

Bill of Materials

TI DESIGNS

PMP7877

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
1	1	PCB		Printed Circuit Board	Any	XX7877			
2	2	C1, C2		CAP, AL, 470uF, 16V, +/-20%, SMD	Nippon Chemi-Con	EMVY160ADA471MHA0G	565-2449-1-ND		
3	3	C3, C60, C62		CAP, CERM, 1uF, 6.3V, +/-10%, X5R, 0603	MuRata	GRM185R60J105KE26D	GRM185R60J105KE26D		
4	3	C4, C61, C63		CAP, CERM, 1uF, 16V, +/-10%, X5R, 0603	MuRata	GRM185R61C105KE44D	490-3894-1-ND		
5	1	C5		CAP, CERM, 1000pF, 16V, +/-10%, X7R, 0603	MuRata	GRM188R71C102KA01D	GRM188R71C102KA01D-ND		
6	10	C6, C7, C21, C26, C41, C42, C64, C65, C68, C69		CAP, CERM, 10uF, 16V, +/-20%, X5R, 1206	TDK	C3216X5R1C106M	445-1426-1-ND		
7	12	C8, C10, C15, C30, C56, C66, C70, C71, C74, C77, C82, C86		CAP, CERM, 0.1uF, 16V, +/-10%, X7R, 0603	Kemet	C0603X104K4RACTU	399-5344-1-ND		
8	1	C11		CAP, CERM, 0.1uF, 25V, +/-10%, X7R, 0603	MuRata	GRM188R71E104KA01D	490-1524-1-ND		
9	6	C12, C19, C73, C78, C89, C92		CAP, CERM, 100pF, 100V, +/-5%, C0G/NPO, 0603	TDK	C1608C0G2A101J	445-2306-1-ND		
10	9	C13, C14, C31, C54, C55, C75, C76, C80, C81		CAP, CERM, 100uF, 6.3V, +/-20%, X5R, 1206	MuRata	GRM31CR60J107ME39L	490-4539-1-ND		
11	2	C17, C94		CAP, CERM, 0.1uF, 25V, +/-10%, X5R, 0603	MuRata	GRM188R61E104KA01D	GRM188R61E104KA01D-ND		
12	1	C18		CAP, CERM, 2.2uF, 16V, +/-10%, X5R, 0603	MuRata	GRM188R61C225KE15D	490-3296-1-ND		
13	1	C20		CAP, CERM, 0.01uF, 6.3V, +/-10%, X7R, 0603	MuRata	GRM188R70J103KA01D	GRM188R70J103KA01D-ND		
14	2	C22, C38		CAP, CERM, 1uF, 16V, +/-10%, X7R, 0603	MuRata	GRM188R71C105KA12D			
15	1	C24		CAP, CERM, 0.1uF, 100V, +/-10%, X7R, 0805	TDK	C2012X7R2A104K	445-1418-1-ND		
16	4	C25, C40, C49, C50		CAP, CERM, 0.1uF, 100V, +/-10%, X7R, 0603	MuRata	GRM188R72A104KA35D	490-3285-1-ND		
17	4	C27, C32, C39, C51		CAP, CERM, 100pF, 50V, +/-5%, C0G/NPO, 0603	AVX	06035A101JAT2A	96K4763		
18	1	C33		CAP, CERM, 0.022uF, 100V, +/-10%, X7R, 0603	TDK	C1608X7R2A223K	445-2275-1-ND		
19	2	C34, C44		CAP, CERM, 0.039uF, 25V, +/-10%, X7R, 0603	AVX	06033C393KAT2A	478-3715-1-ND		
20	1	C36		CAP, CERM, 1300pF, 100V, +/-5%, X7R, 0603	AVX	06031C132JAT2A	06031C132JAT2A-ND		

