

REVISION HISTORY					
REV	DESCRIPTION	CAT	DWN	ENGR	SEE JPL DATA MANAGEMENT SYSTEM FOR APPROVAL SIGNATURES AND DATES
A	_____ INITIAL RELEASE _____	II	—	—	
B	CHANGED WHEB CONNECTOR, P6 TO 50 PINS. ADC_CS AND SG_SWAP ARE NOW ADC_CS1 AND ADC_CS2. SG_ENA IS NOW SPARE3. FL_METER_ENA AND THERMISTOR ENABLE CHANGED TO nADC_DRDY1 AND nADC_DRDY2 RETURN SIGNALS FROM THE WHEB ADCs. CFG0 THRU CFG2 NOW ARE INPUTS FROM THE WHEB. ADDED FLASH DEVICE, U11. ADDED SPI ADDRESS DECODER, U5. ADDED 1-WIRE INTERFACE, U13. ADDED SPI PROGRAMMING SIGNALS FOR WING BOARD FPGAs. ADDED ON-BOARD 3.0V REFERENCE DEVICE, U14, AND BUFFERS, U15, AND ISOLATION CHECK CIRCUITS. ADDED JP6, JP7, AND JP8.	II	D. PALMER	C. SHELTON	

1. DO NOT INSTALL R99, R107, AND R108.

NOTES: UNLESS OTHERWISE SPECIFIED

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		CONTRACT NO. _____		JET PROPULSION LABORATORY CALIFORNIA INSTITUTE OF TECHNOLOGY PASADENA, CA 91109			
		DWN	D. PALMER				
		ENGR	C. SHELTON				
		SEE JPL DATA MANAGEMENT SYSTEM FOR APPROVAL SIGNATURES AND DATES		TITLE PARTS LIST, USEB MICRO-CONTROLLER UNIT			
10398571	TMT						
NEXT ASSY	USED ON						
APPLICATION							
		SIZE B	DAI 23835	DWG NO PL10398571		REV B	
		SCALE: NONE				SHEET 1 OF 3	

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DWG NO PL10398571		TITLE: PARTS LIST, USEB MICRO-CONTROLLER UNIT		DAI 23835	REV B				SHEET 2 OF 3
ITEM NO	DESIGNATOR	DESCRIPTION	FOOTPRINT	MFR.	MFR. NO.	PREF. VENDOR	PREF. VENDOR NO.	QTY PER BOARD	NOTES
1.	C20, C21	CAP CER 0.1UF 50V 10% X7R 0805	CAPCP2012X14N	TDK	C2012X7R1H104K125AM	Digikey	445-6045-1-ND	2	
2.	C12, C13, C16, C17	CAP CER 0.1UF 100V X7R 0805	CAPCP2012X14N	Kemet	C0805X104K1RACAUTO	Digikey	399-11601-1-ND	4	
3.	C1, C2, C3, C4, C5, C6, C8, C9, C10, C11, C15, C19, C27, C28, C38, C41, C42, C46, C47, C53, C54, C55, C56, C57, C59, C61	CAP CER 0.47UF 16V 10% X7R 603	CAPCP1608X09N	Murata	GCM188R71C474KA55D	Digikey	490-4775-1-ND	26	
4.	C39, C62, C63, C64	CAP CER 1UF 25V X7R 0603	CAPCP1608X09N	TDK	CGA3E1X7R1E105K080AE	Digi-Key	445-173628-1-ND	4	
5.	C18, C30, C48, C49, C50, C51, C52, C58, C65, C66	CAP CER 10UF 10V X7R 0805	CAPCP2012X14N	Kemet	C0805X106M8RACAUTO	Digikey	399-15692-1-ND	10	
6.	C32, C33, C34, C36, C43, C44	CAP CER 10UF 16V 10% X7R 1206	CAPCP3316X19N	TDK	CGA5L1X7R1C106K160AC	Digikey	445-12902-1-ND	6	
7.	C7, C14, C22	CAP CER 10UF 100V 10% X7S 2220	CAPCP5850X26N	TDK	CGA9N3X7S2A106K230KE	Digikey	445-8768-1-ND	3	
