		R3	Resistor SMT	1
CR2012-0805	33R	1631399		R5, R6	Resistor SMT	2
CR2012-0805	47R	1632490		R10, R12, R16, R20, R27, R28	Resistor SMT	6
CR2012-0805	680R	9334785		R1, R2	Resistor SMT	2
SOD123	MBR0530T1	1126551		D3	Schottky Diode	1
USB_Mini - SMT2	USB_MINI_CONNECTOR	1363522		J1	USB Mini-B Connector	1
						78

Approved	Notes