

Bill of Materials

MCP1012 1W Demo Board

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Board Number: **04-11027**

Part Number: **DT100118**

Revision: **1**

Engineer: **Leonard Lazar**

Drawn By: **Stroe Octavian**



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Quantity	Designator	Description_	Manufacturer 1	Manufacturer Part Number 1	Supplier 1	Supplier Part Number 1
1	C1	CAP FILM 2.2uF 305VAC 20% RAD P27.5L31.5W14H24.5	EPCOS / TDK	B32924C3225M	Mouser	871-B32924C3225M
2	C2, C7	CAP CER 1uF 50V 10% X7R SMD 0805	Murata Electronics North	GRM21BR71H105KA12U	Digi-Key	490-4736-1-ND
1	C3	CAP CER 1000pF 2KV 10% X7R SMD 1206	Johanson Dielectrics Inc	202R18W102KV4E	Digi-Key	709-1036-1-ND
1	C4	CAP CER 330pF 50V 5% C0G SMD 0603	KEMET	C0603C331J5GACTU	Digi-Key	399-1068-1-ND
1	C5	CAP CER 330pF 200V 10% X7R SMD 0603	KEMET	C0603C331K2RAC7867	Digikey	399-15392-1-ND
1	C6	CAP ALU 330uF 50V 20% SMD G	Panasonic Electronic Co	EEE-FT1H331AP	Digi-Key	PCE5026CT-ND
1	C8	CAP CER 2.2uF 16V 10% X7R SMD 0805	Murata	GRM21BR71C225KA12U	Digi-Key	490-3906-1-ND
1	C9	CAP CER 0.47uF 50V 10% X7R SMD 0805	Murata	GRM21BR71H474KA88U	Digi-Key	490-3328-1-ND
1	C10	CAP CER 10000pF 25V 10% X7R SMD 0603	Panasonic	ECJ-1VB1E103K	Digi-Key	PCC1763TR-ND
1	C11	CAP CER 0.1uF 50V 10% X7R SMD 0805	Cal-Chip	GMC21X7R104K50NTLF	Cal-Chip	GMC21X7R104K50NTLF
1	C12	CAP CER 10uF 10V 10% X5R SMD 0805	Taiyo Yuden	LMK212BJ106KG-T	Digi-Key	587-1300-1-ND
1	C13	CAP CER 1000pF 50V 10% X7R SMD 0805	Murata Electronics North	GRM216R71H102KA01U	Digi-Key	490-9741-1-ND
1	C14	CAP CER 1000pF 50V 20% X7R SMD 0603	TDK Corporation	C1608X7R2A102K080AA	Digi-Key	445-1298-1-ND
3	D1, D2, D7	DIO RECT US1M 1.7V 1A 1000V DO-214AC SMA	Vishay	US1M-E3/61T	Digi-Key	US1M-E3/61TGICT-ND
1	D3	DIO TVS SMAJ22A 22V 400W SMD DO-214AC SMA	Bourns Inc.	SMAJ22A	Digi-Key	SMAJ22ABCT-ND
1	D4	DIO TVS P6KE510 434V 600W DO-214AA SMB	Micro Commercial Co	SMBJP6KE510A-TP	Digi-Key	SMBJP6KE510A-TPMSC
1	D5	DIO SCKY BAT46W-TP 450mV 10mA 100V SMD SOD-123	Micro Commercial Comp	BAT46W-TP	Mouser	833-BAT46W-TP
1	D6	DIO SCKY DFLS1200-7 850mV 1A 200V POWERDI-123	Diodes Incorporated	DFLS1200-7	Digi-Key	DFLS1200DICT-ND
1	D8	DIO ZNR SMAZ18-13-F 18V 1W DO-214AC SMA	Diodes Incorporated	SMAZ18-13-F	Digi-Key	SMAZ18-FDICT-ND

