

## MCU011 REV A Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
C1	1	0.47uF	1812Y5000474KXTWS2	Knowles Capacitors	CAP, CERM, 0.47 $\mu$ F, 500 V, +/- 10%, X7R, 1812	1812
C2, C4, C6, C12, C13, C21, C22, C24, C25, C109, C111	11	10uF	C1206C106K3RACTU	Kemet	CAP, CERM, 10 $\mu$ F, 25 V, +/- 10%, X7R, 1206_190	1206_190
C3, C5, C7, C8, C9, C11, C14, C15, C17, C18, C20, C23, C55, C63, C66, C67, C73, C77, C81, C93, C103, C105, C108, C110	24	0.1uF	C0805C104K3RACTU	Kemet	CAP, CERM, 0.1 $\mu$ F, 25 V, +/- 10%, X7R, 0805	0805
C10, C16, C19, C53, C54, C64, C65, C71, C72, C79, C80, C91, C92	13	1uF	GRM21BR71H105KA12L	MuRata	CAP, CERM, 1 $\mu$ F, 50 V, +/- 10%, X7R, 0805	0805
C27, C29, C30, C32, C33, C36, C37, C38, C40, C42, C43, C45, C48, C50, C52, C56, C58, C61, C69, C74, C75, C78, C83, C85, C86, C88, C95, C97, C98, C100	30	0.1uF	0603YC104JAT2A	AVX	CAP, CERM, 0.1 $\mu$ F, 16 V, +/- 5%, X7R, 0603	0603
C28, C41, C51, C84, C96	5	4.7uF	C2012X5R1H475K125AB	TDK	CAP, CERM, 4.7 $\mu$ F, 50 V, +/- 10%, X5R, 0805	0805
C62, C68, C76	3	2.2uF	0805YD225KAT2A	AVX	CAP, CERM, 2.2 $\mu$ F, 16 V, +/- 10%, X5R, 0805	0805
C70	1	1uF	C0603C105K3RACTU	Kemet	CAP, CERM, 1 $\mu$ F, 25 V, +/- 10%, X7R, 0603	0603
C104, C106, C107	3	100uF	EEH-ZA1E101XP	Panasonic	CAP, Polymer Hybrid, 100 $\mu$ F, 25 V, +/- 20%, 30 ohm, 6.3x7.7 SMD	6.3x7.7
Cbus1, Cbus4, Cbus5, Cbus6, Cbus7, Cbus10	6	0.1uF	ECW-F6104JL	Panasonic	CAP, Film, 0.1 $\mu$ F, 630 V, +/- 5%, TH	18mmx7.7mmx12.1mm
Cbus2, Cbus3, Cbus8, Cbus9	4	220uF	B43504C5227M	TDK	CAP, AL, 220 $\mu$ F, 450 V, +/- 20%, 0.73 ohm, TH	D35xL30mm
Cvn1, Cvn2, Cvn3, Cvn4, Cvn5, Cvn6, Cx1, Cx2, Cx3, Cx4, Cx5, Cx6, Cy1, Cy2, Cy3	15	2200pF	GA355QR7GF222KW01L	MuRata	CAP, CERM, 2200 pF, 250 V, +/- 10%, X7R, 2220	2220
D1, D2, D3, D4, D5, D6	6	1200V	C4D08120A	Cree	Diode, Schottky, 1200 V, 8 A, TH	TO-220-2

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D7, D8, D9, D10, D11, D12	6	30V	MBRM130LT1G	ON Semiconductor	Diode, Schottky, 30 V, 1 A, POWERMITE	POWERMITE
D13	1	Bright Green	150080VS75000	Wurth Elektronik	LED, Bright Green, SMD	LED_0805
F1, F2, F3	3		5SF 4-R	Bel Fuse	Fuse, 4 A, 250 VAC, N/A	
H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, H11	11		NY PMS 440 0025 PH	B&F Fastener Supply	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	Screw
H12, H13, H14, H15, H16, H17, H18, H19, H20, H21, H22	11		4800	Keystone	Standoff, M/F, 0.25", 4-40, Nylon	1/4 Hex M-F Standoff
H23	1		MCH013A	Any	1/4 inches Aluminum sheet cut and tapped for installation of the FETs and Diodes on the board and mounting screws on H1-H11	
