

PMP31182-LM25180 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
15VIN, 15VIN, HVIN, ISO15VH, ISO15VL, LDO5V	6		5005	Keystone Electronics	Test Point, Compact, Red, TH	Red Compact Testpoint
C1, C11	2	10uF	TMK316AB7106KLHT	Taiyo Yuden	CAP, CERM, 10 uF, 25 V,+/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C2, C12	2	0.22uF	GCM155R71C224KE02D	MuRata	CAP, CERM, 0.22 uF, 16 V,+/- 10%, X7R, AEC-Q200 Grade 1, 0402	402
C3, C13	2	2.2uF	CGA4J3X7R1E225K125AB	TDK	CAP, CERM, 2.2 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805	805
C4	1	47uF	HHXC250ARA470MF61G	Chemi-Con	CAP, AL, 47 uF, 25 V, +/- 20%, 0.05 ohm, AEC-Q200 Grade 1, SMD	D6.3xL6.1mm
C5, C23	2	22pF	GCM1555C1H220JA16D	MuRata	CAP, CERM, 22 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402	402
C6, C14	2	68pF	C1005C0G1H680J050BA	TDK	CAP, CERM, 68 pF, 50 V, +/- 5%, C0G/NP0, 0402	402
C7, C8, C31, C32	4	10uF	CGA4J1X7S1E106K125AC	TDK Corporation	Cap Ceramic 10uF 25V X7S 10% Pad SMD 0805 +125°C Automotive T/R	805
C9, C26	2	1uF	GRT155R6YA105KE13D	MuRata	CAP, CERM, 1 uF, 35 V,+/- 10%, X5R, AEC-Q200 Grade 3, 0402	402
C10, C27	2	0.1uF	GCM155R71H104KE02D	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	402
C15, C16, C17, C18	4	0.022uF	CGA5K4X7R2J223K130AA	TDK	CAP, CERM, 0.022 uF, 630 V,+/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
			C1206C223KDRACU	Kemet	CAP, CERM, 0.022 uF, 1000 V,+/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C19, C20, C21, C38	4	0.1uF	C1812W104KDRACU	Kemet	CAP, CERM, 0.1 uF, 1000 V, +/- 10%, X7R, 1812	1812
C22, C29, C33, C36, C47, C53	6	0.1uF	CGA3E3X8R1H104K080AE	TDK	CAP, CERM, 0.1 uF, 50 V,+/- 10%, X8R, AEC-Q200 Grade 0, 0603	603
C24, C34	2	22uF	TMK325B7226KMHP	Taiyo Yuden	CAP, CERM, 22 uF, 25 V,+/- 10%, X7R, AEC-Q200 Grade 1, 1210	1210
C25	1	10uF	C1206C106J3RACAUTO	Kemet	CAP, CERM, 10 uF, 25 V,+/- 5%, X7R, AEC-Q200 Grade 1, 1206	1206
C28, C35	2	4.7uF	CGA6P3X7R1H475M250AB	TDK	CAP, CERM, 4.7 uF, 50 V, +/- 20%, X7R, AEC-Q200 Grade 1, 1210	1210
C30, C37	2	0.047uF	06033C473JAT2A	AVX	CAP, CERM, 0.047 uF, 25 V, +/- 5%, X7R, 0603	603
C39, C40, C56, C57	4	43pF	GCQ1555C1H430JB01D	MuRata	CAP, CERM, 43 pF, 50 V,+/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402	402
C41, C44	2	1uF	CGA3E1X7R1E105K080AD	TDK	CAP, CERM, 1 uF, 25 V,+/- 10%, X7R, AEC-Q200 Grade 1, 0603	603
C42, C43	2	100pF	CGA2B2C0G1H101J050BA	TDK	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402	402
C45, C46, C50, C51, C52, C55	6	39pF	GRM1885C1H390JA01D	MuRata	CAP, CERM, 39 pF, 50 V, +/- 5%, C0G/NP0, 0603	603
C48	1	22uF	GRT32ER61E226KE13L	MuRata	CAP, CERM, 22 uF, 25 V,+/- 10%, X5R, AEC-Q200 Grade 3, 1210	1210
C49	1	1uF	CKG57NX7T2J105M500JJ	TDK	CAP, CERM, 1 uF, 630 V,+/- 20%, X7R, AEC-Q200 Grade 1, 2220	2220
			2220Y6300105KXTWS2	Knowles Capacitors	CAP, CERM, 1 uF, 630 V,+/- 10%, X7R, AEC-Q200 Grade 1, 2220	2220
C54	1	10uF	UMK325AB7106KMHP	Taiyo Yuden	10uF ±10% 50V Ceramic Capacitor X7R 1210 (3225 Metric)	1210
C58, C59	2	22pF	GRM1885C1H220JA01D	MuRata	CAP, CERM, 22 pF, 50 V, +/- 5%, C0G/NP0, 0603	603
D2, D7	2	40V	DFLS240-7	Diodes Inc.	Diode, Schottky, 40 V, 2 A, AEC-Q101, PowerDI123	PowerDI123
D3, D8	2	24V	DFLZ24-7	Diodes Inc.	Diode, Zener, 24 V, 1 W, PowerDI123	PowerDI123
D4, D9	2	18V	BZT52C18-7-F	Diodes Inc.	Diode, Zener, 18 V, 500 mW, AEC-Q101, SOD-123	SOD-123
D5, D10	2	100V	BAS316,115	Nexperia	Diode, Ultrafast, 100 V, 0.25 A, SOD-323	SOD-323
D11, D12	2	30V	BAT42WS-7-F	Diodes Inc.	Diode, Schottky, 30 V, 0.2 A, SOD-323	SOD-323