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
21	1	C37		CAP, CERM, 0.47uF, 16V, +/-10%, X7R, 0603	Kemet	C0603C474K4RACTU	399-4922-1-ND		
22	1	C43		CAP, CERM, 680pF, 50V, +/-5%, C0G/NP0, 0603	Kemet	C0603C681J5GACTU	399-3289-1-ND		
23	7	C46, C47, C48, C58, C59, C84, C85		CAP, CERM, 10uF, 6.3V, +/-20%, X5R, 0603	TDK	C1608X5R0J106M	445-4112-1-ND		
24	2	C52, C95		CAP, CERM, 0.01uF, 100V, +/-20%, X7R, 0603	AVX	06031C103MAT2A	478-3701-1-ND		
25	1	C57		CAP, CERM, 1000pF, 50V, +/-5%, C0G/NP0, 0603	TDK	C1608C0G1H102J	445-1293-1-ND		
26	1	C83		CAP CER 10UF 16V 20% X5R 0603	Taiyo Yuden	EMK107BBJ106MA-T	587-3238-1-ND		
27	2	C90, C93		CAP, CERM, 2700pF, 100V, +/-5%, X7R, 0603	AVX	06031C272JAT2A	478-3706-1-ND		
28	3	D1, D2, D5		Diode, Schottky, 30V, 0.2A, SOD-123	ON Semiconductor	BAT54T1G	88H4554		
29	1	D8		Diode, Schottky, 60V, 2A, SMB	ON Semiconductor	MBRS260T3G	MBRS260T3GOSCT-ND		
30	6	FID1, FID2, FID3, FID4, FID5, FID6		Fiducial mark. There is nothing to buy or mount.	N/A	N/A			
31	1	J1		Header, TH, 100mil, 3x2, Gold plated, 230 mil above insulator	Samtec, Inc.	TSW-103-07-G-D	SAM1028-03-ND		
32	6	L1, L3, L4, L7, L8, L10		Inductor, Shielded, Composite, 330nH, 2.6A, 0.031 ohm, SMD	Coilcraft	XPL2010-331 MLB			
33	2	L2, L6		Inductor, ShieldedINDUCTOR POWER 1.0UH 7A SMD	Vishay-Dale	IHLP2525AHER1R0M01	IHLP2525AHER1R0M01-ND		
34	1	L5		INDUCTOR POWER 2.5UH 3.5A SMD	Vishay-Dale	IHLP2525AHER2R5M01	IHLP2525AHER2R5M01-ND		
35	2	L9, L11		INDUCTOR POWER 4.7UH 9.5A SMD	Vishay-Dale	IHLP4040DZER4R7M01	541-1297-1-ND		
36	1	L12		Inductor, Shielded Drum Core, Ferrite, 2.5uH, 6.65A, 0.01 ohm, SMD	Coilcraft	MSS1038-252NLB			
37	4	Q1, Q2, Q3, Q4		MOSFET N-CH 25V 52A 8-SON	Texas Instruments	CSD16412Q5A	296-24256-1-ND		
38	3	R1, R51, R52		RES, 1.00 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06031R00FKEA	52K8059		
39	2	R2, R4		RES, 680 ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-07680RL	311-680HRCT-ND		
40	3	R6, R55, R59		RES, 97.6k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060397K6FKEA	541-97.6KHCT-ND		
41	13	R9, R10, R16, R31, R34,		RES, 10.0k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060310K0FKEA	541-10.0KHCT-ND		
42	20	R11, R17, R23, R26, R27,		RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06030000Z0EA	541-0.0GCT-ND,		
43	5	R12, R14, R65, R72, R81		RES, 1.00k ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-071KL	311-1.00KHRCT-ND		
44	1	R13		RES, 16.2k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060316K2FKEA	541-16.2KHCT-ND		
45	1	R15		RES, 665 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603665RFKEA	541-665HCT-ND		
46	2	R19, R37		RES, 1.00 ohm, 1%, 0.125W,	Vishay-Dale	CRCW08051R00FNEA	52K9792		
47	4	R20, R77, R78, R79		RES, 100k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603100KFKEA	541-100KHCT-ND		
48	1	R22		RES, 21.5k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060321K5FKEA	541-21.5KHCT-ND		
49	1	R24		RES, 3.01k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06033K01FKEA	541-3.01KHCT-ND		
50	1	R28		RES, 0.02 ohm, 1%, 0.75W, 2010	Ohmite	LVK20R020FER			
51	1	R29		RES, 6.65k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06036K65FKEA	541-6.65KHCT-ND		
52	1	R35		RES, 1.24k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06031K24FKEA	541-1.24KHCT-ND		
53	2	R38, R74		RES, 1.0k ohm, 5%, 0.1W, 0603	Yageo America	RC0603JR-071KL	311-1.0KGRCT-ND		
54	1	R45		RES, 4.22k ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-074K22L	311-4.22KHRCT-ND		

