

AMP11 kit (36V)

	Component	Q	Type	Pos
Bag 0	AMP11 PCB	1	-	PCB
<i>Comment: PCB</i>				
<i>Spec: Double weight copper</i>				
Bag 1	Cap 160V Film 0.22uF Polyprop RM10	3	hmt	C25,C36,C28
<i>Comment: Output filter</i>				
<i>Spec: Film cap, 0.22 uF RM5 to RM10</i>				
Bag 1	Cap 160V Film 0.1uF Polyprop RM10 5x13mm	1	hmt	C32
<i>Comment: Output filter</i>				
<i>Spec: 0.1 uF 100V RM5 to RM10</i>				
Bag 1	Cap 50V Elect 3.3uF Low ESR D5	1	hmt	C200
<i>Comment: Input DC blocking cap</i>				
<i>Spec: 3.3uF. Size can be decreased if Rin is increased above 22K</i>				
Bag 1	Cap 10V Elect 1000uF Low ESR	1	hmt	C1
<i>Comment: 5V decoupling</i>				
<i>Spec: 1000uF 10V low ESR</i>				
Bag 1	Cap 50V Elect 180uF U-Low ESR D8	2	hmt	C50,C51
<i>Comment: 5V preregulator bulk caps</i>				
<i>Spec:</i>				
Bag 2	Res 2.2Kohm 1/10W 0.5% 0805	7	smt	R3,R12,R59,R81,R82,R83,R84
<i>Comment: Feedback network</i>				
<i>Spec: 2.2K low noise 1%</i>				
Bag 2	Ferrite chip 60 Ohm 3000mA 0805	1	smt	L5
<i>Comment: Separates AGND <=> GND</i>				
<i>Spec: HF choke 100MHz 60 ohm</i>				
Bag 2	Res 47Kohm 1/10W 0.5% 0805	2	smt	R29,R31,alternate values
<i>Comment: Alternate input / feedback</i>				
<i>Spec: 47K 1% low noise</i>				
Bag 2	Res 120R 1/10W 0.5% 0805	1	smt	R57
<i>Comment: Pre-regulator ref voltage</i>				
<i>Spec: 120 ohm 1%</i>				
Bag 2	Cap 50V Cer 1000pF X7R 0805	2	smt	C81,C82
<i>Comment: Output EMI damping</i>				
<i>Spec: 1000 pF 50V NPO 0805</i>				
Bag 2	Cap 50V Cer 390pF NP0/COG 0805	2	smt	C40,C41
<i>Comment: Feedback damping, Outpt snubber</i>				
<i>Spec: 330pF or 390 pF NPO 5%</i>				

Bag 2	Res Ax. Met. Film 1W 6.5mm 15ohm	1	hmt	R2
<i>Comment: LP filter for pre-regulator</i>				
<i>Spec: 15 ohm 1W</i>				
Bag 2	Cap 50V Elect 22uF U-Low ESR D5 RM2	1	hmt	C91
<i>Comment: Regulator adj pin stabilizing</i>				
<i>Spec: 22 uF 10V</i>				
Bag 3	Trim pot Cerm 5Kohm 25TRN Top	1	hmt	POT1
<i>Comment: Trimmer for output offset</i>				
<i>Spec: 5K multturn Cermet 5K</i>				
Bag 3	Res 510Kohm 1/10W 0.5% 0805	2	smt	R4,R26
<i>Comment: Output trimmer limiting</i>				
<i>Spec: 510K</i>				
Bag 3	Res 22.0Kohm 1/10W 0.5% 0805	4	smt	R29,R31,alternate values
<i>Comment: Input and input feedback</i>				
<i>Spec: 1% 22K low noise</i>				
Bag 3	Res 20R 1/4W 5% 1206 SMD	1	smt	R51
<i>Comment: Output snubber</i>				
<i>Spec: 20 ohm 0.25W 1206</i>				
Bag 3	Cap 50V Cer 33pF NP0 0805	1	smt	C90
<i>Comment: Input EMI damping</i>				
<i>Spec: 33pF 0805 NPO</i>				
Bag 3	Res Ax. Met. Film 2W 10mm 15R	1	hmt	R50
<i>Comment: Output zobel filter</i>				
<i>Spec: 15 ohm 2W axial</i>				
Bag 4	Res 39.0Kohm 1/10W 0.5% 0805	3	smt	R19,R27 + alt for R29, R31
<i>Comment: Blanking for unused channel</i>				
<i>Spec: 39K 0805</i>				
Bag 4	Cap 50V Elect 1000uF U- low ESR D16	2	hmt	C101,C102
<i>Comment: Close-up bulk capacitors</i>				
<i>Spec: Ultra low ESR >=1000uF 50V rad 16mm, RM7.5</i>				
Bag 4	Res 220Kohm 1/10W 0.5% 0805	2	smt	R52,R54
<i>Comment: Rail voltage sensing</i>				
<i>Spec: 220K 1% 0805</i>				
Bag 4	Res 8.25Kohm 1/10W 0.5% 0805	3	smt	R5,(R103,R114 alt value)
<i>Comment: REF voltage and Modulator feedback</i>				
<i>Spec:</i>				
Bag 4	Res 1.0Kohm 1/10W 0.5% 0805	4	smt	R22,R30, (R3,R12 alt value)
<i>Comment: Feedback network</i>				