8.	C40	CAP CER 22PF 100V 5% NP0 0603	CAPCP1608X09N	Murata	GRM1885C2A220JA01D	Digikey	490-1335-1-ND	1	
9.	C23, C25, C35	CAP CER 22UF 16V 10% X7R 1210	CAPCP3225X28X05N	TDK	C3225X7R1C226K250AC	Digikey	445-3945-1-ND	3	
10.	C24	CAP CER 62PF 100V 5% NP0 0603	CAPCP1608X09N	Murata	GRM1885C2A620JA01D	Digikey	490-1346-1-ND	1	
11.	C26	CAP CER 82PF 100V 5% NP0 0603	CAPCP1608X09N	Murata	GRM1885C2A820JA01D	Digikey	490-1349-1-ND	1	
12.	C29	CAP CER 3900PF 50V C0G/NP0 0603	CAPCP1608X09N	Murata	GRM1885C1H392JA01D	Digikey	490-6387-1-ND	1	
13.	C60	CAP CER 4700PF 50V 5% NP0 0805	CAPCP1608X09N	Murata	GCM2165C1H472JA16D	Digikey	490-4973-1-ND	1	
14.	C31, C37	CAP CER 10000PF 25V 5% C0G 0603	CAPCP1608X09N	TDK	C1608C0G1E103J080AA	Digikey	445-2664-1-ND	2	
15.	TB1	CONN 4-position screw terminal block	1751264	Phoenix Contact	1751264	Digikey	277-5744-ND	1	
16.	TB2, TB3	CONN 8-position screw terminal block	1751303	Phoenix Contact	1751303	Digikey	277-5792-ND	2	
17.	JP2, JP3, JP4, JP5, JP8, JP9, JP10	CONN HEADER 2POS .100" SNGL	9-146285-0-02	Samtec	TSW-102-07-F-S	Digikey	SAM10844-ND	7	
18.	JP6, JP7	CONN HEADER 4POS .100" SNGL	9-146285-0-04	Samtec	TSW-104-07-F-S	Digikey	SAM8997-ND	2	
19.	JP1	CONN HEADER 4x2POS .100"	9-146261-0-04	Samtec	TSW-104-14-F-D	Digikey	SAM10335-ND	1	
20.	P1, P5	CONN HEADER VERT 20POS 2.54MM	TSW-110-14-L-D	Samtec	TSW-110-14-L-D	Digikey	SAM1054-10-ND	2	
21.	P3, P4	CONN HEADER VERT 40POS 2MM	155240-6302-RB	3M	155240-6302-RB	Digikey	3M5102-ND	2	
22.	P6	CONN HEADER VERT 50POS 2MM	155250-6302-RB	3M	155250-6302-RB	Digikey	3M5112-ND	1	
23.	P2	CONN HEADER VERT 98POS 2.54MM	TSW-149-07-x-D	Samtec	TSW-149-14-L-D	Digi-Key	SAM1054-49-ND	1	
24.	D2, D3	DIODE GEN PURP 200V 1A DO214AC	DO-214AC	ON	ES1D	Digikey	ES1DFSCT-ND	2	
25.	U7	DIODE TVS 7V/12V 14V/26V SOT23-3	CDSOT23	Bourns	CDSOT23-SM712	Digikey	CDSOT23-SM712CT-ND	1	
26.	D1	DIODE TVS 36VWM 58.1VC SMF	DO-219AB	Vishay	SMF36A-E3-08	Digikey	SMF36A-E3-08CT-ND	1	
27.	U5	IC 2-3 LINE DECODR/DEMULT SM8	TI-DCT-8	Texas Instruments	SN74LVC1G29DCTR	Digikey	296-18767-1-ND	1	
28.	U14	IC 3V VREF SERIES 0.05% 8VSSOP	TI-DGK-8	Texas Instruments	REF5030IDGKT	Digikey	296-24501-1-ND	1	
29.	U13	IC BRIDGE I2C TO 1-WIRE 8-SOIC	MI-S8+4	Maxim Integrated	DS2482S-100+	Digi-Key	DS2482S-100+-ND	1	
30.	U6	IC CAN TRANSCEIVER SOT23-8	SOT23-8	TI	TCAN337GDCNR	Digikey	296-48971-1-ND	1	
