



Bill of materials

Table 1. AEK-MCU-C4MLIT3 bill of materials

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
1	1	AEK-MCU-C4M3	AEK-MCU-C4M3	AEK-MCU-C4M3	ST	Not available for separate sale
2	1	AEK-CON-LIT	AEK-CON-LIT	AEK-CON-LIT	ST	Not available for separate sale
3	8		970150365	WA-SPAIE Plastic Spacer Stud, metric, internal/external	WE	970150365
4	8		97790603211	WA-SCRW Pan Head Screw w. cross slot M3	WE	97790603211
5	2		61900211621	WR-WTB 2.54 mm Female Terminal Housing	WE	61900211621
6	2		61900113722DEC	WR-WTB 2.54 mm Female Crimp Contact	WE	61900113722DEC
7	5		609002115121	WR-PHD 2.54 mm Jumper with Test Point & Pullback	WE	609002115121
8	4		60800213421	WR-PHD 2.00 mm Jumper with Test Point	WE	60800213421
9	12		61900811621	WR-WTB 2.54 mm Female Terminal Housing	WE	61900811621

Table 2. AEK-MCU-C4M3 bill of materials

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
1	5	C1, C23, C25, C35, C36	10uF	1206 - 50V - X5R Class II	WE	885012108022
2	31	C2, C4, C6, C8, C12, C17, C20, C29, C32, C38, C41, C44, C46, C48, C50, C52, C54, C57, C68, C71, C74, C78, C79, C80, C121, C122, C127, C132, C137, C138, C152	100nF	0603 - 50V - X7R Class II	WE	885012206095
3	2	C3, C11	3.3uF	1206 - 25V - X7R Class II	WE	885012208067
4	3	C5, C16, C28	22uF	0805 - 25V - X5R Class II	WE	885012107019
5	1	C7	1uF	0603 - 25V - X7R Class II	WE	885012206076

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
6	1	C9	220uF	Electrolytic Cap - 50V - 10x10.5	WE	865080657018
7	3	C10, C128, C133	10uF	0805 - 25V - X5R Class II	WE	885012107027
8	4	C13, C14, C24, C26	6.8nF	0603 - 50V - X7R Class II	WE	885012206088
9	2	C15, C27	68pF	0603 - 50V - NP0 Class I	WE	885012006056
10	4	C18, C19, C30, C31	22uF	1210 - 25V - X7R Class II	WE	885012209074
11	6	C21, C33, C59, C61, C63, C65	47nF	0603 - 50V - X7R Class II	WE	885012206093
12	2	C22, C34	220pF	0603 - 50V - X7R Class II	WE	885012206079
13	17	C37, C40, C43, C45, C47, C49, C51, C53, C55, C56, C60, C62, C64, C66, C69, C72, C75	10nF	0603 - 50V - X7R Class II	WE	885012206089
14	2	C39, C42	1.5uF	1206 - 25V - X7R Class II	WE	885012208065
15	3	C58, C67, C70	2.2uF	1206 - 25V - X7R Class II	WE	885012208066
16	1	C73	4.7uF	1206 - 50V - X7R Class II	WE	885012208094
17	2	C76, C77	22pF	0402 - 50V - NP0 Class I	WE	885012005057
18	4	C129, C131, C134, C136	47pF	0603 - 50V - NP0 Class I	WE	885012006055
19	2	C130, C135	4.7nF	0603 - 50V - X7R Class II	WE	885012206087
20	11	C139, C140, C141, C142, C143, C144, C145, C146, C147, C148, C149	N.M.	0603	N.A.	N.A.
21	2	C150, C151	1uF	0603 - 50V - X7R Class II	WE	885012206126
22	2	CN1, CN2	Con 2P	2.54mm - 1 row - KK254 - Male	WE	61900211121
23	1	CN3	116-40074TH	DIN 41612 Female 90°, type C, Part No. 116-40074TH	EPT	116-40074TH
24	1	D1	MMBZ5242BLT1G	12V Zener Voltage Regulators, 225mW	Onsemi	MMBZ5242BLT1G
25	1	D2	SMAJ24CA, SMA	SMA TVS - 24VDC - Bidirectional	ST	SMAJ24CA-TR
26	2	D3, D25	MMSZ4684T1G	3.3V Zener Voltage	Onsemi	MMSZ4684T1G