1	D10	DIO LED RED 2.2V 20mA 40mcd Clear SMD 0805	Dialight	598-8110-107F	Digi-Key	350-2038-1-ND
1	D11	DIO LED GREEN 3.1V 20mA 400mcd Clear SMD 0805	QT Brightek (QTB)	QBLP631-IG	Digi-Key	1516-1084-1-ND
1	D12	DIO ZNR SMAZ5V1-13-F 5.1V 1W DO-214AC SMA	Diodes Incorporated	SMAZ5V1-13-F	Digi-Key	SMAZ5V1-FDICT-ND
1	D13	DIO RECT 1N4148 1.25V 150mA 100V SOD-123	Micro Commercial Comp	1N4148W-TP	Digi-Key	1N4148WTPMSCT-ND
1	F1	RES FUSE 2A 300VAC Slow Radial TH P5.08D8.5H8	Littelfuse Inc	38312000000	Digi-Key	WK6298CT-ND
24	J1, J2, J3, J4, J5, J6, J7, TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP11, TP12, TP13, TP14, TP15, TP16, TP17	CON HDR-2.54 Male 1x2 Gold 5.84MH TH VERT	FCI	77311-118-02LF	Digi-Key	609-4434-ND
1	L1	INDUCTOR 100uH 0.79A 20% SMD L7.3W7.3H4.5	WURTH ELEKTRONIK	744777920	Farnell	1635995
1	L2	INDUCTOR 1500uH 810mA 10% SMD L12.3W12.3H10	Coilcraft	MSS1210-155KEB	Mouser	994-MSS1210-155KEB
4	PAD1, PAD2, PAD3, PAD4	MECH HW RUBBER PAD SQ Taper 0.50x0.50x0.23 Black	3M	SJ-5518	Digi-Key	SJ5518-0-ND
2	PIN1, PIN2	CON RCPT 1pin AU H3185-05 THT	Harwin Inc.	H3185-05	Digi-Key	952-3248-ND
1	Q1	TRANS FET N-CH IPD90R1K2C3ATMA1 900V 5.1A 1.2R 83W TO-252-3	Infineon Technologies	IPD90R1K2C3ATMA1	Digikey	IPD90R1K2C3ATMA1CT
1	R1	RES TKF 1.5R 1% 1/3W SMD 1210	Stackpole Electronics Inc	RMCF1210FT1R50	Digi-Key	RMCF1210FT1R50CT-NI
1	R2	RES TF 10k 1% 1/16W SMD 0603	TE Connectivity Passive	CPF0603F10K01	Digi-Key	A102203CT-ND
2	R2A, R2B	RES TKF 2R 5% 3/4W SMD 2010	Panasonic	ERJ-12ZYJ2R0U	Digi-Key	P2.0WCT-ND
1	R3	RES TKF 47k 1% 1/8W SMD 0805	Stackpole Electronics Inc	RMCF0805FT47K0	Digi-Key	RMCF0805FT47K0TR-NI
8	R4A, R5A, R6A, R7A, R8, R9, R10, R11	RES TKF 2.29k 1% 1/4W SMD 1206	Yageo	RC1206FR-072K49L	Digi-Key	311-2.49KFRCT-ND
1	R12	RES TKF 1R 5% 1/8W SMD 0805	Panasonic	ERJ-6RQJ1R0V	Digi-Key	P1.0BTR-ND
2	R13, R30	RES TKF 10R 1% 1/8W SMD 0805	ROHM	MCR10EZHF10R0	Digi-Key	RHM10.0CCT-ND
1	R14A	RES TKF 1.5R 1% 1/8W SMD 0805	Welwyn	ASC0805-1R5FT5	Farnell	2078936RL
1	R14B	RES TKF 1.6R 1% 1/8W SMD 0805 AEC-Q200	Panasonic Electronic Co	ERJ-6RQF1R6V	Mouser	667-ERJ-6RQF1R6V
1	R15	RES TKF 10R 5% 1/4W SMD 1206	Yageo	AC1206JR-0710RL	Digi-Key	YAG3916CT-ND
1	R16	RES TF 0.05R 1% 1W SMD 0612	SUSUMU	PRL1632-R050-F-T1	Digi-Key	PRL1632.050FCT-ND
2	R17A, R17B	RES TKF 1R 1% 3/4W SMD 2010	Vishay	CRCW20101R00FKEF	Vishay	CRCW20101R00FKEF
1	R18	RES TKF 330k 1% 1/8W SMD 0805 AEC-Q200	Panasonic Electronic Co	ERJ-6ENF3303V	Digi-Key	P330KCCT-ND
2	R19, R27	RES TKF 100k 5% 1/8W SMD 0805	Panasonic	ERJ-6GEYJ104V	Digi-Key	P100KATR-ND
1	R20	RES TKF 51R 5% 3/4W SMD 2010	Panasonic Electronic Co	ERJ-12ZYJ510U	Digikey	P51WCT-ND
1	R21	RES TKF 68R 5% 3/4W SMD 2010	Panasonic	ERJ-12ZYJ680U	Digi-Key	P68WCT-ND
1	R22	RES TKF 220R 5% 3/4W SMD 2010	Panasonic	ERJ-12ZYJ221U	Digi-Key	P220WTR-ND
5	R24, R35A, R35B, R35C, R35D	RES TKF 330R 5% 1/4W SMD 1206	Panasonic	ERJ-8GEYJ331V	Digi-Key	P330ETR-ND
1	R26	RES TKF 1.5k 1% 1/8W SMD 0805	Panasonic	ERJ-6ENF1501V	Digi-Key	P1.50KCTR-ND
1	R28	RES TKF 680R 1% 1/8W SMD 0805	Stackpole Electronics Inc	RMCF-1/10-680-1%	Stackpole Electronics Inc	RMCF-1/10-680-1%
1	R29	RES TKF 560R 1% 1/8W SMD 0805	Stackpole Electronics Inc	RMCF0805FT560R	Digi-Key	RMCF0805FT560RCT-NI
1	R31	RES TKF 18k 1% 1/8W SMD 0805	Stackpole Electronics Inc	RMCF-1/10-18K-1%	Stackpole Electronics Inc	RMCF-1/10-18K-1%
1	R32	RES TKF 1.3k 1% 1/8W SMD 0805	Yageo	RC0805FR-071K3L	Digi-Key	311-1.30KCRCT-ND
1	R33	RES TKF 4.7k 5% 1/8W SMD 0805	Panasonic	ERJ-6GEYJ472V	Digi-Key	P4.7KATR-ND
1	R34	RES TKF 5.6k 1% 1/8W SMD 0805	Vishay Dale	CRCW08055K60FKEA	Digi-Key	541-5.60KCCT-ND
1	SW1	SWITCH DIP 4 SPST 24V 100mA 1-1825059-3 SMD	TE Connectivity Alcoswit	1-1825059-3	Digikey	1-1825059-3-ND