31.	U11	IC FLASH 32M SPI 133MHZ 8SOIC	Winbond-SS-8_N	Winbond Electronics	W25Q32JVSSIQ	Digikey	W25Q32JVSSIQCT-ND	1	
32.	U2	IC LINE RVR LVDS DUAL 3.3V 8SOIC	TI-D-8_N	TI	DS90LV028ATMX/NOPB	Digikey	DS90LV028ATMX/NOPBCT-ND	1	
33.	U4	IC LOAD SWITCH LV DUAL SOT23-8	SOT23-8	TI	TPS22960DCNR	Digikey	296-24545-1-ND	1	
34.	U1, U3	IC MULTIPLEXER LVDS 1CH 10UMAX	uMAX-10P	Analog Devices	MAX9174EUB+T	Digikey	MAX9174EUB+TCT-ND	2	
35.	U15	IC OPAMP DUAL GP 38MHZ RRO 8VSSOP	TI-DGK-8	TI	OPA2350EA/2K5	Digikey	296-39117-1-ND	1	
36.	U8	IC REG BUCK BST ADJ 1A/2A 16-DFN	LT-DHD-16_V	Linear Technology	LTC3115IDHD-1#PBF	Digikey	LTC3115IDHD-1#PBF-ND	1	
37.	U9	IC REG BUCK SYNC ADJ 0.5A 8WSON	TI-DSG-8	Texas Instruments	TPS62170DSGT	Digikey	296-30229-1-ND	1	
38.	U12	IC REG INV ADJ 0.25A TSOT23-6	LT-S6-6-TSOT-23	Linear Technology	LT3462AES6#TRMPBF	Digikey	LT3462AES6#TRMPBFCT-ND	1	
39.	U10	IC REG LDO ADJ 150mA 8MSOP	TI-DGN-8	Texas Instruments	TPS7A4901DGNR	Digikey	296-27751-1-ND	1	
40.	L7	IND 10UH 1.5A 198 MOHM	IND_VLCF5020-1	TDK	VLCF5020T-100M1R1-1	Digikey	445-3209-1-ND	1	
41.	L8, L9	IND 10UH 300MA 680 MOHM	INDC2012X14N	TDK	MLZ2012M100HT000	Digikey	445-8656-1-ND	2	
42.	L3	IND 15UH 2.2A 47.2 mOHM	IND_TDK_SLF10145T	TDK	SLF10145T-150M2R2-H	Digikey	445-3827-1-ND	1	
43.	L10, L11	IND 22UH 600MA 622 MOHM	IND_SR3015	Bourns Inc.	SRN3015-220M	Digikey	SRN3015-220MCT-ND	2	
44.	L5	IND 47UH 2.8A 71 MOHM SMD	IND_VLF12060T	TDK	VLF12060T-470M2R8	Digikey	445-3597-1-ND	1	
45.	L1, L2, L4	IND 100UH 140MA 4.55 OHM 0805	INDC2012X14N	TDK	KLZ2012NHR101LTD25	Digikey	445-174997-1-ND	3	
46.	R22, R29	RES 1.0 OHM 1/8W 1% 0805	RESC2012N	Panasonic	ERJ-6RQF1R0V	Digikey	P1.0DCT-ND	2	
47.	R14	RES 100K OHM 1/8W 1% 0805 SMD	RESC2012N	Panasonic	ERJ-6ENF1003V	Digikey	P100KCCT-ND	1	
48.	R8, R11, R12, R40, R43, R44, R45, R47, R49, R50, R52, R56, R57, R59, R69, R70, R72, R88, R91, R92, R95, R97, R102, R111, R115, R116	RES SMD 0.0 OHM JUMPER 0603	RESC1608X06N	Panasonic	ERJ-3GEY0R00V	Digikey	P0.0GCT-ND	26	
49.	R31	RES SMD 0.0 OHM JUMPER 0805	RESC2012N	Vishay Dale	CRCW08050000Z0EA	Digikey	541-0.0ATR-ND	1	
50.	R142	RES SMD 1 OHM 1% 1/10W 0603	RESC1608N	Panasonic	ERJ-3RQF1R0V	Digikey	P17371CT-ND	1	
51.	R122	RES SMD 1.00K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF1001V	Digikey	P1.00KHCT-ND	1	
52.	R2, R16	RES SMD 1M OHM 1% 1/8W 0805	RESC2012N	Panasonic	ERJ-6ENF1004V	Digikey	P1.00MCCT-ND	2	