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
				Regulators, 500mW		
27	1	D4	Blue	0805 - Led Blue - 3.2V	WE	150080BS75000
28	5	D5, D6, D7, D8, D9	Green	0805 - Led Green - 3.2V	WE	150080GS75000
29	1	D10	Red	0805 - Led Red - 2V	WE	150080RS75000
30	5	D16, D17, D18, D19, D20	Amber	0805 - Led Amber - 2V	WE	150080AS75000
31	1	F1	0437003.WRA	437 Series – 1206 Fast-Acting Fuse	LittleFuse	0437003.WRA
32	1	J1	Con 2p 5.08_green	5.08mm - WR- TBL Series 2135 - Horizontal Entry Modular	WE	691213510002
33	1	J2	Con JTAG	2.54mm - IDC, Male Box Header WR-BHD, THT, Vertical	WE	61201421621
34	4	JP1, JP2, P1, P3	Jumper 2p Closed, Header 2p 2.54	2.54mm - Pin Header, THT, pitch 2.54mm, Single Row, Vertical, 2p, Closed, 2.54mm - WR-PHD Pin Header, THT, pitch 2.54mm, Single Row, Vertical, 2p	WE	61300211121
35	3	JP3, JP4, JP5	Jumper 3p	THT Vertical 3 pins Header, Pitch 2.54 mm, Single Row	WE	61300311121
36	4	JP18, JP19, JP20, JP21	Jumper 2p Closed	2mm - WR-PHD 2.00 mm THT Pin Header Single Row, Vertical, 2p, Closed	WE	62000211121
37	2	L1, L2	22uH	WE-LHMI SMT Power Inductor – 6.6 x 6.6 x 4.8 - 2.75A	WE	74437349220
38	4	L9, L10, L12, L13	60	WE-CBF SMT EMI Suppression Ferrite Bead. 60 Ohm, 500mA	WE	74279267
39	2	L11, L14	51uH	WE-SLM SMT Common Mode Line Filter - 51uH	WE	744242510
40	1	Q1	STL42P6LLF6, PowerFLAT 5x6	P-channel -60 V, 23 mΩ typ., -42 A STripFET F6 Power MOSFET in a PowerFLAT 5x6 package	ST	STL42P6LLF6

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
41	2	Q2, Q3	STR2N2VH5, SOT-23	N-channel 20 V, 0.025 Ω typ., 2.3 A STripFET™ H5 Power MOSFET in a SOT-23 package	ST	STR2N2VH5
42	2	Q4, Q5	2STR1160, SOT-23	Low voltage fast- switching NPN power transistor	ST	2STR1160
43	1	Q6	2STR2160, SOT-23	Low voltage fast- switching PNP power transistor	ST	2STR2160
44	1	R1	20K	0603 - \pm 1% - 0.1W	Panasonic	ERJ-3EKF2002V
45	18	R2, R28, R38, R42, R43, R150, R222, R267, SB4, SB5, SB6, SB7, SB8, SB9, SB10, SB11, SB12, SB13	0, Closed	0603 - \pm 1% - 0.1W, Circuit Breaker - 0603 - \pm 1% - 0.1W	Panasonic	ERJ3GEY0R00V
46	12	R3, R18, R32, R49, R50, R68, R160, R186, R187, R188, R239, R240	10K	0603 - \pm 1% - 0.2W	Panasonic	ERJP03F1002V
47	1	R4	180K	0603 - \pm 1% - 0.25W	Panasonic	ERJ-UP3F1803V
48	1	R5	390K	0603 - \pm 0.5% - 0.25W	Panasonic	ERJ-UP3D3903V
49	1	R6	91K	0603 - \pm 0.5% - 0.25W	Panasonic	ERJ-UP3D9102V
50	1	R7	6.8K	0603 - \pm 0.5% - 0.25W	Panasonic	ERJ-UP3D6801V
51	2	R8, R17	8.2K	0603 - \pm 1% - 0.1W	Panasonic	ERJ-3EKF8201V
52	2	R9, R20	220	0603 - \pm 1% - 0.25W	Panasonic	ERJPA3F2200V
53	2	R10, R23	5.1K	0603 - \pm 1% - 0.1W	Panasonic	ERJ-3EKF5101V
54	5	R11, R40, R52, R70, R151	1K	0603 - \pm 1% - 0.25W	Panasonic	ERJPA3F1001V
55	1	R12	1.24K	0603 - \pm 1% - 0.1W	Panasonic	ERJ-3EKF1241V
56	2	R14, R27	10	0603 - \pm 1% - 0.25W	Panasonic	ERJPA3F10R0V
57	82	R16, R29, R30, R31, R46, R47, R165, R167, R168, R189, R190, R191, R192, R193, R194, R195, R196, R197, R198, R199, R209, R211, R212, R213, R214, R215, R216, R217, R218, R219, R220, R221, R223, R224, R225, R226,	100	0603 - \pm 1% - 0.125W	Panasonic	ERJH3EF1000V