1	SW2	SWITCH TACT SPST 12V 50mA TL3302AF180QJ SMD	E-Switch	TL3302AF180QJ	Digi-Key	EG4576CT-ND
1	T2	TRANS BJT PNP BC807-16L -45V - 500mA 225mW SOT-23-3	ON Semiconductor	BC807-16LT1G	Digi-Key	BC807-16LT1GOSCT-ND
1	TB1	CON TERMINAL 5.08mm 1x3 Female 16- 22AWG 10A TH R/A	WUERTH ELEKTRONIK	691415520003	WUERTH ELEKTRONIK	691415520003
1	TB2	CON TERMINAL 3.5mm 1x2 Female 24- 16AWG 10A TH R/A	WUERTH ELEKTRONIK	691214110002	Digi-Key	732-2747-ND
2	TB3, TB4	CON TERMINAL 5mm 1x2 Female 12- 26AWG 18A TH R/A	Phoenix Contact	1935161	Digi-Key	277-1667-ND
1	TR1	TRANS POWER 12:1 7.5V 200mA 7.6mH TH	WUERTH ELEKTRONIK	750318391	WUERTH ELEKTRONIK	750318391
1	U4	IC OPTOISOLATOR 3.75kV 5Mb HCPL- 2202-300E DIP-8 GW	Broadcom Limited	HCPL-2202-300E	Digi-Key	HCPL-2202-300E-ND
1	U5	IC POWER TLV431BSN1T1G Shunt Voltage Reference SOT23-3	ON Semiconductor	TLV431BSN1T1G	Digi-Key	TLV431BSN1T1GOSCT-ND

Microchip Parts listed below

1	U1	MCHP MCU 8-BIT 16MHz 918B 64B PIC10F322-I/OT SOT-23-6	Microchip Technology	PIC10F322-I/OT	Microchip	PIC10F322-I/OT
1	U2	MCHP ANALOG LDO ADJ MIC5235YM5- TR SOT-23-5	Microchip Technology	MIC5235YM5-TR	Digikey	576-1284-1-ND
1	IC1	IC MCP1012 SOIC-8	Microchip Technology	MCP1012-V/EKA	Microchip	MCP1012-V/EKA

Mechanical Parts to be added in the package

1	JP1	MECH HW JUMPER 6.35mm 1x2 D3087- 98	Harwin Inc.	D3087-98	Digi-Key	952-1863-ND
1	LABEL1	LABEL, ASSY W/REV LEVEL (SMALL MODULES) PER MTS-0002				

PCB

1	PCB1	Printed Circuit Board		04-11027-R1		
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Do Not Populate Parts listed below

0	J8	CON HDR-2.54 Male 1x6 Gold 5.84MH TH R/A	FCI	68016-106HLF	Digi-Key	609-3313-ND
0	R4B, R5B, R6B, R7B	RES TKF 0R SMD 1206	Yageo	RC1206JR-070RL	Digi-Key	311-0.0ERCT-ND
2	R14C, R14D	RES TKF 0.1R 1% 1/8W SMD 0805	Panasonic	ERJ-L06KF10CV	Digi-Key	P100LLCT-ND
0	R23	RES TKF 220R 5% 3/4W SMD 2010	Panasonic	ERJ-12ZYJ221U	Digi-Key	P220WTR-ND
0	R25	RES TKF 390R 5% 1/8W SMD 0805	Panasonic	ERJ-6GEYJ391V	Digi-Key	P390ATR-ND

Approved	Notes	Description