

Bill Of Materials (BOM) for Item 26, BOM Rev 1.00.00

AMP15-PS-XP kit

Type Pos

Bag 0

AMP15-PS-XP PCB*PCB***Cap 63V Elect Snap-In 27000uF D40***Main power bulk*

Bag 1

Choke bead core 3.5X5mm Axial*Ground-agnd separators***Spacer nylon nat 6 mm diam 4/6***Spacers for corner screws***Nut HEX 4-40 SS***Non-magnetic***Screw machine Phil 4-40x5/8 SS***Mounting screws, non-magnetic***Trim pot Cerm 50Kohm 25TRN Top***Offset trimmers*

Bag 2

Toroid T106-2*Output filters***Term Block PCB 2 Pos 5.0mm w. pins, 10A***Speaker conn***Litz wire 1.25m x 2***Wind to 10uH***Bushing insulator TO-220****Heatpad insulator TO-220***Insulator for TO-220***Spacer nylon nat 3.5 mm diam 4/6***Mounting stand-offs for TO-220***Conn header Single-row gold RM 2.54***Misc jumpers*

Bag 3

Res Ax. Met. Film 1W 6.5mm 3.9ohm*Gate drive***Res Ax. Met. Film 0.4W 3.4mm 22Kohm***Signal input and feedback***Res Ax. Met. Film 0.4W 3.4mm 120R***5V setpoint, Power supply snubbers / filter***Res Ax. Met. Film 0.4W 3.4mm 220R***Boot cap current limit***Res Ax. Met. Film 0.4W 3.4mm 1Kohm***LED driver, Feedback network***Res Ax. Met. Film 0.4W 3.4mm 2.2Kohm***Led driver, voltage sensing***Res Ax. Met. Film 0.4W 3.4mm 10Kohm***Feedback network*

Res Ax. Met. Film 0.4W 3.4mm 12Kohm <i>Current sensing</i>	2	hmt	R11,R12 12K
Res 0.01ohm 2W 2% 0830 <i>Current sensing</i>	4	smt	R1,R2,R3,R4 0R01
Bag 4			
Res Ax. Met. Film 0.125W 3.4mm 8.25K <i>Reference voltage</i>	1	hmt	R825 8.25K
Res Ax. Met. Film 0.25W 3.4mm 1.1Kohm <i>Feedback network</i>	4	hmt	R29,R30,R31,R32 1.1K
Res Metal Film Axial 47R 2W <i>5V and 9V input filter</i>	2	hmt	R41,R44 33R to 100R 2W
Res Ax. Met. Film 0.4W 3.4mm 180Kohm <i>Voltage sensing</i>	1	hmt	R16-2 $1.18M = 1M + 180K$
Res Ax. Met. Film 0.4W 3.4mm 390Kohm <i>Voltage sensing</i>	3	hmt	R17-1,R18-1,R19-1 $423K (=390K + 33K)$, $392K (=390K + 2.2K)$
Res Ax. Met. Film 0.4W 3.4mm 1Mohm <i>Current sense</i>	1	hmt	R16-1 $1.18M = 1M + 180K$
Res Ax. Met. Film 2W 10mm 10ohm <i>Output filter</i>	4	hmt	R21x2,R22x2 2x10R 2W
Res Ax. Met. Film 0.125W 3.4mm 360R <i>5V setpoint</i>	1	hmt	R48 360R
Res Ax. Met. Film 2W 10mm 3.9K <i>Power supply bleeders</i>	2	hmt	R23,R24 3.9K 2W
Res Ax. Met. Film 0.4W 3.4mm 33Kohm <i>Voltage sense</i>	2	hmt	R17-2,R18-2
Bag 5			
Cap 50V Cer 0.1uF X7R 10% RM2.5 <i>Misc decoupling</i>	8	hmt	C9,C13,C14,C15,C16,C19,C21,C22 0.1μF
Cap 50V Cer 220pF NPO/COG 5% RM2.5 <i>Deglitching</i>	3	hmt	C17,C18,C825 220pF
Cap 100V Film 0.1uF Polyester 5% RM5 <i>Power supply input filter</i>	2	hmt	C28,C29 0,1μF 100V
Cap 50V Cer 330pF NPO/COG 5% RM2.5 <i>Feedback network</i>	1	hmt	C30 330pF
Cap 160V Film 0.22uF Polyprop RM10 <i>Output filter and rail-rail decoupling</i>	6	hmt	C20,C23,C24,C25,C39,C40 0.22μF, RM10
Cap 63V Film 0.68uF Polyester 6x7mm RM5 <i>Misc decoupling</i>	3	hmt	C32,C41,C42 0.68μF
Cap 100V Cer 0.1uF X7R 1206 <i>Power decoupling</i>	4	smt	C1, C2, C3, C4
Cap 50V Cer 100pF NPO/COG 5% RM2.5 <i>Input filters</i>	2	hmt	C101,C201 100pF
Bag 6			
Cap 25V Elect 220uF U-low ESR D8 <i>Decoupling of VN10</i>	3	hmt	C10,C35,C36 Min 150μF 25V
Cap 10V Elect 1000uF Low ESR <i>5V bulk</i>	1	hmt	C38 1000μF 10V
Cap 25V Elect 47uF U-low ESR D5 <i>Boot caps, 5V adj damping</i>	3	hmt	C11,C12,C37 47μF

Cap 63V Film 2.2uF Polyester RM10 <i>Input DC blocking</i>	2	hmt	C100,C200 C_BIPOLAR 2.2uF
Cap 63V Elect 680uF U-Low ESR D12 <i>Main Rail Decoupling</i>	4	hmt	C5,C6,C7,C8 Min 330uF 63V
Cap 50V Cer 390pF NPO/COG 5% RM2.5 <i>Feedback network</i>	1	hmt	C31 390pF
Cap 63V Elect 220uF U-Low ESR D10 <i>Decoupling</i>	2	hmt	C33,C34 220uF
Bag 7			
Diode Zener 13V 500mW DO-35 <i>VN10 Pre-reg Voltage setting</i>	1	hmt α	D5 13V zener
Tripath TA3020 DIL-48 <i>Main chip</i>	1	hmt α	IC1 TA3020
Diode Schottky 30V 200mA DO-34 <i>Mount parallell to gate drive resistor</i>	4	hmt α	D50,D60,D70,D80 200mA Schottky
LED Red Hi-eff Diffused 3mm <i>Led driver</i>	1	hmt α	D3
Diode U-fast1A 200V SMB (809) <i>Boot diodes, gate overshoot protection</i>	4	smt α	D1,D2,D6,D7 MURS SMB 200V
Diode Zener 10V 500mW DO-35 <i>Pre-reg Voltage setting</i>	1	hmt α	D4 10V
Voltage Reg Pos 10V 100mA TO-92 <i>10V regulator</i>	1	hmt	IC2 78L10 TO92
Trans NPN 3A 100V TO-220AB TIP31 <i>Pre-regulators</i>	2	hmt α	Q3,Q4 100V NPN TO220
Diode U-fast Ser 2x8A 200V TO-220 <i>Power diodes</i>	2	hmt α	D10,D11 Dual Diode Series TO220
MOSFET N-ch 150V 33A TO-220 <i>Power MOSFET</i>	4	hmt	Q1,Q2,Q3,Q4 30A, selected type
Diode Std 1A 200V 1N4003 <i>Regulator protection</i>	2	hmt α	D8,D9 1N4003
Voltage Reg Pos Adj 100mA TO-92 <i>5V regulator</i>	1	hmt α	IC3 LM317LZ

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