

Filename: nmufdm.xlsx  
Variant: 001  
Generated: 4/30/2026 10:41 AM  
TID #: N/A



PMP23488.5 REV A Bill of Materials

Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
1	C1, C2, C3, C4	4		8.85012E+11	Wurth Electronics	4.7uF ±10% 50V Ceramic Capacitor X7R 1206 (3216 Metric)	1206
2	C5, C6, C7, C8, C10, C11, C15, C16	8	680uF	EKZM350ELL681M2S5	United Chemi-Con	Cap Aluminum Lytic 680uF 35V 20% (10 X 25mm) Radial 5mm 2250mA 10000h 105 Bulk	RADIAL
3	C9, C19	2	0.022uF	ECWF6223JL	Panasonic	CAP. FILM, 0.022 uF, 630 V, +/- 5%, TH	12.5x6.2mm
4	C12, C13, C17, C18, C57, C58, C59, C60	8	22uF	C3216X5R1E226M160AB	TDK	CAP. CERM, 22 uF, 25 V, +/- 20%, X5R, 1206, 190	1206, 190
5	C14	1	150pF	C1206C151JGGAUTO	Kemet	CAP. CERM, 150 pF, 1000 V +/- 5%, CoG/NP0, AEC-Q200 Grade 1, 1206	1206
6	C20	1	470uF	EEUFR1V471LB	Panasonic	CAP. AL, 470 uF, 35 V, +/- 20%, 0.03 ohm, TH	RCAP, 8x20mm
7	C21	1	100uF	08050471UA12A	TDK	CAP. CERM, 470 pF, 50 V, +/- 5%, CoG/NP0, 0603	0603
8	C22, C23, C24, C25	4	0.022uF	GRM32Q72J223KW01L	MuRata	CAP. CERM, 0.022 uF, 630 V, +/- 10%, X7R, 1210	1210
9	C26	1	1000pF	C0405E20A102M-NKA	TDK	CAP. CERM, 1000 pF, V, +/- 20%, E, D7x7mm	07x7mm
10	C27, C34	2	1uF	GRM188R71C105KE15D	MuRata	CAP. CERM, 1 uF, 16 V, +/- 10%, X7R, 0603	0603
11	C28, C37	2	1000pF	C0603X102K5RACU	Kemet	CAP. CERM, 1000 pF, 50 V, +/- 10%, X7R, 0603	0603
12	C29	1	4700pF	C0603C472J1GAC7867	Kemet	CAP. CERM, 4700 pF, 100 V, +/- 5%, CoG/NP0, 0603	0603
13	C30	1	4.7uF	C3216X7R1E475Q05AB	TDK	CAP. CERM, 4.7 uF, 25 V, +/- 10%, X7R, 1206	1206
14	C33	1	100uF	GRM32ER6Y1A106KA12L	MuRata	CAP. CERM, 10 uF, 35 V, +/- 10%, X5R, 1210	1210
15	C35	1	3300pF	GRM188SC1H333JA01D	MuRata	CAP. CERM, 3300 pF, 50 V, +/- 5%, CoG/NP0, 0603	0603
16	C36	1	150pF	8.85012E+11	Wurth Elektronik	CAP. CERM, 150 pF, 50 V, +/- 5%, CoG/NP0, 0402	0402
17	C38	1	2.2uF	CGA5L3X7R1H225K160AB	TDK	CAP. CERM, 2.2 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
18	C39	1	0.01uF	06031C103JAT2A	AVX	CAP. CERM, 0.01 uF, 100 V, +/- 5%, X7R, 0603	0603
19	C40	1	2200pF	GRM188R71H222KA01D	MuRata	CAP. CERM, 2200 pF, 50 V, +/- 10%, X7R, 0603	0603
20	C41, C43	2	220pF	C0603221K5RACTU	Kemet	CAP. CERM, 220 pF, 50 V, +/- 10%, X7R, 0603	0603
21	C42	1	0.01uF	8.85012E+11	Wurth Elektronik	CAP. CERM, 0.01 uF, 16 V, +/- 10%, X7R, 0603	0603
22	C44	1	0.1uF	C0603X104K3RACTU	Kemet	CAP. CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0603	0603