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
55	1	R46		RES, 0.009 ohm, 2%, 1W, 2512	Susumu Co Ltd	KRL3264-C-R009-G-T1	KRL32C.009CT-ND		
56	1	R49		RES, 4.87k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06034K87FKEA	541-4.87KHCT-ND		
57	2	R66, R71		RES, 4.53k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06034K53FKEA	541-4.53KHCT-ND		
58	1	R73		RES, 4.02k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06034K02FKEA	541-4.02KHCT-ND		
59	1	R80		RES, 7.87k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06037K87FKEA	541-7.87KHCT-ND		
60	17	TP1, TP2, TP3, TP4, TP5,		Terminal, Turret, TH, Double	Keystone	1502-2	1502-2K-ND		
61	15	TPS1, TPS3, TPS5, TPS6,		Test Point, TH, Miniature, Red	Keystone	5000	5000K-ND		
62	6	TPS2, TPS8, TPS11,		Test Point, TH, Miniature, Black	Keystone	5001	5001K-ND		
63	6	TPS4, TPS21, TPS25,		Test Point, TH, Miniature, White	Keystone	5002	5002K-ND		
64	1	U1		IC OSC MONO TIMING 3MHZ 8-SOIC	National Semiconductor	LMC555CMX			
65	3	U2, U7, U8		IC REG BUCK SYNC ADJ 5A LLP28	Texas Instruments	LM21305SQE/NOPB			
66	1	U3		Series of Adjustable Micropower Voltage Regulators, 8-pin LLP	Texas Instruments	LP2951CSD	1008042		
67	1	U4		IC CTRL SYNC BUCK DUAL 32-LLP	Texas Instruments	LM5119PSQE/NOPB	LM5119PSQE/NOPBTR-ND		
68	1	U5		IC CONV DDR DDR2 DDR3 10SON	Texas Instruments	TPS51200DRCR			
69	1	U6		1A SIMPLE SWITIC REG BUCK ADJ 2.0A 10LLP	Texas Instruments	LMR12020XSD/NOPB	LMR12020XSD/NOPBCT-ND		
70	1	U9		Power Sequencer, 8-pin MSOP	Texas Instruments	LM3881MM	1552439		
71	0	C9, C23, C28, C67, C72, C87		CAP, CERM, 10uF, 16V, +/-20%, X5R, 1206	TDK	C3216X5R1C106M	445-1426-1-ND		
72	0	C16, C29, C53, C79, C88		CAP, CERM, 2700pF, 100V, +/-5%, X7R, 0603	AVX	06031C272JAT2A	478-3706-1-ND		
73	0	C35, C45		CAP, CERM, 100pF, 50V, +/-5%, C0G/NP0, 0603	MuRata	GRM1885C1H101JA01D	490-1427-1-ND		
74	0	C91		CAP, CERM, 0.18uF, 25V, +/-10%, X7R, 0603	MuRata	GRM188R71E184KA88D	GRM188R71E184KA88D-ND		
75	0	D3, D4, D6, D7		Diode, Schottky, 30V, 0.2A, SOD-123	ON Semiconductor	BAT54T1G	88H4554		
76	0	R3, R18, R21, R53, R54, R58		RES, 1.00 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06031R00FKEA	52K8059		
77	0	R5, R8, R57, R62		RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06030000Z0EA	52K8014, 541-0.0GCT-ND, 541-0.0GCT-ND, 541-0.0GCT-ND		
78	0	R7, R56, R60		RES, 1.0 ohm, 5%, 0.125W, 0805	Vishay-Dale	CRCW08051R00JNEA	541-1.0ACT-ND		
79	0	R25, R43		RES, 1.00 ohm, 1%, 0.25W, 1206	Vishay-Dale	CRCW12061R00FNEA	51P0485		
80	0	R68, R69, R70		RES, 4.53k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06034K53FKEA	541-4.53KHCT-ND		

IMPORTANT NOTICE FOR TI REFERENCE DESIGNS

Texas Instruments Incorporated ("TI") reference designs are solely intended to assist designers ("Buyers") who are developing systems that incorporate TI semiconductor products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products.

