

AEM6000 Based 50W Amp Parts List

Designator	Description	Package	Supplier	Part Number	Substitution notes
R1	100K 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1003FB3	May use 1206 thick film
R2	0R link	MELF 0204	Mouser	OMM02040000000B0	May use 1206 thick film
R3	750Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C7500FB3	May use 1206 thick film
R4	100Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1000FB3	May use 1206 thick film
R5	100Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1000FB3	May use 1206 thick film
R6	18K 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1802FB3	May use 1206 thick film
R7	18K 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1802FB3	May use 1206 thick film
R8	180Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1800FB3	May use 1206 thick film
R9	3K3 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C3301FB3	May use 1206 thick film
R10	47K 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C4702FB3	May use 1206 thick film
R11	680Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C6800FB3	May use 1206 thick film
R12	3K9 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C3901FB3	May use 1206 thick film
R13	120Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1200FB3	May use 1206 thick film
R14	47K 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C4702FB3	May use 1206 thick film
R15	0R link	MELF 0204	Mouser	OMM02040000000B0	May use 1206 thick film
R16	0R link	MELF 0204	Mouser	OMM02040000000B0	May use 1206 thick film
R17	47K 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C4702FB3	May use 1206 thick film
R19	470Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C4700FB3	May use 1206 thick film
R20	470Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C4700FB3	May use 1206 thick film
R21	220Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C2200FB3	May use 1206 thick film
R22	220Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C2200FB3	May use 1206 thick film
R23	150Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1500FB3	May use 1206 thick film
R24	150Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1500FB3	May use 1206 thick film
R25	150Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1500FB3	May use 1206 thick film
R26	150Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1500FB3	May use 1206 thick film
R27	1K 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1001FB3	May use 1206 thick film
R28	1K 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1001FB3	May use 1206 thick film
R29	1K 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1001FB3	May use 1206 thick film
R30	1K 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1001FB3	May use 1206 thick film
R31	220Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C2200FB3	May use 1206 thick film
R32	220Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C2200FB3	May use 1206 thick film
R33	56Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C5609FB3	May use 1206 thick film
R34	56Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C5609FB3	May use 1206 thick film
R35	470Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C4700FB3	May use 1206 thick film
R36	100Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1000FB3	May use 1206 thick film
R38	100Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1000FB3	May use 1206 thick film
R40	220mΩ 3W 5% wirewound	13mm x 5mm dia axial	Mouser	AC030002207JAC00	Non critical. Substitute any 3W resistor that will physically fit.
R42	220mΩ 3W 5% wirewound	13mm x 5mm dia axial	Mouser	AC030002207JAC00	Non critical. Substitute any 3W resistor that will physically fit.
R44	22Ω 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C2209FB3	
R46	12Ω 3W 5% wirewound	13mm x 5mm dia axial	Mouser	AC03000001209JAC00	Non critical. Substitute any 3W resistor that will physically fit.