H24, H25, H26, H27, H28, H29, H30, H31, H32, H33, H34, H35	12		NY PMS 440 0038 PH	B&F Fastener Supply	Screw, Pan Head , 4-40, 3/8", Nylon	
H36, H37, H38, H39, H40, H41, H42, H43, H44, H45, H46, H47	12		MNI-HT-4-220	Essentra Components	WASHER SHOULDER #4 POLY SULFIDE	
H48, H49, H50, H51, H52, H53, H54, H55, H56, H57	10		SJ-5003 (BLACK)	3M	Bumpon, Hemisphere, 0.44 X 0.20, Black	Black Bumpon
J1, J2	2		1714984	Phoenix Contact	Terminal Block, 3x1, 9.52MM, TH	Terminal Block, 3x1, 9.52mm, TH
J3	1		1714955	Phoenix Contact	Terminal Block, 2x1, 6.35mm, Green, TH	Terminal Block, 2x1, 6.35mm, Green, TH
J4	1		PJ-037AH	CUI Inc.	Power Jack, 2mm, R/A, TH	Power Jack, R/A, TH
J5, J6, J7, J9, J11, J12	6		HTSW-102-07-G-S	Samtec	Header, 100mil, 2x1, Gold, TH	Header, 100mil, 2x1, TH
J8	1		HSEC8-160-01-L-DV-A-BL	Samtec	C2000 controlCARD-120HSEC connector, SMT	C2000 pin numbering
J10	1		HSEC8-130-01-L-DV-A	Samtec	C2000 controlCARD-180HSEC (60-pin addon) connector, SMT	C2000 pin numbering
L1, L3, L6, L7, L8, L9, L10, L11, L12, L13, L14, L15, L16, L17, L18, L19, L20, L21	18	30 ohm	MPZ2012S300AT000	TDK	Ferrite Bead, 30 ohm @ 100 MHz, 6 A, 0805	0805
L2, L4, L5	3		53PR116-292	Vitec Corporation	Inductor, 0.2 ohm, TH	50.8x44.45mm
Lcm1, Lcm2	2	1.6mH	54PR519-165	Vitec Corporation	Inductor, 1.6 mH, 0.008 ohm, TH	D1850xH850mil
Ldm1, Ldm2, Ldm3	3		PA0431LNL	Pulse Engineering	Inductor, Toroid, 20.5 A, 0.0055 ohm, TH	TH, 2-Leads, Body 22.2x9.5mm, Pin Spacing 6.1mm
MCU011	1		MCU011	Any	Printed Circuit Board	
Q1, Q2, Q3, Q4, Q5, Q6	6	700V	IPP65R190C7FKSA1	Infineon Technologies	MOSFET, N-CH, 700 V, 13 A, TO-220AB	TO-220AB
R1, R2, R9, R17, R18	5	499k	ERJ-3EKF4993V	Panasonic	RES, 499 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R3, R4, R5, R6, R7, R8, R11, R12, R13, R14, R15, R16	12	510k	CRCW2010510KJNEF	Vishay-Dale	RES, 510 k, 5%, 0.75 W, AEC-Q200 Grade 0, 2010	2010

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R10	1	499k	CRCW0805499KFKEA	Vishay-Dale	RES, 499 k, 1%, 0.125 W, 0805	0805
R19, R24, R25, R28, R33, R34, R36, R42, R43, R121	10	0	CRCW08050000Z0EA	Vishay-Dale	RES, 0, 5%, 0.125 W, 0805	0805
R20, R26, R29, R35, R38, R44	6	10	CRCW080510R0JNEA	Vishay-Dale	RES, 10, 5%, 0.125 W, 0805	0805
R21, R22, R23, R27, R30, R31, R32, R37, R39, R40, R41, R45, R120	13	10.0k	RT0805BRD0710KL	Yageo America	RES, 10.0 k, 0.1%, 0.125 W, 0805	0805
R46, R47, R49, R61, R62, R64, R73, R74, R76, R94, R95, R97, R106, R107	14	1.0Meg	CRCW08051M00JNEA	Vishay-Dale	RES, 1.0 M, 5%, 0.125 W, 0805	0805