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
		R227, R228, R229, R230, R231, R232, R233, R234, R235, R237, R238, R243, R245, R247, R248, R249, R250, R251, R252, R255, R256, R257, R258, R259, R260, R261, R262, R263, R264, R265, R266, R268, R269, R270, R271, R272, R274, R276, R277, R278, R279, R280, R281, R282, R283, R284				
58	2	R22, R26	N.M.	0402	N.A.	N.A.
59	11	R24, R48, R96, R140, R141, R172, R175, R177, R180, R244, R246	N.M.	0603	N.A.	N.A.
60	1	R25	2.2K	0603 - $\pm 1\%$ - 0.1W	Panasonic	ERJ-3EKF2201V
61	3	R33, R34, R35	1.5K	0603 - $\pm 1\%$ - 0.25W	Panasonic	ERJ-PA3F1501V
62	3	R36, R37, R39	3.9K	0603 - $\pm 1\%$ - 0.1W	Panasonic	ERJ3EKF3901V
63	2	R41, R51	100K	0603 - $\pm 1\%$ - 0.2W	Panasonic	ERJP03F1003V
64	5	R44, R143, R145, R147, R149	0	0402 - 0.1W	Panasonic	ERJ-2GE0R00X
65	1	R45	4.7K	0603 - $\pm 1\%$ - 0.25W	Panasonic	ERJPA3F4701V
66	6	R53, R181, R182, R183, R184, R185	680	0603 - $\pm 1\%$ - 0.25W	Panasonic	ERJPA3F6800V
67	1	R118	0	0603 - jumper - 0.125W	Panasonic	ERJ-H3G0R00V
68	1	R159	232K	0603 - $\pm 1\%$ - 0.1W	Panasonic	ERJ-3EKF2323V
69	1	R166	34K	0603 - $\pm 1\%$ - 0.25W	Panasonic	ERJ-UP3F3402V
70	2	R171, R176	47K	0603 - $\pm 1\%$ - 0.25W	Panasonic	ERJPA3F4702V
71	4	R173, R174, R178, R179	60.4	0603 - $\pm 1\%$ - 0.1W	Panasonic	ERJ3EKF60R4V
72	1	S1	Switch_ON_OFF	Slide Switch 2 positions ON-ON - Set OPEN	NKK Switches	CS12ANW03
73	1	S2	RESET	Switch	WE	430152043826
74	3	S4, S5, S6	ButtonSwitch_black	Switch	WE	430182043816
75	1	U1	L99VR02J, PowerSSO 12	Automotive linear voltage regulator with configurable output voltage having 500 mA current capability	ST	L99VR02J

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
76	1	U2	L5963DN, PowerSSO 36	Automotive dual monolithic switching regulator with LDO and HSD	ST	L5963DN-EHT
77	1	U3	STEF05L, DFN10 3X3	Electronic fuse for 5 V line	ST	STEF05LAPUR
78	1	U4	STEF033, DFN10 3X3	Electronic fuse for 3.3 V line	ST	STEF033APUR
79	1	U5	SPC58EC80E5QM C1Y, TQFP 144 20x20x1.0	32-bit Power Architecture MCU for Automotive General Purpose Applications - Chorus family	ST	SPC58EC80E5QMC1Y
80	1	U6	STM6315SDW13F, SOT-143 4	STMICROELECTRONICS - STM6315SDW13 F - Reset Circuit, Active-Low, Open-Drain, 1V to 5.5V, 2.93V Threshold, 1 Monitor	ST	STM6315SDW13F
81	1	U9	TXU0304-Q1	TXU0304-Q1 Automotive 4-Bit Fixed Direction Voltage-Level Translator with Schmitt-Trigger Inputs and 3-State Outputs	Texas Instruments	TXU0304QPWRQ1
82	2	U13, U14	MCP2542WFD	CAN FD Transceiver with Wake-up Pattern (WUP) Option	Microchip	MCP2542WFD
83	1	X1	40Mhz	WE-XTAL Quartz Crystal, SMT, CFPX-104, 40MHZ, +/-20ppm	WE	830059537

Table 3. AEK-CON-LIT bill of materials

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
1	1	CN1	103-40064TH	DIN 41612 Male 90°, type C, Part No. 103-40064TH	EPT	103-40064TH
2	12	CN2, CN3, CN4, CN5, CN6, CN7, CN8, CN9, CN10, CN11, CN12, CN13	Con 8p	2.54mm - 1 row - KK254 - Male	WE	61900811121
3	1	J1	Con 3p 5.08_green	5.08mm - WR-TBL Series 2135 - Horizontal Entry Modular	WE	691213510003

Item	Q.ty	Ref.	Part/Value	Description	Manufacturer	Order code
4	1	J2	Con 2p 5.08_green	5.08mm - WR- TBL Series 2135 - Horizontal Entry Modular	WE	691213510002

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