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
GND_LV, GNDHV, GNDLV, GNDLVF, ISO15VGND, ISO15VSW	6		5006	Keystone	Test Point, Compact, Black, TH	Black Compact Testpoint
HS_FLT, LDO, LS_FLT	3	Red	LS L29K-G1J2-1-Z	OSRAM	LED, Red, SMD	SMD, 2-Leads, Body 1.3x0.8mm
HS_OC, LS_OC	2	Yellow	SML-E12Y8WT86	Rohm	LED, Yellow, SMD	1.6x0.8mm
J1, J4	2		731375003	Molex	Connector BNC Female 0Hz To 2GHz 50 Ohm Solder Right Angle Through Hole Gold Tray	CONN_BNC_RCPT
J2, J3	2		TSW-103-07-G-S	Samtec	Header, 100mil, 3x1, Gold, TH	3x1 Header
J5	1		395443002	Molex	Terminal Block, 5.08mm, 2x1, TH	Terminal Block, 5.08mm, 2x1, TH
J6	1		282834-2	TE Connectivity	Terminal Block, 2x1, 2.54mm, TH	Terminal Block, 2x1, 2.54mm, TH
J7	1		TSW-102-07-G-S	Samtec	Header, 100mil, 2x1, Gold, TH	2x1 Header
L1, L2	2	4.7uH	MPIA2510V2-4R7-R	Eaton	4.7µH Shielded Molded Inductor 1.22A 262mOhm Max 1008 (2520 Metric)	1008
L3	1	240nH	0603AF-241KRB	Coilcraft	Inductor, Wirewound, Ferrite, 240 nH, 0.85 A, 0.119999 ohm, SMD	1.8x0.91x1.12mm
L4, L5	2		744231061	Würth Elektronik	Common Mode Chokes / Filters WE-CNSW 0805 400mA 670hm 100MHz AECQ200	
			ACM2012-900-2P-T001	TDK	2 Line Common Mode Choke Surface Mount 90 Ohms @ 100MHz 400mA DCR 190mOhm	SMD4
R1, R3	2	0	CRCW08050000Z0EAHP	Vishay-Dale	RES, 0, 5%, 0.333 W, AEC-Q200 Grade 0, 0805	805
R2, R5	2	200K	3224X-1-204E	Bourns	Trimmer, 200 K, 0.25 W, SMD	3.5x5.3x4.8mm
R4, R8, R13, R18, R26, R28, R41	7		ERJ-3GEY0R00V	Panasonic	0 Ohms Jumper 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thick Film	603
R6, R15, R19, R20, R39, R40	6	300	CRCW0402300RJNED	Vishay-Dale	RES, 300, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R7, R16	2	49.9	CRCW040249R9FKED	Vishay-Dale	RES, 49.9, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R9, R23, R27, R30	4	309k	RT0603BRD07309KL	Yageo America	RES, 309 k, 0.1%, 0.1 W, 0603	603
R10, R12, R14, R17, R21	5	3.3k	CRCW06033K30JNEA	Vishay-Dale	RES, 3.3 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R11	1	0.33	ERJ-3RQFR33V	Panasonic	RES, 0.33, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R22, R29	2	154k	RT0603DRE07154KL	Yageo America	RES, 154 k, 0.5%, 0.1 W, 0603	603
R24, R31	2	37.4k	RT0603BRD0737K4L	Yageo America	RES, 37.4 k, 0.1%, 0.1 W, 0603	603
R25, R32	2	12.1k	RT0603BRD0712K1L	Yageo America	RES, 12.1 k, 0.1%, 0.1 W, 0603	603
R33, R37	2	5K	3224X-1-502E	Bourns	Trimmer, 5 K, 0.25 W, SMD	3.5x5.3x4.8mm
R34, R38	2	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R35, R36	2	100k	CRCW0603100KJNEAC	Vishay-Dale	RES, 100 k, 5%, 0.1 W, 0603	603
R42, R43	2	100	RC0603FR-07100RL	Yageo	RES, 100, 1%, 0.1 W, 0603	603
SH-J1, SH-J2, SH- J3	3	1x2	SNT-100-BK-G	Samtec	Shunt, 100mil, Gold plated, Black	Shunt
T1, T2	2		ZD2104-AE	Coilcraft	No-Opto Flyback Transformer, 1:1, 2500Vrms	Transformer
T3	1		TPS7B8150QDRVRQ1	Texas Instruments	150-mA High-Voltage Ultralow-IQ Low-Dropout Regulator, DRV0006A (WS0N-6)	DRV0006A