R48, R57, R63, R72, R75, R84, R96, R105, R108, R117	10	7.50k	ERJ-3EKF7501V	Panasonic	RES, 7.50 k, 1%, 0.1 W, 0603	0603
R50, R51, R54, R55, R65, R66, R69, R70, R77, R78, R81, R82, R98, R99, R102, R103, R110, R111, R114, R115	20	4.70k	RC0603FR-074K7L	Yageo America	RES, 4.70 k, 1%, 0.1 W, 0603	0603
R52, R56, R67, R71, R79, R83	6	2.00k	CRCW06032K00FKEA	Vishay-Dale	RES, 2.00 k, 1%, 0.1 W, 0603	0603
R53, R68, R80, R87, R88, R92, R101, R113, R122	9	68.1	CRCW060368R1FKEA	Vishay-Dale	RES, 68.1, 1%, 0.1 W, 0603	0603
R58, R60	2	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R59	1	10.0	CRCW060310R0FKEA	Vishay-Dale	RES, 10.0, 1%, 0.1 W, 0603	0603
R85, R86, R89, R90, R91, R93	6	330k	ERJ-3EKF3303V	Panasonic	RES, 330 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R100, R104, R112, R116	4	2.74k	CRCW06032K74FKEA	Vishay-Dale	RES, 2.74 k, 1%, 0.1 W, 0603	0603
R109	1	1.00Meg	RT0805BRD071ML	Yageo America	RES, 1.00 M, 0.1%, 0.125 W, 0805	0805
R119	1	3.3k	CRCW08053K30JNEA	Vishay-Dale	RES, 3.3 k, 5%, 0.125 W, 0805	0805
R123	1	470	CRCW0805470RFKEA	Vishay-Dale	RES, 470, 1%, 0.125 W, 0805	0805
R124	1	348	CRCW0805348RFKEA	Vishay-Dale	RES, 348, 1%, 0.125 W, 0805	0805
RN1, RSH1, RSH2, RSH3	4	0.02	CRA2512-FZ-R020ELF	Bourns	RES, 0.02, 1%, 3 W, 2512	2512
RT1, RT2, RT3	3		SL32 10015	Ametherm	ICL, 100HM, 20%, 15A, TH	D31xT6mm
Rvn1, Rvn2, Rvn3, Rvn4, Rvn5, Rvn6, Rvn7, Rvn8, Rvn9	9	2.00Meg	ERJ-6ENF2004V	Panasonic	RES, 2.00 M, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
SH-J1, SH-J2	2	1x2	2SN-BK-G	Samtec	Shunt, 2mm, Gold plated, Black	2mm Shunt, Closed Top

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SIL1, SIL2, SIL3, SIL4, SIL5, SIL6, SIL7, SIL8, SIL9, SIL10, SIL11, SIL12	12		SP900S-0.009-AC-58	Bergquist Company	Silcon Thermal Pad	19x12.7 mm
TP1, TP2, TP3, TP4, TP5, TP6	6		5014	Keystone	Test Point, Multipurpose, Yellow, TH	Yellow Multipurpose Testpoint
TP_BUSM1, TP_N1	2		5012	Keystone	Test Point, Multipurpose, White, TH	White Multipurpose Testpoint
TP_BUSN1, TP_VL1	2		5011	Keystone	Test Point, Multipurpose, Black, TH	Black Multipurpose Testpoint
TP_BUSP1, TP_VL2	2		5010	Keystone	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint
TP_E1	1		5126	Keystone	Test Point, Multipurpose, Green, TH	Green Multipurpose Testpoint
TP_GND1, TP_GND2, TP_GND3	3		5128	Keystone	Test Point, Multipurpose, Grey, TH	Grey Multipurpose Testpoint