23	C46	1	0.1uF	C1608X7R1E104K080AA	TDK	CAP. CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0603	0603
24	C47	1	100uF	GRM31CR71E106KA12L	MuRata	CAP. CERM, 10 uF, 25 V, +/- 10%, X7R, 1206	1206
25	C48	1	2.2uF	C3216X5R1V22M160AC	TDK	CAP. CERM, 2.2 uF, 35 V, +/- 20%, X5R, 1206	1206
26	C49	1	2.2uF	GRM188R61H225KE11D	MuRata	CAP. CERM, 2.2 uF, 50 V, +/- 10%, X5R, 0603	0603
27	C53, C55	2	100pF	C0402C101J3GACTU	Kemet	CAP. CERM, 100 pF, 25 V, +/- 5%, CoG/NP0, 0402	0402
28	C54, C56	2	1uF	GRM218R01E106KA12D	MuRata	CAP. CERM, 1 uF, 25 V, +/- 10%, X5R, 0805	0805
29	CX	1	100uF	UBT1E101MPD11D	Nichicon	CAP. AL, 100 uF, 25 V, +/- 20%, 0.13 ohm, TH	Cap. 08.0x11.5mm
30	D1	1	100V	PMEG1002ELRX	Nexperia	Diode, Schottky, 100 V, 2 A, AEC-Q101, SOD-123W	SOD-123W
31	D2	1	650V	GB01S1T06-214	Genesic Semiconductor	Diode, Schottky, 650 V, 1 A, SMB	SMB
32	D3	1	30V	5MA323-30	Diodes Inc.	Diode, Zener, 30 V, 30 1 W, SMA	SMA
33	D5	1	30V	BAT54WS-7-F	Diodes Inc.	Diode, Schottky, 30 V, 0.2 A, SOD-323	SOD-323
34	D6	1	18V	BZT52C18-7-F	Diodes Inc.	Diode, Zener, 18 V, 500 mW, AEC-Q101, SOD-123	SOD-123
35	HS, L Opto	2		5012	Keystone Electronics	Test Point, Multipurpose, White, TH	White Multipurpose Testpoint
36	L1	1	18uH	LPS4414-183MLB	Collcraft	Inductor, Shielded Drum Core, Ferrite, 18 uH, 0.75 A, 0.53 ohm, SMD	LPS4414
37	L7	1	28.7uH	P-23025	Delta Electronics	Inductor 28.7uH 100kHz 41mOhm	SMT_IND_29MMx5_30MMx9
38	PGND, SGND	2		5011	Keystone Electronics	Test Point, Multipurpose, Black, TH	Black Multipurpose Testpoint
39	POWER_AU, Reg12V, Vaux, Vn	4		5010	Keystone Electronics	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint
40	Q1, Q2, Q3, Q4	4	60V	BSC039N06NS	Infineon Technologies	MOSFET, N-CH, 60 V, 19 A, PG-TDSON-8	PG-TDSON-8
41	Q5, Q9	2	60V	2N7002E-T1-E3	Vishay-Siliconix	MOSFET, N-CH, 60 V, 0.24 A, SOT-23	SOT-23
42	Q6	1	60V	2N7002E-T1-E3	Diodes Inc.	Diode, Schottky, 60 V, 0.115 A, AEC-Q101, SOT-23	SOT-23
43	Q8	1	60V	SI2309CDS-T1-E3	Vishay-Siliconix	MOSFET, P-CH, -60 V, -1.6 A, SOT-23	SOT-23
44	R1	1	133	CRCW0603133RKFKEA	Vishay-Dale	RES, 133, 0.1 W, 0603	0603
45	R2, R4, R9, R13	4	330	RC0603JR-0733KRL	Yageo	RES, 330, 5%, 0.1 W, 0603	0603
46	R3, R7, R12, R45	5	100k	PMR0603220-000	Rohm	RES, 0, 0.25 W, AEC-Q200 Grade 0, 0603	0603
47	R5, R18	2	21.5k	RC0603FR-0721KSL	Yageo	RES, 21.5 k, 1%, 0.1 W, 0603	0603