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
Top_FET_PWM	1		5007	Keystone	Test Point, Compact, White, TH	White Compact Testpoint
TP1	1		5016	Keystone	Test Point, Compact, SMT	Testpoint_Keystone_Compact
TP2	1		S2751-46R	Harwin	Test Point, SMT	Test Point, SMT
U1, U2	2		LMG3525R030Q	Texas Instruments	650-V 30-mΩ GaN FET with Integrated Driver and Protection	VQFN52
U3, U4	2		ISO7741FQDBQRQ1	Texas Instruments	General Purpose Digital Isolator 2500Vrms 4 Channel 100Mbps 85kV/μs CMTI 16-SSOP (0.154", 3.90mm Width)	SSOP16
U5, U6	2		LM25180QNGURQ1	Texas Instruments	LM25180-Q1 42-VIN PSR Flyback DC/DC Converter With 65-V, 1.5-A Integrated MOSFET, NGU0008C (WSON-8)	NGU0008C
U7, U10	2		SN74LVC3G14DCUTG4	Texas Instruments	Triple Schmitt-Trigger Inverter, DCU0008A (VSSOP-8)	DCU0008A
U8, U9	2		SN74LVC2G08IDCTRQ1	Texas Instruments	Automotive Catalog Dual 2-Input Positive-AND Gate, DCT0008A, LARGE T&R	DCT0008A

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATA SHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, regulatory or other requirements.

These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to [TI's Terms of Sale](#) or other applicable terms available either on [ti.com](https://www.ti.com) or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.

TI objects to and rejects any additional or different terms you may have proposed.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2024, Texas Instruments Incorporated