TI reference designs have been created using standard laboratory conditions and engineering practices. **TI has not conducted any testing other than that specifically described in the published documentation for a particular reference design.** TI may make corrections, enhancements, improvements and other changes to its reference designs.

Buyers are authorized to use TI reference designs with the TI component(s) identified in each particular reference design and to modify the reference design in the development of their end products. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER TI INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN, including but not limited to any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI components or services are used. Information published by TI regarding third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

TI REFERENCE DESIGNS ARE PROVIDED "AS IS". TI MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE REFERENCE DESIGNS OR USE OF THE REFERENCE DESIGNS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. TI DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO TI REFERENCE DESIGNS OR USE THEREOF. TI SHALL NOT BE LIABLE FOR AND SHALL NOT DEFEND OR INDEMNIFY BUYERS AGAINST ANY THIRD PARTY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON A COMBINATION OF COMPONENTS PROVIDED IN A TI REFERENCE DESIGN. IN NO EVENT SHALL TI BE LIABLE FOR ANY ACTUAL, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES, HOWEVER CAUSED, ON ANY THEORY OF LIABILITY AND WHETHER OR NOT TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, ARISING IN ANY WAY OUT OF TI REFERENCE DESIGNS OR BUYER'S USE OF TI REFERENCE DESIGNS.

TI reserves the right to make corrections, enhancements, improvements and other changes to its semiconductor products and services per JESD46, latest issue, and to discontinue any product or service per JESD48, latest issue. Buyers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All semiconductor products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its components to the specifications applicable at the time of sale, in accordance with the warranty in TI's terms and conditions of sale of semiconductor products. Testing and other quality control techniques for TI components are used to the extent TI deems necessary to support this warranty. Except where mandated by applicable law, testing of all parameters of each component is not necessarily performed.

TI assumes no liability for applications assistance or the design of Buyers' products. Buyers are responsible for their products and applications using TI components. To minimize the risks associated with Buyers' products and applications, Buyers should provide adequate design and operating safeguards.

Reproduction of significant portions of TI information in TI data books, data sheets or reference designs is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. TI is not responsible or liable for such altered documentation. Information of third parties may be subject to additional restrictions.

Buyer acknowledges and agrees that it is solely responsible for compliance with all legal, regulatory and safety-related requirements concerning its products, and any use of TI components in its applications, notwithstanding any applications-related information or support that may be provided by TI. Buyer represents and agrees that it has all the necessary expertise to create and implement safeguards that anticipate dangerous failures, monitor failures and their consequences, lessen the likelihood of dangerous failures and take appropriate remedial actions. Buyer will fully indemnify TI and its representatives against any damages arising out of the use of any TI components in Buyer's safety-critical applications.

In some cases, TI components may be promoted specifically to facilitate safety-related applications. With such components, TI's goal is to help enable customers to design and create their own end-product solutions that meet applicable functional safety standards and requirements. Nonetheless, such components are subject to these terms.

No TI components are authorized for use in FDA Class III (or similar life-critical medical equipment) unless authorized officers of the parties have executed an agreement specifically governing such use.

Only those TI components that TI has specifically designated as military grade or "enhanced plastic" are designed and intended for use in military/aerospace applications or environments. Buyer acknowledges and agrees that any military or aerospace use of TI components that have **not** been so designated is solely at Buyer's risk, and Buyer is solely responsible for compliance with all legal and regulatory requirements in connection with such use.

TI has specifically designated certain components as meeting ISO/TS16949 requirements, mainly for automotive use. In any case of use of non-designated products, TI will not be responsible for any failure to meet ISO/TS16949.