48	R6, R48	1	1.21k	RC0603FR-071K21L	Yageo	RES, 1.21 k, 1%, 0.1 W, 0603	0603
49	R8, R48	2	9.09k	RC0603FR-079K09L	Yageo	RES, 9.09 k, 1%, 0.1 W, 0603	0603
50	R10, R16, R20	3		KTR18E2PF3304	Rohm Semiconductor	3.3 Mohms ±1% 0.25W, 14W Chip Resistor 1206 (3216 Metric)	1206
51	R11	1	2.05k	RC0603FR-072K05L	Yageo	RES, 2.05 k, 1%, 0.1 W, 0603	0603
52	R14	1	147k	RC0603FR-0747KRL	Yageo	RES, 147 k, 1%, 0.1 W, 0603	0603
53	R15	1	2.2	ERJ-3RKF2R2V	Panasonic	RES, 2.20, 1%, 0.1 W, 0603	0603
54	R19	1	10.0k	ERJ-2RKF1002X	Panasonic	RES, 10.0 k, 1%, 0.1 W, 0402	0402
55	R21	1	33.2k	RC0603FR-0733K2L	Yageo	RES, 33.2 k, 1%, 0.1 W, 0603	0603
56	R22, R23, R24	3	1.65k	RCW1208165RKFKEA	Vishay-Dale	RES, 1.65 k, 1%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
57	R25	1	412k	RC0603FR-07412KL	Yageo	RES, 412 k, 1%, 0.1 W, 0603	0603
58	R26	1	40.2k	RC0603FR-0740K2L	Yageo	RES, 40.2 k, 1%, 0.1 W, 0603	0603
59	R27	1	576k	CRCW0603576KFKFA	Vishay-Dale	RES, 576 k, 1%, 0.1 W, 0603	0603
60	R32	1	27.4k	RC0603FR-0727K4L	Yageo	RES, 27.4 k, 1%, 0.1 W, 0603	0603
61	R33	1	20.5k	RC0603FR-0720K5L	Yageo	RES, 20.5 k, 1%, 0.1 W, 0603	0603
62	R34	1	15.0k	RG1608P-153-B-T5	Susumu Co Ltd	RES, 15.0 k, 0.1%, 0.1 W, 0603	0603
63	R35	1	470k	BSZ371V247J060	TDK	NTC Thermistor 470k 0603 (1608 Metric)	0603
64	R36, R49	2	51.0k	RC0603FR-0751K0	Yageo	RES, 51.0 k, 1%, 0.1 W, 0603	0603
65	R38, R42	2	100k	CRCW0603100KFKFA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
66	R39	1	15.0k	RC0603FR-0715K0L	Yageo	RES, 15.0 k, 1%, 0.1 W, 0603	0603
67	R40	1	187k	RC0603FR-07187KL	Yageo	RES, 187 k, 1%, 0.1 W, 0603	0603
68	R41	1	20.0k	ERJ-3RKF2002V	Panasonic	RES, 20.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
69	R43, R44	2	0	RMCF1206ZTOR00	Stackpole Electronics	0Ω ±0.25W 1206 Thick Film Chip Resistor AEC-Q200 compliant	1206
70	R46	1	143k	RC0603FR-07143KL	Yageo	RES, 143 k, 1%, 0.1 W, 0603	0603
71	R51	1	4.70k	RC0603FR-0747KL	Yageo	RES, 4.70 k, 1%, 0.1 W, 0603	0603
72	R53, R56	2	0	RC0402JR-0700L	Yageo America	RES, 0, 5%, 0.063 W, 0402	0402
73	R54, R57	2	150	RC0603FR-07150RL	Yageo	RES, 150, 1%, 0.1 W, 0603	0603
74	R55, R58	2	120k	ERJ-2RKF1203X	Panasonic	RES, 120 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
75	Reg12, Vn	1		5013	Keystone Electronics	Test Point, Multipurpose, Orange, TH	Orange Multipurpose Testpoint
76	T7	1		P-23024	Delta Electronics	Transformer	SMT_XFRMR_38MMx9_30MMx9