<i>Spec: 1K 1% low noise</i>					
Bag 4	Res 249R 1/10W 0.5% 0805	1	smt	R110	
<i>Comment: +5V setpoint</i>					
<i>Spec: 1% 750 ohm</i>					
Bag 4	Res 12.0K ohm 1/10W 0.5% 0805	2	smt	R103,R114,alternate values	
<i>Comment: Alternate feedback</i>					
<i>Spec:</i>					
Bag 5	Cap 50V Cer 0.1uF X7R 0805	15	smt	C3,C4,C7,C10,C12,C14,C18,C21,C22,C24,C30,C31,C35,C110,C112	
<i>Comment: Decoupling</i>					
<i>Spec: 0.1 uF 50V X7R</i>					
Bag 5	Cap 100V Cer 330pF NP0 0805	1	smt	C13	
<i>Comment: Output snubber</i>					
<i>Spec: 330 pF 100V</i>					
Bag 5	Res 5.6Kohm 1/10W 0.5% 0805	2	smt	R103,R114	
<i>Comment: Modulator feedback</i>					
<i>Spec: 5.6K 1% low noise</i>					
Bag 5	Res 10Kohm 1/10W 0.5% 0805	6	smt	R37,R40,R45,R53,R103,R114	
<i>Comment: Feedback and pullup</i>					
<i>Spec: 1% low noise for feedback</i>					
Bag 5	Res 750R 1/10W 0.5% 0805	2	smt	R56,R111	
<i>Comment: Voltage regulator setpoints</i>					
<i>Spec: 750 ohms 1% low noise</i>					
Bag 5	Toroid T80-2	2	-	L1,L3	
<i>Comment: Output filter</i>					
<i>Spec: Iron powder type 2, diameter 20 mm, 15uH</i>					
Bag 5	Cap 10V Cer 1.0uF X7R 0805	2	smt	C55,C56	
<i>Comment: 5V secondary decoupling</i>					
<i>Spec: 1 uF 10V X7R</i>					
Bag 5	Copper wire 0.6mm x 1.25m x 2	1	-	L1,L3	
<i>Comment: For winding inductors</i>					
<i>Spec: 0.6 mm 1.2 m</i>					
Bag 6	Tripath TP2050	1	smt	U2	
<i>Comment: Tripath Power stage</i>					
<i>Spec: Tripath Power stage</i>					
Bag 6	LED 3mm Hi-eff Red Diffused	4	hmt		
<i>Comment: Status LEDs</i>					
<i>Spec: Low power LED</i>					
Bag 6	MCP101 Superv. 4.85V A-high D-bond TO-92	1	hmt	U10	
<i>Comment: +5V supervisor</i>					
<i>Spec: 4.75V Active high TO92</i>					
Bag 6	MOSFET P-ch 50V 130mA	3	smt	Q4,Q5,Q6	

SOT-23 (SP)

Comment: LED drivers

Spec: P-chan SOT23 50V 100mA

Bag 6 Voltage Reg Adj 1.5A TO-220 1 hmt▣ Q10

Comment: Pre-regulator 9V. Metal surface is conducting. Do NOT ground!

Spec: LM317 TO-220

Bag 6 Voltage Reg Pos Adj 100mA TO-92 1 hmt▣ Q2

Comment: Regulator for +5V

Spec: LM317L, TO92

Bag 6 Tripath TC2001 1 smt▣ U1

Comment: Tripath signal processor

Spec: No substitute

(c) www.41hz.com

Notes:
▣ = ESD sensitive
hmt=Hole Mount
smt=Surface Mount