53.	R26	RES SMD 1.69K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF1691V	Digikey	P1.69KHCT-ND	1	
54.	R28, R30	RES SMD 2.49K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF2491V	Digikey	P2.49KHCT-ND	2	
55.	R23	RES SMD 5.49K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF5491V	Digikey	P5.49KHCT-ND	1	
56.	R100, R121, R124, R138, R139	RES SMD 10K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF1002V	Digikey	P10.0KHCT-ND	5	
57.	R19	RES SMD 15.4K OHM 1% 1/8W 0805	RESC2012N	Panasonic	ERJ-6ENF1542V	Digikey	P15.4KCCT-ND	1	
58.	R17, R125, R126, R129	RES SMD 20K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF2002V	Digikey	P20.0KHCT-ND	4	

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DWG NO PL10398571		TITLE: PARTS LIST, USEB MICRO-CONTROLLER UNIT		DAI 23835	REV B				SHEET 3 OF 3
ITEM NO	DESIGNATOR	DESCRIPTION	FOOTPRINT	MFR.	MFR. NO.	PREF. VENDOR	PREF. VENDOR NO.	QTY PER BOARD	NOTES
59.	R1, R3, R4, R5, R6, R7, R9, R15, R34, R35, R36, R37, R46, R48, R51, R53, R54, R55, R58, R60, R61, R62, R63, R64, R65, R66, R67, R68, R71, R73, R74, R75, R76, R77, R78, R79, R81, R82, R83, R84, R85, R86, R87, R89, R90, R93, R94, R96, R98, R101, R103, R104, R105, R106, R109, R110, R112, R113, R117, R118, R131, R132, R133, R134, R135, R136, R140, R141	RES SMD 30.1 OHM 1% 1/10W 0603	RESC1608N	Panasonic	ERJ-3EKF30R1V	Digikey	P30.1HCT-ND	68	
60.	R27	RES SMD 31.6K OHM 1% 1/8W 0805	RESC2012N	Panasonic	ERJ-6ENF3162V	Digikey	P31.6KCCT-ND	1	
61.	R18	RES SMD 43.2K OHM 1% 1/8W 0805	RESC2012N	Panasonic	ERJ-6ENF4322V	Digikey	P43.2KCCT-ND	1	
62.	R33	RES SMD 46.4K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF4642V	Digikey	P46.4KHCT-ND	1	
63.	R10, R13, R38, R39, R41, R42	RES SMD 49.9 OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF49R9V	Digikey	P49.9HCT-ND	6	
64.	R119, R120	RES SMD 60.4 OHM 1% 1/4W 1206	RESC3216N	Panasonic	ERJ-8ENF60R4V	Digikey	P60.4FCT-ND	2	
65.	R127, R128	RES SMD 100 OHM 1% 1/4W 0603	RESC1608X06N	Panasonic	ERJ-PA3F1000V	Digikey	P100BYCT-ND	2	
66.	R24, R25, R130, R137	RES SMD 100K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF1003V	Digikey	P100KHCT-ND	4	
67.	R21, R80	RES SMD 165K OHM 1% 1/8W 0805	RESC2012N	Panasonic	ERJ-6ENF1653V	Digikey	P165KCCT-ND	2	
68.	R32	RES SMD 200K OHM 1% 1/10W 0603	RESC1608X06N	Panasonic	ERJ-3EKF2003V	Digikey	P200KHCT-ND	1	
69.	R20	RES SMD 226K OHM 1% 1/8W 0805	RESC2012N	Panasonic	ERJ-6ENF2263V	Digikey	P226KCCT-ND	1	