TP_IL1, TP_IL2, TP_IL3, TP_VBUSMN_Fd bk1, TP_VBUSPM_Fd bk1, TP_VL1_Fdbk, TP_VL2_Fdbk, TP_VL3_Fdbk	8		5013	Keystone	Test Point, Multipurpose, Orange, TH	Orange Multipurpose Testpoint
TP_SD_CLK11, TP_SD_DATA_1, TP_SD_DATA_2, TP_SD_DATA_3	4		5129	Keystone	Test Point, Multipurpose, Purple, TH	Purple Multipurpose Testpoint
TP_VL3	1	Blue	5127	Keystone	Test Point, Multipurpose, Blue, TH	Blue Multipurpose Testpoint
U2, U3, U4	3		LTSR 6-NP	LEM	Current Transducer, AC/DC, 6A, TH	10x22.2mm
U5, U7, U8	3		UCC21520DWR	Texas Instruments	4A/6A, 5.7 kVrms Isolated Dual Channel Gate Driver, DW0016B (SOIC-16)	DW0016B
U6, U9, U10	3		RP-1212S	Recom Power	1 Watt Single Output, TH	Power Module 19.65x10.2x7.05mm
U11, U14, U17, U26, U29	5		AMC1301DWVR	Texas Instruments	Precision +/-250-mV Input, 3-us Delay, Reinforced Isolated Amplifier, DWV0008A (SOIC-8)	DWV0008A
U12, U13, U15, U18, U27, U30	6		OPA320AIDBVR	Texas Instruments	Precision, 20 MHz, 0.9 pA Ib, RRIO, CMOS Operational Amplifier, 1.8 to 5.5 V, -40 to 125 degC, 5-pin SOT23 (DBV0005A), Green (RoHS & no Sb/Br)	DBV0005A
U16, U20, U23, U25, U28	5		DCH010505SN7	Texas Instruments	Miniature, 1 W, 3 kVDC Isolated DC-DC Converter, -40 to 85 degC, 4-pin Module (EDJ4), Pb-Free (RoHS)	EDJ0004A
U19, U21, U24	3		AMC1305M25DWR	Texas Instruments	Reinforced Isolated Modulator with ±250mV Input and CMOS Interface, DW0016B (SOIC-16)	DW0016B
U22	1		OPA4350UA	Texas Instruments	High-Speed, Single-Supply, Rail-to-Rail Operational Amplifier MicroAmplifier(TM) Series, 2.7 to 5.5 V, -55 to 150 degC, 14-pin SOIC (D0014A), Green (RoHS & no Sb/Br)	D0014A
U31	1		TLV1117-33IDCY	Texas Instruments	FIXED LOW-DROPOUT VOLTAGE REGULATOR, DCY0004A	DCY0004A
U32	1		PTH08080WAH	Texas Instruments	2.25 A, 4.5 to 18 V Input Wide Adjust Miniature Power Module, -40 to 85 degC, 5-pin Module (EUF5), Pb-Free (RoHS)	EUF0005A
XF1, XF2, XF3	3		65800001009	Littelfuse	FuseHolder for 5x20mm Fuses, SMT	Fuse Holder for 5x20mm

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C26, C31, C34, C35, C39, C44, C46, C47, C49, C57, C59, C60, C82, C87, C89, C90, C94, C99, C101, C102	0	180pF	C0603C181J5GACTU	Kemet	CAP, CERM, 180 pF, 50 V, +/- 5%, COG/NP0, 0603	0603
Cm1	0	0.1uF	ECQ-U2A104ML	Panasonic	CAP, Film, 0.1 µF, 275 V, +/- 20%, TH	17.5x5.5x12.5mm
FID2, FID3, FID5, FID6	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	Fiducial
R118	0	0	CRCW08050000Z0EA	Vishay-Dale	RES, 0, 5%, 0.125 W, 0805	0805
U1	0		PWR050	Texas Instruments	PCBA, UCC28600EVM-400V-12V	2200x335x1200mil

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