77	U1, U2	2		MP8294AGS-P	Monolithic Power Systems	Power Supply Controller Flyback, Forward Converters, LLC 8-SOIC	SOT-23-6
78	U3	1		VO618A-3	Vishay-Semiconductor	Optocoupler, 5.3 kV, 100-200% CTR, SMT	DIP, 4-Leads, Body 6.86x4.83mm, Pitch 2.54mm
79	U4	1		UCC256610DDBR	Texas Instruments	750kHz Wide VIN/VOUT Range LLC Controller Optimized for Light Load Efficiency	SOIC14
80	U5	1		TLVH431ACDBZR	Texas Instruments	Low-Voltage Adjustable Precision Shunt Regulator, 129 ppm / degC, 80 mV to 70 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb) Bi	DB20003A
81	U6	1		LMR51635XDDCR	Texas Instruments	25-V, 2.5-A, 5.5-A SIMPLE SWITCHER Synchronous Buck Converter SOT-23-6	SOT-23-6
82	U7, U8	2		UMG3654REQ	Texas Instruments	650-V GaN FET With Integrated Driver and Current Sense Emulation	VOFN38
83	C11	0	150pF	8.85012E+11	Wurth Elektronik	CAP. CERM, 150 pF, 50 V, +/- 5%, CoG/NP0, 0402	0402
84	C32	0	1000uF	UBT1E101MPD11D	Nichicon	CAP. AL, 100 uF, 25 V, +/- 20%, 0.13 ohm, TH	Cap. 08.0x11.5mm
85	C45	0	100pF	C0603C100F5GAC7867	Kemet	CAP. CERM, 10 pF, 50 V, +/- 1%, CoG/NP0, 0603	0603
86	C50, C51	0	100uF	GRM31CR71E106KA12L	MuRata	CAP. CERM, 10 uF, 25 V, +/- 10%, X7R, 1206	1206
87	C52	0	2.2uF	C3216X5R1V22K050AC	TDK	CAP. CERM, 2.2 uF, 35 V, +/- 10%, X7R, 0603	0603
88	C61	0	3.3uF	C1608X5R1E335K080AC	TDK	CAP. CERM, 3.3 uF, 25 V, +/- 10%, X5R, 0603	0603
89	D4	0	15V	MM3Z15V8T1G	ON Semiconductor	Diode, Zener, 15 V, 300 mW, SOD-323	SOD-323
90	J1, J2, J3, J4, J5, J6, J7, J8, J9, J10	0		575-4	Keystone	Standard Banana Jack, Uninsulated, 5.5mm	Keystone_575-4
91	Q7	0	60V	SUD23N06-31L-E3	Vishay-Siliconix	MOSFET, N-CH, 60 V, 23 A, DPAK	DPAK
92	Q10	0	60 V	MM18MTA86LT1G	ON Semiconductor	CMOS MPN, 60 V, 0.5 A, AEC-Q101, SOT-23	SOT-23
93	Q11	0	60V	2N7002DW	Fairchild Semiconductor	MOSFET, 2-CH, N-CH, 60 V, 0.115 A, SOT-363	SOT-363
94	R17	0	10.0k	ERJ-3RKF1002V	Panasonic	RES, 10.0 k, 1%, 0.1 W, 0603	0603
95	R28, R29, R30, R31	0	4.99k	RC1206FR-074K99L	Yageo America	RES, 4.99 k, 1%, 0.25 W, 1206	1206
96	R37	0	51.0k	RC0603FR-0751KL	Yageo	RES, 51.0 k, 1%, 0.1 W, 0603	0603
97	R47	0	100k	RC0603FR-07100KL	Yageo	RES, 100 k, 1%, 0.1 W, 0603	0603
98	R50, R52	0	0	RMCF1206ZTOR00	Stackpole Electronics	0Ω ±0.25W 1206 Thick Film Chip Resistor AEC-Q200 compliant	1206
99	R59, R60	0	100k	CRCW0603100KFKFA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603