

## Component List for the AV800 MOSFET Amplifier

All of the resistors are ¼ Watt metal film 1% tolerance unless otherwise stated.

Designators	Component Value
C1	100uf 160v RB
C2	10PF Ceramic
C3	47UF/100V RB
C4	47UF/100V RB
C5	47UF/100V RB
C6	47UF/100V RB
C7	47UF/100V RB
C8	47UF/100V RB
C9	10pf Ceramic
C10	1uf MKT
C11	2n2 MKT
C12	68pf Ceramic
C13	2n2 MKT
C14	220uf 25v RB
C15	47uf Bipolar
C16	100nf MKT
C17	100nf MKT
C18	47uf Bipolar
C19	47uf 25v RB
C20	47UF 100V RB
C21	47UF 100V RB
C22	47UF 100V RB
C23	47UF 100V RB
C24	47UF 100V RB
C25	47UF 100V RB
C26	100uf 160v RB
C27	100nf-x2/250vac Mains Rated
D1	1N4007 1 amp diode
D2	1N4007 1 amp diode
HS1	1 inch pitch, Min 10 Degrees/Watt
HS2	1 inch pitch, Min 10 Degrees/Watt
LD1	LED any colour
LD2	LED any colour
P1	5K POT Multi turn or 10 turns
Q1	2SC2240 TO-220
Q2	2SC2240 TO-92A
Q3	2SA1306 TO-220
Q4	2SA1306 TO-220
Q5	IRF610 TO-220
Q6	BC546 TO-92
Q7	BC546 TO-92
Q8	IRF610 TO-220
Q9	IRFP240 TO-3P
Q10	IRFP240 TO-3P
Q11	IRFP240 TO-3P
Q12	IRFP240 TO-3P
Q13	IRFP240 TO-3P
Q14	IRFP240 TO-3P
Q15	IRFP240 TO-3P
Q16	IRFP9240 TO-3P
Q17	IRFP9240 TO-3P
Q18	IRFP9240 TO-3P
Q19	IRFP9240 TO-3P
Q20	IRFP9240 TO-3P

Designators	Component Value
Q21	IRFP9240 TO-3P
Q22	IRFP9240 TO-3P
Q23	MJE340 TO-126
Q24	2SC3298 TO-220
Q25	2SC3298 TO-220
Q26	IRF9610 TO-220

**All of the resistors are ¼ Watt metal film 1% tolerance unless otherwise stated.**

R1	2k2
R2	2k2
R3	120
R4	100
R5	Wire LINK2
R6	0.22 3 or 5 WATT
R7	0.22 3 or 5 WATT
R8	0.22 3 or 5 WATT
R9	0.22 3 or 5 WATT
R10	0.22 3 or 5 WATT
R11	0.22 3 or 5 WATT
R12	0.22 3 or 5 WATT
R13	10k 1watt
R14	470
R15	470
R16	470
R17	470
R18	470
R19	470
R20	470
R21	47K
R22	100
R23	Wire LINK4
R24	100
R25	4k7
R26	4k7
R27	4k7
R28	47
R29	47
R30	4k7
R31	4k3
R32	10 Ohm 1watt
R33	1k
R34	100
R35	470
R36	390
R37	15k
R38	330
R39	470
R40	10k 1 Watt
R41	Wire LINK3
R42	10k 1watt
R43	100
R44	100
R45	Wire LINK5
R46	47K
R47	470
R48	470

Designators	Component Value
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Designators	Component Value
R49	470
R50	470
R51	470
R52	470
R53	470
R54	100
R55	100
R56	10k
R57	100
R58	0.22 3 or 5 WATT
R59	0.22 3 or 5 WATT
R60	0.22 3 or 5 WATT
R61	0.22 3 or 5 WATT
R62	0.22 3 or 5 WATT
R63	0.22 3 or 5 WATT
R64	0.22 3 or 5 WATT
R65	10 Ohm 5 WATT
ZD1	15v 1watt Zener Diode
ZD2	15v 1watt Zener Diode

Component Value	Quantity
<b>Misc</b>	
1 Inch pitch 10 Degree/watt heat sinks	2
Wire Links	4
<b>Resistors</b>	
0.22 Ohm 3 Watt Resistor	14
100 Ohm Resistor	8
100 Ohm Resistor	1
10k Ohm Resistor	1
10k Ohm 1watt Resistor	3
10 Ohm 1watt Resistor	1
120 Ohm Resistor	1
15k Ohm Resistor	1
1k Ohm Resistor	1
2k2 Ohm Resistor	2
330 Ohm Resistor	1
390 Ohm Resistor	1
47 Ohm Resistor	2
470 Ohm Resistor	17
47K Ohm Resistor	2
4k3 Ohm Resistor	1
4k7 Ohm Resistor	4
10 Ohm 5 Watt Resistor	1
5K multi turn POT	1
<b>Capacitors</b>	
10PF Capacitor	1
10pf Capacitor	1
100nf MKT Capacitor	1
100nf MKT Capacitor	1
100nfx2 250vac Capacitor	1
100uf 160v Capacitor	2
1uf MKT Capacitor	1
220uf 25v Capacitor	1
2n2 MKT Capacitor	2
47uf 100V Capacitor	12
47uf 25v Capacitor	1
47uf BP Capacitor	2
68pf Capacitor	1
<b>Semiconductors</b>	
15v 1watt Zener Diode	1
15v 1watt Zener Diode	1
1N4007 1 amp Diode	2
2SA1306 Transistor	2
2SC2240 or 2SC2546 Transistor	2
2SC3298 Transistor	2
BC546 Transistor	2
IRF610 Transistor	2
IRF9610 Transistor	1
IRFP240 Transistor	7
IRFP9240 Transistor	7
Light Emitting Diodes	2

## How to match Hexfet MOSFETs

When using this type of MOSFET in the AV800 amplifier is strongly recommended that the output stage devices be matched. As it has been found that if this is not done then there is no guarantee that they will share the current under load.

The Source resistors provide only a bit of local feedback and don't in any way force the devices to current share.

The best method I have found to work very well utilises just a 150 Ohm 1 watt resistor and a +15 volt DC power supply.

If you look at the schematic below it shows how to connect and measure the N-channel devices and the P-channel devices.

With the devices connected, as shown measure across Drain and Source of Q1 and Q2 with a multimeter set to DC volts and measurement of between 3.8 volts and 4.2 volts will be shown. Simply match the device in-groups to a tolerance of  $\pm 0.1$  to  $0.2$  volt. Please note that you only have to match the n-channel to the n-channel devices and the p-channel to the p-channel devices, not the N-channel devices to the P-channel devices.