Designator	Description	Package	Supplier	Part Number	Substitution notes
R48	15K 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1502FB3	Critical part - Use a resistor with very low temperature and voltage coefficient. Do not use thick film resistor
R49	1K 0.4W 1% 50ppm	MELF 0204	Mouser	MMA02040C1001FB3	Critical part - Use a resistor with very low temperature and voltage coefficient. Do not use thick film resistor
RV1	20K 25 turn trimpot, top adjust	3296W	Mouser	3296W-1-203LF	
RV2	200Ω 25 turn trimpot, top adjust	3296W	Mouser	3296W-1-201LF	Non critical. Should substitute 500Ω if 100mA output bias is desired.
C1	470n 63V 5% MKS film	13mm x 4mm MKS	Mouser	MKS4C034703C00JB00	
C2	1n 100V 5% FKS film	7mm x 3mm FKS	Mouser	FKS2D011001A00JA	Can substitute NP0/C0G ceramic
C3	47p 500V 5% mica	3.2mm x 2.5mm chip	Mouser	MC12FD470J-TF	Can substitute 1206 NP0/C0G ceramic
C4	220μ 63V 105° electrolytic	10mm dia radial	Mouser	EEU-FC1J221XB	
C5	220μ 63V 105° electrolytic	10mm dia radial	Mouser	EEU-FC1J221XB	
C6	15p 500V 5% mica	3.2mm x 2.5mm chip	Mouser	MC12ED150J-TF	Can substitute 1206 NP0/C0G ceramic
C7	15p 500V 5% mica	3.2mm x 2.5mm chip	Mouser	MC12ED150J-TF	Can substitute 1206 NP0/C0G ceramic
C8	15p 500V 5% mica	3.2mm x 2.5mm chip	Mouser	MC12ED150J-TF	Can substitute 1206 NP0/C0G ceramic
C9	220p 500V 5% mica	4.5mm x 3.2mm chip	Mouser	MC18FD221J-TF	Can substitute 1812 NP0/C0G ceramic
C11	18p 500V 5% mica	3.2mm x 2.5mm chip	Mouser	MC12ED180J-F	Can substitute 1206 NP0/C0G ceramic
C14	22n 100V PET	5.7mm x 5.0mm chip	Mouser	SMDTD02220QAKP00	
C23	100n 100V PPS	7.2mm x 6.0mm chip	Mouser	SMDIC03100TA00KQ00	
C25	100n 100V PPS	7.2mm x 6.0mm chip	Mouser	SMDIC03100TA00KQ00	
D1	LL4148 small signal diode	MELF Diode	Mouser	LL4148	
D2	LL4148 small signal diode	MELF Diode	Mouser	LL4148	
D3	LL4148 small signal diode	MELF Diode	Mouser	LL4148	
D4	LL4148 small signal diode	MELF Diode	Mouser	LL4148	
D5	LL4148 small signal diode	MELF Diode	Mouser	LL4148	
D6	LL4148 small signal diode	MELF Diode	Mouser	LL4148	
D7	LL4148 small signal diode	MELF Diode	Mouser	LL4148	
D9	LL4148 small signal diode	MELF Diode	Mouser	LL4148	
ZD1	12V 0.5W Zener	MELF Diode	Mouser	BZV55B12 L1	
ZD2	12V 0.5W Zener	MELF Diode	Mouser	BZV55B12 L1	
ZD4	12V 0.5W Zener	MELF Diode	Mouser	BZV55B12 L1	
Q1	SST404 dual matched N-JFET	SO-8	Future Electronics	SST404-LF	
Q3	MMBTA06 NPN transistor, 500mA 80V	SOT-23	Mouser	MMBTA06LT3G	

Designator	Description	Package	Supplier	Part Number	Substitution notes
Q4	MMBTA06 NPN transistor, 500mA 80V	SOT-23	Mouser	MMBTA06LT3G	
Q5	MMBTA56 PNP transistor, 500mA 80V	SOT-23	Mouser	MMBTA56LT3G	
Q6	MMBTA56 PNP transistor, 500mA 80V	SOT-23	Mouser	MMBTA56LT3G	
Q7	MMBTA06 NPN transistor, 500mA 80V	SOT-23	Mouser	MMBTA06LT3G	
Q8	MMBTA06 NPN transistor, 500mA 80V	SOT-23	Mouser	MMBTA06LT3G	
Q9	MJE350 PNP transistor, 500mA 300V	TO-126	Mouser	MJE350G	
Q10	MJE340 NPN transistor, 500mA 300V	TO-126	Mouser	MJE340G	
Q11	2SC3503 NPN transistor, 100mA 300V	TO-126	Mouser	KSC3503DS	
Q12	2SC3503 NPN transistor, 100mA 300V	TO-126	Mouser	KSC3503DS	
Q13	2SA1381 PNP transistor, 100mA 300V	TO-126	Mouser	KSA1381ESTU	
Q14	2SA1381 PNP transistor, 100mA 300V	TO-126	Mouser	KSA1381ESTU	
Q16	2SA1381 PNP transistor, 100mA 300V	TO-126	Mouser	KSA1381ESTU	
Q18	2SC3503 NPN transistor, 100mA 300V	TO-126	Mouser	KSC3503DS	
Q19	ECX10N20 N-Channel Lateral MOSFET, 8A 200V	TO-247	Profusion PLC	EXC10N20	Can substitute 2SK1058. Beware fakes!
Q21	ECX10P20 P-Channel Lateral MOSFET, 8A 200V	TO-247	Profusion PLC	EXC10P20	Can substitute 2SJ162. Beware fakes!